



RESILIENT BUSINESS FOR RESILIENT NATIONS AND COMMUNITIES



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FOREWORD

Building resilience to disasters is increasingly being recognized as a priority area in order to protect hard-earned development gains in the Asia-Pacific region. The private sector alone is estimated to hold 70 to 85 per cent of the investment in most national economies and makes over \$80 trillion worth of institutional investments globally on an annual basis. Clearly, any attempts to reduce the risk of disasters and build resilience will not work without the active participation of the private sector. In turn, the private sector needs to take steps in order to protect itself from the potential dangers of natural disasters and actively contribute to the crucial task of building resilience.

Recognizing that the involvement of the private sector in disaster risk management (DRM) is still in a formative stage and good practices are yet to be systematically analyzed, this report represents a first step at documenting the evolving thoughts and practices of the private sector in DRM, particularly from the Asia-Pacific region. It offers the Asia-Pacific perspective on DRM in the private sector, the public sector's role in providing the right incentives, and public-private partnerships (PPPs) in promoting resilience. It also offers good practices, case studies, and lessons learned.

This publication is the result of a two-year collaboration among our organizations to promote private sector involvement in DRM. This is the summary report of a book which will be released once the outcome of the deliberations at the 3rd World Conference on Disaster Risk Reduction is finalized. Many DRM practitioners have been hard at work in building networks such as through the ESCAP Business Advisory Council. After a decade of promoting public-private partnerships, a partnership between the Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations International Strategy for Disaster Reduction (UNISDR), and the Asian Disaster Preparedness Center (ADPC) has produced two studies on DRM and the private sector. The first study on 'Engaging Asia-Pacific Businesses in Disaster Risk Management' (2014) was conducted following a series of engagements with the private sector to develop the Asia-Pacific inputs into the post-2015 framework for disaster risk reduction. R3ADY Asia-Pacific joined the partnership for the production of the second study 'Promoting Investments for Resilient Nations and Communities' (2014) which served as the basis for a technical session on 'Public-Private Partnerships' at the 6th Asian Ministerial Conference on Disaster Risk Reduction in Bangkok, Thailand. Subsequently, this latter report was brought to the broader regional platform at the Asia-Pacific Business Forum held in Colombo, Sri Lanka towards the end of 2014.

As the world now prepares for the post-2015 framework on disaster risk reduction, there is a strategic opportunity to establish a clear set of responsibilities and measures of accountability for meaningful private sector engagement in DRM. It will require careful consideration as more than 90 per cent of businesses in the region are micro, small or medium enterprises. They are highly exposed to disaster risks and have the least capacity to bounce back in the aftermath of a disaster. Establishing an approach which involves a range of private sector players, from major multinational corporations, to SMEs, will be critical for the effective engagement of the private sector in disaster risk management. As such, the provision of an enabling environment with sound legal and regulatory frameworks which are actively implemented and enforced, the establishment of sound monetary and non-monetary incentive schemes, and the increased accessibility to risk finance and transfer systems will be crucial. In addition, the promotion of multi-stakeholder partnerships, especially among the public and private sectors, will need to be taken on board seriously.

The next challenge will be translating the post-2015 framework on DRM into actions. Successfully implementing the new framework will require long-term vision and political leadership, knowing that the fruit of investments in resilience may sometimes be harvested only years after policies have been implemented. Private sector leaders will also need to embark on a serious dialogue to integrate DRM into their business processes and, more importantly, in their investment decisions, thus preventing the exacerbation of existing risks and the creation of new risks.

FOREWORD (continued)

With new global frameworks for disaster risk reduction, climate change action and the sustainable development goals all scheduled for finalization in 2015, there has never been a more important time to embark on a meaningful public-private partnership for DRM. It is our hope that this report would generate a serious discussion on ways to fully engage the private sector in the implementation of the new disaster risk reduction agenda. Our organizations, and those other dedicated partners with whom we work, look forward to joining you in making a safer and more resilient Asia-Pacific region.

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ABBREVIATIONS

| | |
|---------|--|
| ACCSQ | ASEAN Consultative Committee on Standards and Quality |
| ADB | Asian Development Bank |
| ADPC | Asian Disaster Preparedness Center |
| ADRC | Asian Disaster Reduction Center |
| AMCDRR | Asian Ministerial Conference on Disaster Risk Reduction |
| APBF | Asia-Pacific Business Forum |
| APEC | Asia-Pacific Economic Cooperation |
| ASEAN | Association of Southeast Asian Nations |
| BCI | Business Continuity Institute |
| BCM | Business Continuity Management |
| BCP | Business Continuity Plan |
| CSO | Civil Society Organization |
| CSR | Corporate Social Responsibility |
| DRM | Disaster Risk Management |
| DRR | Disaster Risk Reduction |
| DRR-PSP | Disaster Risk Reduction Private Sector Partnership |
| EA | Emergency Agreement |
| EBAC | ESCAP Business Advisory Council |
| GDP | Gross Domestic Product |
| GEJ | Great East Japan Earthquake |
| GVC | Global Value Chain |
| IGO | International Government Organization |
| ISO | International Organization for Standardization |
| LDC | Least Developed Countries |
| LLDC | Landlocked Developing Countries |
| NGO | Non-Governmental Organization |
| OECD | Organisation for Economic Co-operation and Development |
| PASC | Pacific Area Standards Congress |
| PATA | Pacific Asia Travel Association |
| PPDRM | Pacific Platform for Disaster Risk Management |
| PPP | Public-Private Partnership |
| PSP | Private Sector Partnership |
| SBF | Singapore Business Federation |
| SIDS | Small Island Developing States |
| SME | Small and Medium Enterprise |
| TNC | Transnational Corporation |
| TSP | Tri-Sector Partnership |
| ESCAP | Economic and Social Commission for Asia and the Pacific |
| UNISDR | United Nations International Strategy for Disaster Reduction |

EXPLANATORY NOTE

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Mention of firm names and commercial products does not imply the endorsement of the United Nations.

Disaster data presented in this document is sourced from The International Disaster Database (EM-DAT) at the Centre for Research on the Epidemiology of Disasters and accessed on 26 October 2014. As categorized by EM-DAT, the term 'disaster' refers to natural, technological and complex (major famine situation for which the drought was not the main causal factor) disasters, unless otherwise noted.

Values are in United States dollars unless specified otherwise.

The term "billion" signifies a thousand million. The term "trillion" signifies a million million.

In dates, a hyphen (-) is used to signify the full period involved, including the beginning and end years, and a stroke (/) indicates a crop year, fiscal year or plan year.

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1. Resilient Business for a Resilient Asia-Pacific



The Asia-Pacific region has become the engine of global economic growth. However, it is also the most disaster-prone region in the world. Between 2004 and 2013, 43 per cent of disasters occurred in the Asia-Pacific region, representing 63 per cent of total deaths and 50 per cent of total economic damages.¹ While the number of casualties has been progressively decreasing over time, there is a clear upward trend in economic losses. During the 1970s, the average economic losses in Asia-Pacific were \$1.8 billion per year. More recently, in the decade from 2004-2013, disasters have cost the Asia-Pacific region an average of \$73.8 billion per year. This represents an alarming 40-fold increase and half of total disaster-related global economic losses.

The private sector is the primary generator of wealth, employer of the majority of the labour force, and the dominant vehicle for innovation in the region. The private sector also bears the brunt of disaster impacts. Micro, small and medium enterprises are particularly vulnerable due to their generally lower capacity to absorb disaster losses. Greater

economic integration in Asia and the Pacific and rising investment, especially within tightly knit global value chains, further exacerbate the situation.

Recognizing the need for greater involvement of the private sector in building resilience to disasters, this report documents the evolving thoughts and practices regarding the private sector in disaster risk management (DRM) in the Asia-Pacific region. Chapter 1 looks at trends in disasters and their impacts, especially within the private sector. Chapter 2 defines risk, resilience and accountability in the context of the private sector, while Chapter 3 outlines disaster risk management options for businesses. Chapter 4 highlights the role of the public sector in creating an enabling environment for business engagement in DRM, and Chapter 5 discusses different collaborative arrangements for establishing the active participation of the private sector in DRM. The report concludes with key recommendations for strengthening public-private partnerships for building resilient businesses across the Asia-Pacific region.

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Rising Disaster Risk

Over the past five decades, the incidence of disasters has increased globally but the sharpest rise has been observed in Asia and the Pacific (Figure 1). The average number of disasters per year in Asia-Pacific has grown five-fold over the past 50 years, from an average of less than 60 per year during the 1970s to over 300 per year in the 2000s.²

In the past decade, a person living in the Asia-Pacific region was almost six times more likely to be affected by a disaster than someone in Latin America and the Caribbean, and almost 30 times more likely than a person living in North America or Europe (Figure 2) (ESCAP, 2013a; 2013b).

Figure 3 depicts disaster losses in Asia and the Pacific between 1970-2013, both in terms of lives and economic assets. It is notable that the number of casualties has been progressively decreasing. Despite large disaster events such as the 2004 Indian Ocean Tsunami and the 2008 Sichuan Earthquake, there has been a solid downward trend in fatalities which suggests that progress has been made in better protecting human lives during disaster events.

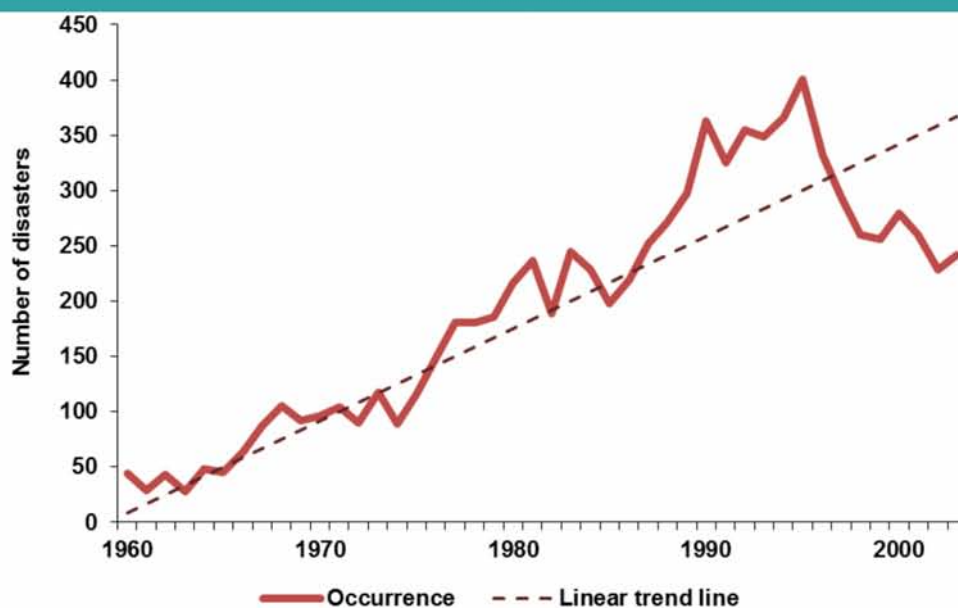
It is a concern, however, that over time, there has been a clear upward trend in economic losses. The year 2011 was the costliest recorded in history, with total registered losses



due to disasters amounting to \$294 billion in the Asia-Pacific region alone, representing 81 per cent of total global losses (ESCAP and UNISDR, 2012).

While the significance of disaster losses in relative terms to the Gross Domestic Product (GDP) has been increasing, the data shows that the impact in Asia-Pacific was roughly 52 per cent higher than that of the rest of the world for 2003-2012 (Figure 4). These staggering losses, both in absolute and relative terms, highlight the gravity and urgency for achieving greater disaster resilience in Asia and the Pacific.

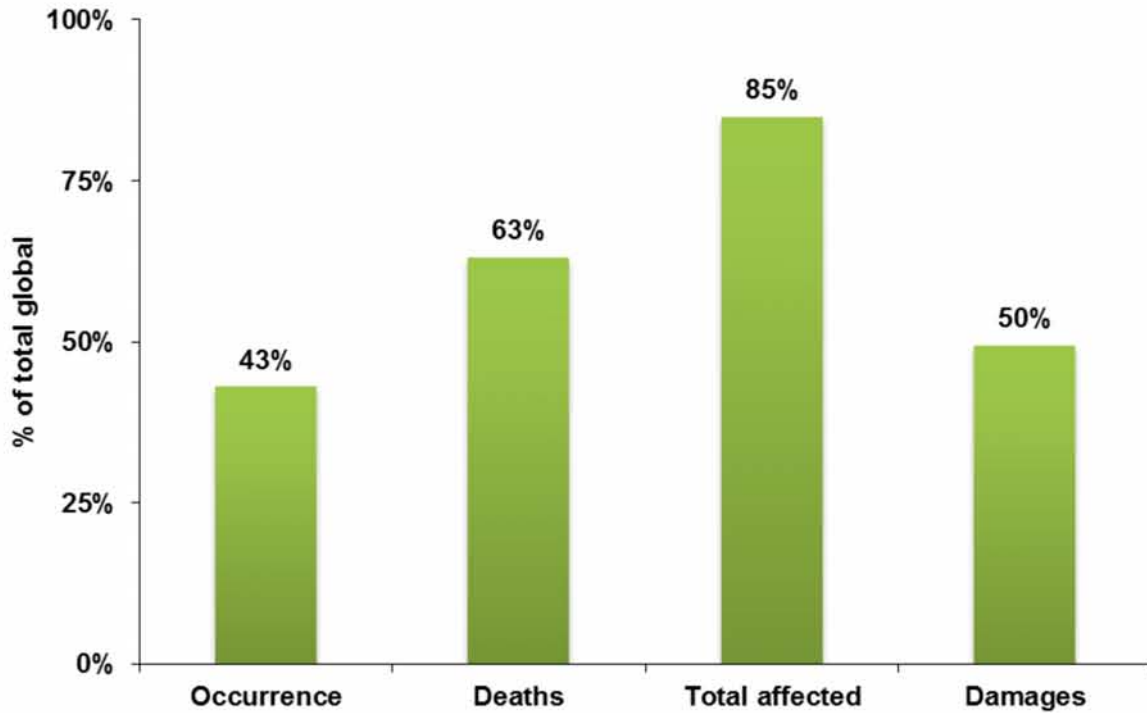
Figure 1. Disaster occurrences in Asia and the Pacific, 1960-2000



Source: EM-DAT database

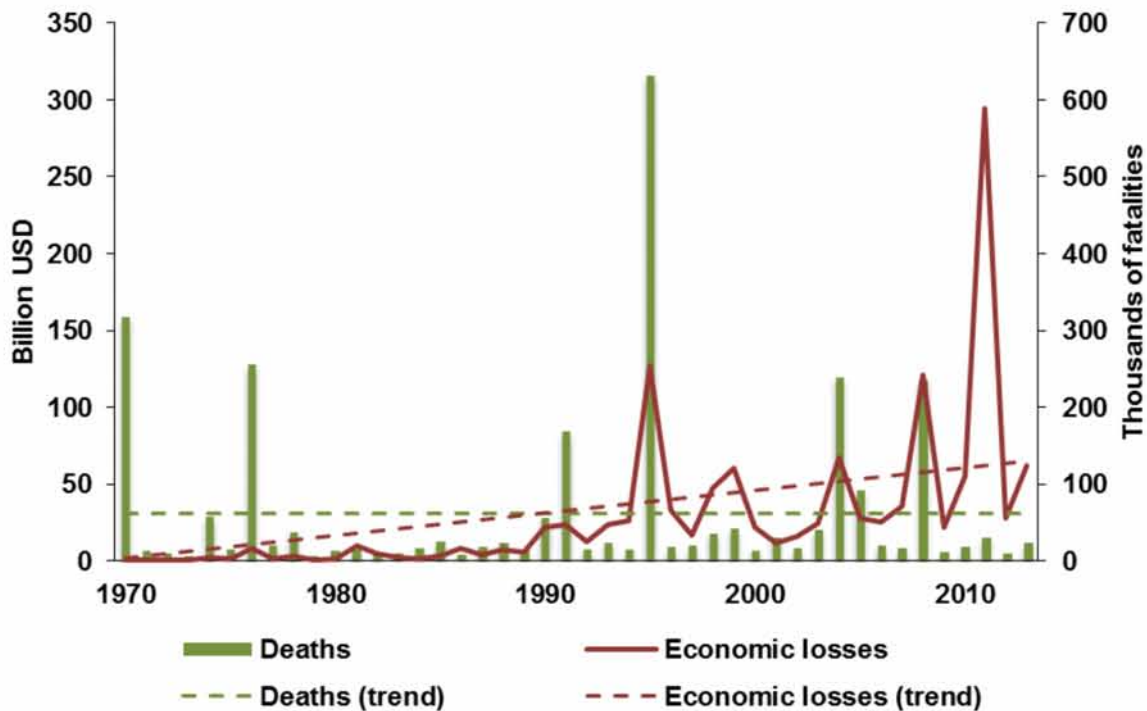
2. These figures have risen partially due to the improvements made in disaster reporting in recent years.

Figure 2. Disaster impacts in Asia-Pacific relative to the world, 2004-2013



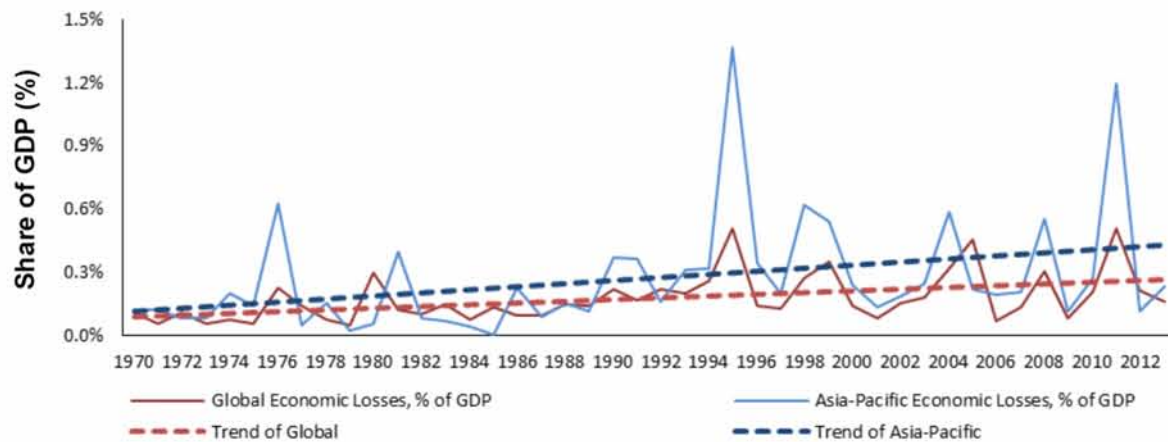
Source: EM-DAT database

Figure 3. Economic losses and fatalities in Asia and the Pacific, 1970-2013



Note: Economic losses are in current US dollars
 Source: EM-DAT database

Figure 4. Economic losses as share of GDP, 1970-2012

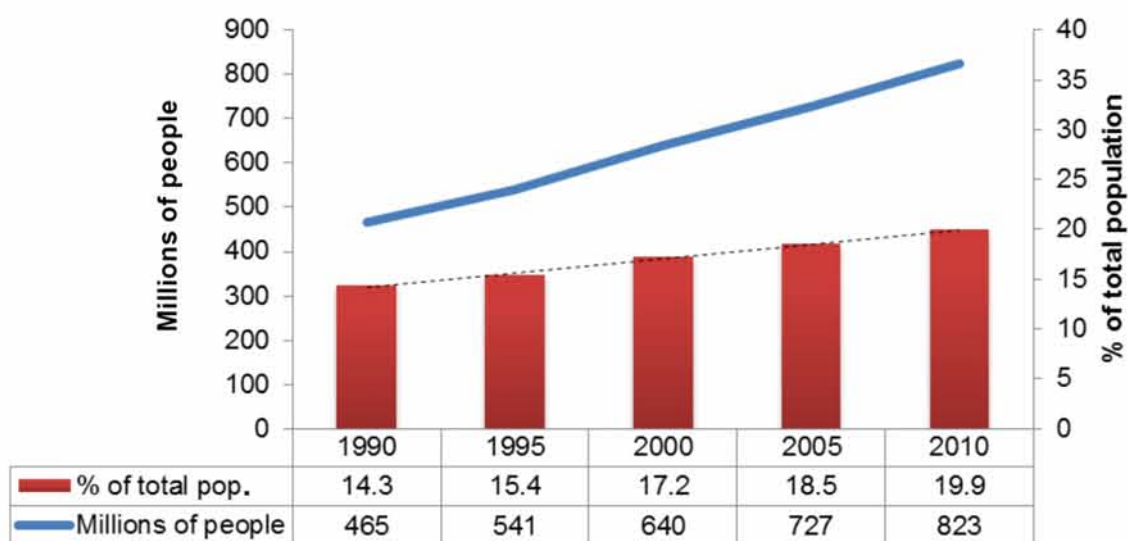


Note: This figure is for natural disasters only, exclusive of technological and complex disasters.
Source: ESCAP statistical database for GDP and EM-DAT database for economic losses.

Rapid population and economic growth pose a unique challenge for the region (Figure 5). A combination of demographic pressure, and a shortage of land to accommodate expanding populations and their economic activity and infrastructure on the one hand, coupled with inadequate awareness and a lack of a

culture of safety on the other, pushes people, economic assets, and business operations into rapidly accumulating and encroaching hazardous areas. The increase of urban disasters in the region demonstrates the consequences of such a loosely managed rapid development.

Figure 5. Urbanization trends in Asia-Pacific

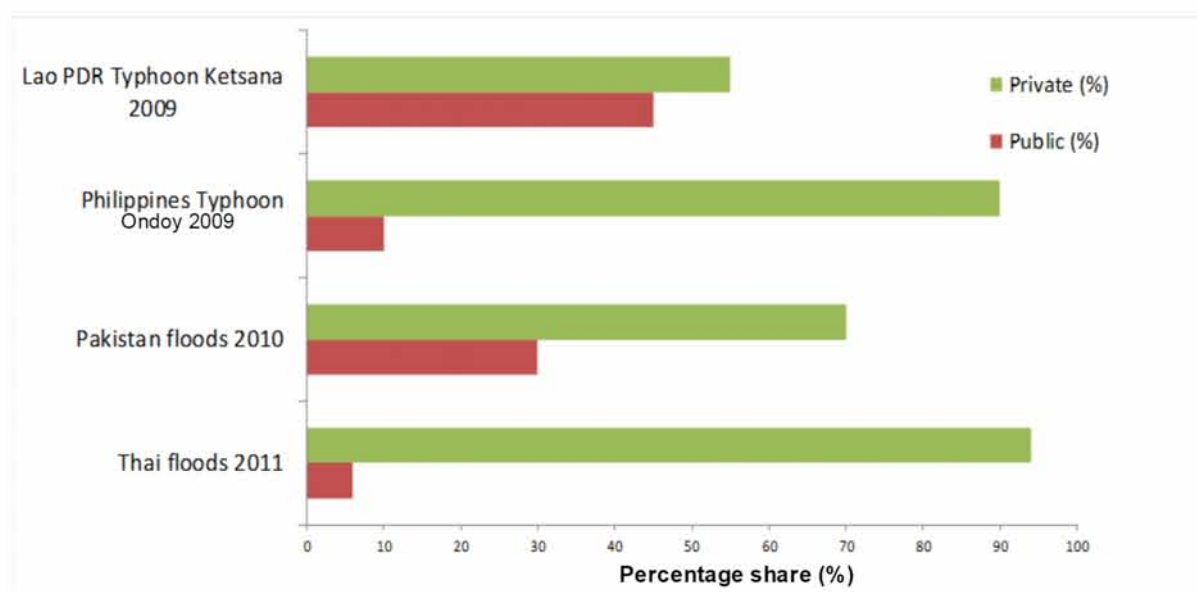


Note: Populations living in agglomerations of 750,000 or more inhabitants in Asia-Pacific.
Source: ESCAP, 2013b.

The private sector, which is the engine of the rapid development in Asia and the Pacific, is increasingly at risk (Figure 6). The effects of disasters on businesses are significant regardless of the size or the nature of the industry. Yet, micro, small and medium enterprises, which employ over half of the labor force and contribute to 20 to 50 per cent of GDP in the majority of economies, are particularly vulnerable due to a generally lower capacity to absorb disaster impacts.³

In the Philippines, Typhoon Ketsana's destruction in 2009 amounted to an estimated total loss of \$246 million (NDCC, 2009). The agricultural sector, which comprises a large number of micro and small-scale enterprises, sustained the most damage at \$157 million. This experience was similar to that of the 2010 floods in Pakistan, where economic losses totaled \$10 billion and small and medium enterprises (SMEs) likewise bore the brunt of the disaster (ESCAP and UNISDR, 2012).

Figure 6. Who pays for disaster losses?



Source: ESCAP and UNISDR, 2012

Are Global Value Chains Contributing to Risk?

Added risk to businesses comes from the rapidly expanding global value chains (GVCs). These are cross-border business networks which consist of a number of facilities, operations, suppliers, subcontractors and consumers in various parts of the world (Box 1). It is estimated that GVCs that are coordinated by transnational corporations (TNCs) account for 80 per cent of global trade (UNCTAD, 2013).

The level of participation in regional value chains varies widely in Asia. Figure 7 represents the GVC participation of

several Asian countries for which data is available, by providing the share of GVC-related exports in total exports. Singapore and Hong Kong, China lead the ranking with over 80 per cent and 70 per cent respectively. The other four Asian countries that are above the regional average of GVC participation of 54 per cent are Malaysia, Republic of Korea, China and the Philippines, in that order. Thailand, Japan, Taiwan, China, Viet Nam and Indonesia follow immediately after with a participation of over 40 per cent, while South-Asian economies are in the 30 to 40 per cent range.

3. APEC SMEs Working Group website: <http://www.apec.org/Groups/SOM-Steering-Committee-on-Economic-and-Technical-Cooperation/Working-Groups/Small-and-Medium-Enterprises.aspx>

BOX 1: THE IMPACT OF NATURAL DISASTERS ON SUPPLY CHAINS

The impact of natural disasters on a supply chain is illustrated in the figure below. When a disaster hits, supplier A suffers from indirect losses in terms of destruction of physical assets, recovery expenditure and lost income. If the disaster hits public infrastructure severely, supplier A is likely to have indirect losses due to either damaged distribution facilities or disrupted power supplies.

For supplier A, either direct damage or indirect losses can result in production and distribution suspension and subsequent weak financial conditions and possible layoffs. Therefore, the indirect losses of supplier A may cause an additional burden on the government due to lost tax revenue. Damage to financial institutions and insurance companies will be in the form of rising non-performing loans and a surge of compensation to private entities for their losses caused by the disaster.

The production suspension of supplier A or the damage to the distribution facilities can cause indirect losses to both upstream and downstream supply chain partners. The negative impact can be transmitted to the whole supply chain and affect the firms involved, regardless of their geographical locations. At the same time, consumer markets may experience price fluctuations with the shortage of final products due to the production suspension caused by supply chain disruption. After natural disasters, supply chains often experience extreme delays, missed deliveries and even supplier defaults. In addition, disasters can make controlling the supply chain operation difficult, or temporarily impossible, due to disruptions in communications systems, destroyed equipment and lost information.

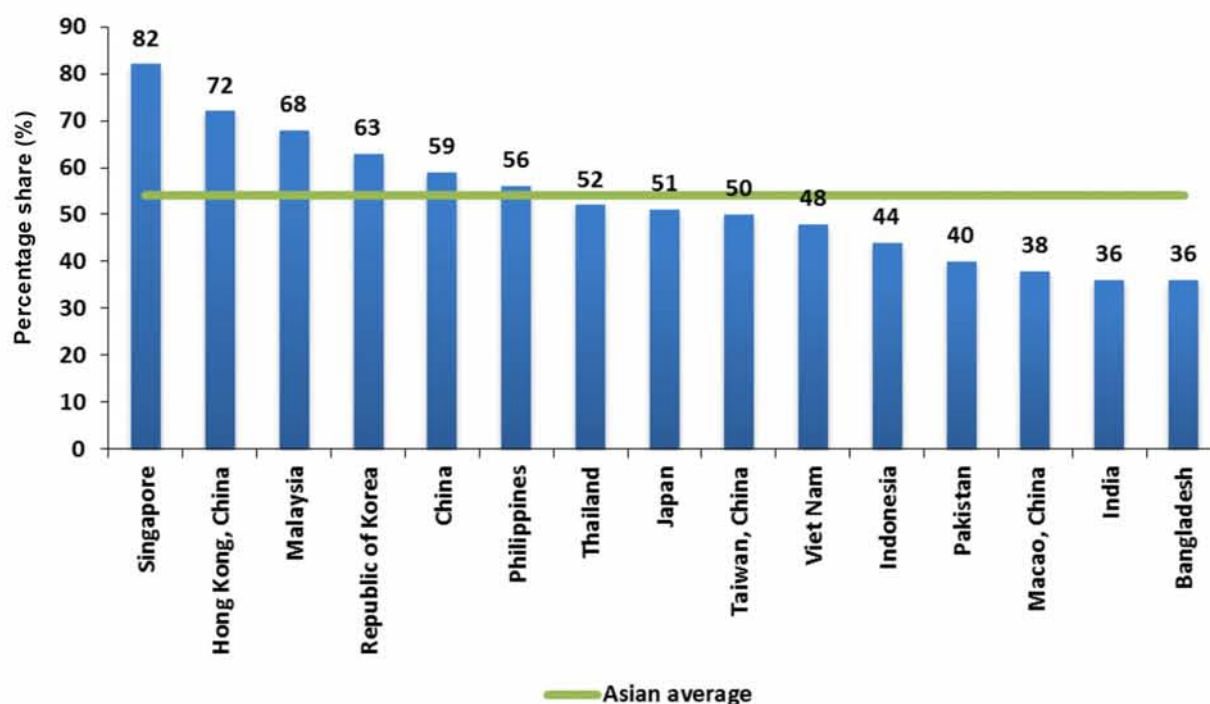
The product shortage of the downstream partners of supplier A and of the end market may create an opportunity for supplier B who produces the substitute of supplier A's product. This is more likely when the recovery pace of supplier A is slow and supplier B is flexible and able to compensate for the supply shortage quickly. In the long run, if supplier B is considered to be more disaster resilient, the partners of supplier A may permanently turn to supplier B, resulting in a loss of business for supplier A. However, if supplier A is the single source in the market and halts the provision of products due to a disaster, its downstream partners may have no choice but to wait for its recovery. In such situations, the effects can be international, as was the case with the Kobe earthquake in 1995 which left companies in San Francisco without access to parts and components.

The effects of delays and disruptions can be felt in the long term, should other competitors who were able to avoid the disaster's negative effects be able to gain market share due to the problems faced by supplier A. These problems are often manifested in failures to deliver to the markets or in higher consumer prices, potentially causing a fall in demand for the products. The risk of lost market share is particularly high in close to perfectly competitive markets in which substitution of products is effortless and price elasticity is high. In some cases, short-term product substitution can lead to consumer behavior changes as they move from one competing product to another due to lower prices or better availability. Recovering from changes in demand and retaking market share can prove to be very challenging.



Source: ESCAP, 2013a

Figure 7. GVC participation of selected Asian economies in 2010



Source: UNCTAD, 2013

China is considered the leading destination for exports of intermediate goods and the main focal point of the regional value chain as it acts as the assembly platform of finished goods before they are shipped to the global market.

While the participation in regional production chains has been a key factor in the success of emerging Asian economies in developing their export sectors, it also involves risks, especially those derived from an increased exposure to disasters. In the context of GVCs, disasters could have far-reaching ramifications.

Participating firms are naturally more exposed to hazards due to the wider geographical dispersion of assets and activities. Although businesses are impacted differently by hazard events, depending on factors such as the nature of business, operations and size, disruption in one part of a global value chain can quickly spread to the entire business network. As a result, the entire value chain could easily be crippled. As TNCs have a wider geographic dispersion of operations, it makes them more likely to get hit by hazards. However, it is the SMEs which are part of cross-border networks that often experience the biggest impacts relative to their small operations.



The Great East Japan Earthquake (GEJ) and the Thai Floods of 2011 revealed the extent to which disasters can impact on GVCs. The GEJ earthquake caused Japanese automobile production to fall by 48 per cent immediately following the event (Figure 8). Since the production was highly integrated into the world market, the widespread disruptions were felt across the globe, with a pronounced impact in Asia. For example, in the months that followed the event, automobile production fell in Thailand by 19.7 per cent; in the Philippines by 24.0 per cent; and in Indonesia by 6.1 per cent (ESCAP, 2013a).

Figure 8. Automobile production in ASEAN countries after the Japanese earthquake, 2011



Source: ESCAP, 2013a

Similarly, the 2011 floods in Thailand impacted cross-border operations throughout Asia and other continents. According to the World Bank, economic damages amounted to \$45.7 billion with manufacturing losses and insurance payments shouldering most of the cost.⁴ The flood-affected areas had a concentration of major hard disk and semiconductor producers, which made Thailand, after China, the largest producer of hard disk drives and parts. In the aftermath of the floods, the world price of hard disk drives increased by 20 to 50 per cent (ESCAP, 2013a). The floods had a severe impact on SMEs, affecting 550,000 small businesses and resulting in the loss of 2.32 million jobs,

at least temporarily (ESCAP, 2013a). Automobiles and electronics were the hardest hit GVC related sectors.

In Asia and the Pacific, the private sector is the primary generator of GDP and the employer of the majority of the labor force. As the region's GDP grows rapidly, the private sector is increasingly more exposed to disasters. As such, the private sector shares in both the consequences of disaster risks and the responsibility to act in reducing them. Understanding disaster risks, resilience and accountability in the context of private sector is a crucial first step in developing a risk sensitive business culture.

4. World Bank website news, December 13, 2011, "The World Bank Supports Thailand's Post-Floods Recovery Effort" <http://www.worldbank.org/en/news/feature/2011/12/13/world-bank-supports-thailands-post-floods-recovery-effort>

2. Risk, Resilience and Accountability



In considering the private sector's role in DRM, it is important to recognize that business resilience has a major impact on societal resilience. Furthermore, businesses can not only potentially contribute to reducing disaster risk, but they may also generate additional risk depending on their behavior and operations. The concepts of shared responsibility and mutual accountability are thus essential in promoting public-private partnerships in DRM.

DRM practitioners and businesses tend to apply different approaches to risk. While the former group generally focuses on the negative consequences of risk and the need for better management of available resources, the latter typically sees risk as a neutral factor in the attainment of business objectives (Table 1). In fact, some businesses may even thrive on risk. Consequently, there are significant differences in attitudes, expectations and practices that must be bridged in order to develop effective public-private partnerships.

Table 1: Definitions of disaster risk and disaster risk management

| Terms | UNISDR ⁵ | ISO ⁶ |
|---------------------------------|---|--|
| Disaster Risk | The combination of the probability of an event and its negative consequences. | The effect of uncertainty on objectives. |
| Disaster Risk Management | The systematic approach and practice of managing uncertainty to minimize potential harm and loss. | A systematic process of optimization that makes the achievement of objectives more likely. |

5. UNISDR official website: <http://www.unisdr.org/we/inform/terminology>

6. ISO Guide 73:2009. Risk Management: vocabulary.

Although the traditional non-profit and business approaches to DRM may seem far apart, they do share many similarities in terms of the immediate priorities: saving lives; protecting assets and restoring operations as quickly as possible. DRM practitioners from government agencies and non-profit organizations can learn from business risk management practices in terms of cost-efficiency and process optimization. This is crucial to improve accountability to their respective tax payers/development partners (for the use of financial resources) as well as to the wider community in terms of continually improving the quality of service delivery. Conversely, business managers can tap into the wealth of knowledge and expertise generated by DRM practitioners through their exposure to a significant number of large and small-scale disaster events.

The rationale for business engagement in DRM is closely linked to the concept of sustainable development, i.e. "...development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). In this context, resilience is understood as a necessary condition for achieving long-term sustainable development. Linking resilience to the lives of people, ESCAP (2013a) defines resilience as "The capacity of countries to withstand, adapt to and recover from natural disasters and major economic crises – so that their people can continue to live the kind of life they value." In other words, a resilient system or society has both the ability to adapt to internal and external shocks without changing its true nature.

In order to be resilient, a society requires all of its main pillars - including the private sector - to also be resilient. Business resilience is generally defined as the capacity to survive, adapt and grow in the face of turbulent change (Fiksel 2006) as well as to evolve and organize into new, more desirable configurations when necessary (Pettit 2008). It is a two-dimensional concept, which encompasses both hard (related to the status and use of physical assets) and soft aspects (related to organizational and human capacities).

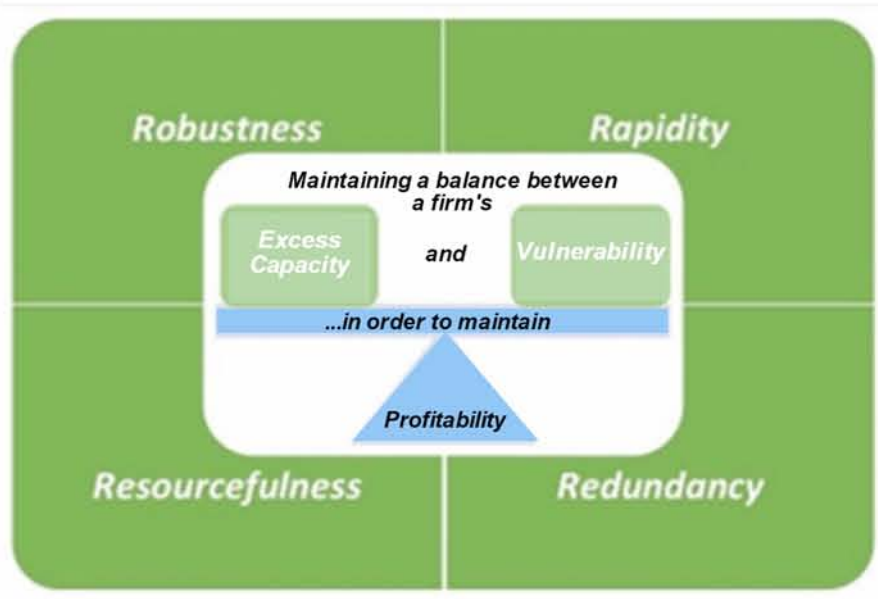
In terms of the hard aspects of business resilience, Bruneau et al. (2003) identifies



UN Photo/ Irwandi M Gade

four main properties: robustness, rapidity, redundancy and resourcefulness (Figure 9). Robustness is the degree of resistance or strength of an organization's assets to negative shocks, which prevents significant degradation or loss of function. This strength could emanate from the prevention or aversion of risks during the business pre-investment phase and the capacity to manage these risks along the business cycle. Rapidity refers to the speed at which assets are able to respond to negative impacts in order to stop losses and minimize disruption. Resourcefulness is the capacity to appropriately mobilize the available assets in adverse conditions. Finally, redundancy is the degree of excess capacity ensuring that if one part of the systems fails, there is a direct substitute, which can guarantee the continuity of that specific function. In the business context, it is imperative to maintain a balance between the firm's excess capacity and vulnerability so as to maintain profitability (Pettit, 2008).

Figure 9. Resilience of economic assets



Source: Author's construction based on Bruneau et al., (2003) and Pettit (2008).

In terms of the soft aspects of business resilience, the Resilient Organizations Project has identified 13 indicators or components, which can be classified into three broad categories: 1) leadership and culture; 2) networks; and 3) change ready. Leadership provides a pathway stretching from the early phase of business pre-investment through the business life cycle to help cultivate

opportunity and to maintain risks at an acceptable level. Networks help businesses access specific resources and/or support through effective partnerships. Change-ready business organizations have the ability to quickly adapt and react to a changing environment without breaking down (Figure 10).

Figure 10. Resilience indicators



Source: ResOrgs Project, 2012.

Disaster risk is generally understood as the product of hazard, exposure and vulnerability. Reductions or increments in any one of these factors -when other aspects remain constant- will yield reductions or increments in the overall level of risk which is present.

$$\text{Risk} = \text{Hazard} \times \text{Exposure} \times \text{Vulnerability}$$

Although the private sector has unique capabilities to contribute to the reduction of risk, businesses can also generate risk (Table 2). Typically, business organizations tend to look at risk mainly as an external factor when performing their risk assessments. Risk that is posed to other stakeholders in society may not be taken into consideration, unless these are specifically covered by law or regulations. This natural human and organizational phenomenon can be explained with the theory of collective action (Olson 1965) and represents a typical free rider / moral hazard problem.

The attitude of businesses is evolving towards increased corporate social responsibility as shown by the increased prevalence of responsible business groups that have come about as a result of global or regional initiatives (e.g. the United Nations Global Compact and the ESCAP Business Advisory Council, respectively). However, there is still a need for better enforcement of existing laws and regulations, and the development of new, relevant guidelines, so as to accelerate the advent of enhanced corporate social responsibility.

The private sector cannot be expected to single-handedly protect investments and operations from disaster risk. As such, the public sector has a responsibility to provide support and ensure an enabling environment for risk-sensitive business investments as well as to hold businesses accountable for the risks that they have created or ignored. This notion is best captured by the concept of shared responsibility, a type of 'social contract' implying that "national and local public authorities, the private commercial sector ... have a joint responsibility regarding prevention in the face of disaster risk and regarding an efficient contribution in the face of emergency situations" (Prieur, 2009, p. 17).

A framework for mutual accountability in risk governance is presented in Table 3. This model, in which key sectors of society (i.e. government, businesses and non-profits) are holding one another accountable, is at the core of the 'social contract' described above, and serves to sustain a healthy environment and to avoid accumulating further risk. Over time, the development of a culture of accountability will improve the effectiveness of governance and service delivery for all stakeholders. It requires shared responsibility to ensure the efficient utilization of available resources and must foster partnership in the form of reward flows between stakeholders (e.g. taxes/subsidies, CSR funds, public contracts, salaries or aid).

Table 2: Business activities that can potentially increase societal risk

| OUTCOME | BUSINESS ACTIONS |
|--|--|
| Potentially increased risk for society | <ul style="list-style-type: none"> • Polluting, wasting or overusing resources • Behaving with insensitivity • Investing in hazardous areas • Purchasing inadequate equipment • Non-compliance with building codes • Non-compliance with safety codes • Operating with inadequate emergency management or business continuity plans |

Table 3. Accountability framework of all stakeholders in DRM

| FROM/TO | BUSINESS | GOVERNMENT | CSOs/NGOs/ IOs | CONTRIBUTION TO SOCIETY |
|--------------------|---|--|---|---|
| BUSINESS | <p>Maximize profits, increase value of equity (from management to shareholders)</p> <p>Guarantee business continuity (from management to shareholders, customers and insurers)</p> <p>Provide a safe working environment (management to employees)</p> | <p>Pay taxes and abide by law</p> <p>Regulatory compliance</p> <p>Fulfillment of contractual responsibilities (PPP)</p> <p>Information sharing, risk disclosure</p> | <p>Responsible business practices (social and environmental)</p> <p>Provision of CSR funds or in-kind contributions</p> <p>Strategic long-term partnerships</p> | <p>Job creation</p> <p>Safe environment</p> <p>“Duty of care”</p> <p>Offer relief support and humanitarian assistance</p> <p>Disclosure of risk</p> |
| GOVERNMENT | <p>Provide an enabling environment for DRM investment (regulation and incentives)</p> <p>Provide good quality and resilient public goods, services and infrastructure</p> <p>Provide/enhance financial flows</p> <p>Enhance technology development and transfer</p> <p>Offer transparency and information sharing</p> | <p>Provide financial and technical support and facilitate collaboration (national, provincial and local governments, ministries and agencies)</p> <p>Foster information sharing and knowledge transfer between government bodies</p> | <p>Distribute aid funding</p> <p>Provide good quality and resilient public goods, services and infrastructure</p> <p>Offer transparency</p> | <p>Provide protection</p> <p>Provide good quality and resilient public goods, services and infrastructure</p> <p>Provide aid funding and supplies</p> <p>Offer transparency and information dissemination</p> |
| NON-PROFITS | <p>Proper use of CSR funding (efficiency and effectiveness)</p> <p>Act as a watchdog</p> <p>Offer transparency</p> | <p>Ensure proper use of aid funding (efficiency and effectiveness)</p> <p>Act as a watchdog</p> <p>Offer transparency</p> | <p>Foster collaboration, while avoiding duplication of actions</p> <p>Offer transparency</p> | <p>Provide social protection and humanitarian aid</p> <p>Ensure proper use of donations (efficiency and effectiveness)</p> <p>Offer transparency</p> |

Source: Author's construction

Table 3 demonstrates the complex inter-relationships of shared risk and responsibility among stakeholders. Ultimately, failure to properly engage in DRM can lead to businesses exacerbating risk for society as a whole. For example, bankruptcy or financial disruption because of a disaster can have a 'ripple effect' with implications for employees and suppliers, which in turn could have broader effects on the community and society at large. Conversely, a business that is able to withstand the effects of a disaster and continue its operations can play an extremely valuable role in supporting the recovery of a disaster-affected society.



3. Disaster Risk Management for Businesses

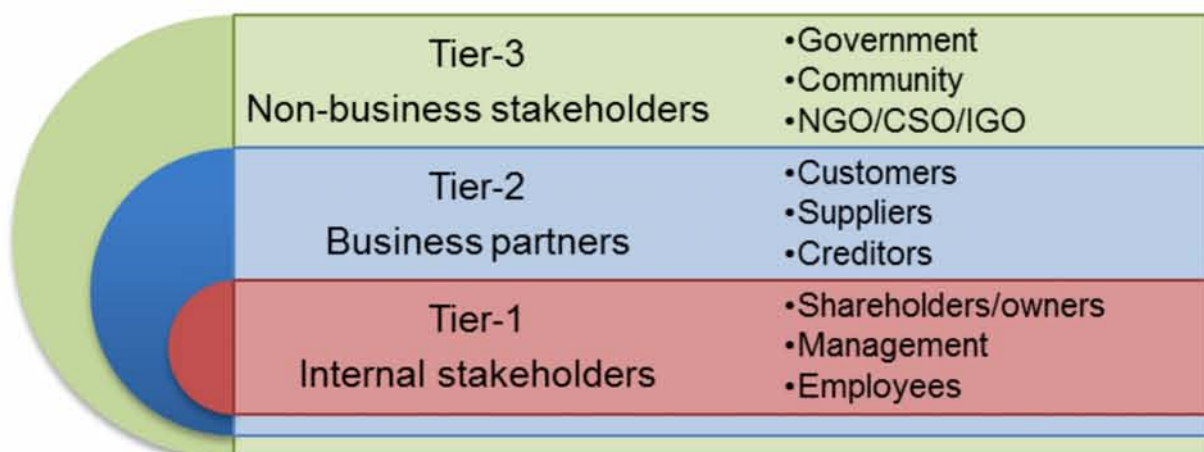


All business activity involves a certain amount of risk. Investing in DRM may yield economic benefits, which is the ultimate goal of any business. DRM investment also has the potential to improve societal resilience and offers businesses more active participation in their communities. However, because the benefits of risk-sensitive investments are not immediately evident, an argument may have to be made in a context that considers business survival, market competitiveness and long-term viability, rather than a short-term profit motive.

All organizations are subject to the forces of a range of internal, external, and non-business stakeholders (Post et al., 2002).

The survivability and legitimacy of a business, in other words its 'license to operate', depends not only on its success in generating economic profits but also in meeting the expectations of different stakeholders. Internally, business engagement in DRM can be regarded as an investment in improved survivability as it builds reputation, generates new opportunities, offers 'duty of care' towards employees and presents the opportunity to gain a competitive advantage over rivals (Figure 11 and Box 2). In some cases, private sector organizations may be legally obliged to implement resilience measures; while others choose to engage in social or environmental responsibility activities to enhance their reputations.

Figure 11. Stakeholders' influence in business DRM



Source: Author's construction

Part of the motivation for the private sector to engage in DRM is to simply avoid business disruptions. Disasters impact businesses both directly, in terms of human and economic losses, as well as indirectly through loss of future income and supply chain disruptions (Tables 4 and 5). A study conducted by the Institute for Business and Home Safety revealed

that an estimated 25 per cent of businesses do not reopen following a major disaster.⁷ Furthermore, 80 per cent of companies that do not recover from a disaster within one month are likely to go out of business.⁸ The broader impacts could reverberate into national economies, affecting employment, inflation and currency fluctuations.

Table 4. Disaster impacts on businesses

| TYPES OF IMPACT | TYPES OF LOSS | DEVELOPMENTS | IMPACTS ON BUSINESSES |
|-----------------------|------------------------------|---|--|
| DIRECT | Assets | Destruction and/or damage of: <ul style="list-style-type: none"> •Physical capital •Human capital | <ul style="list-style-type: none"> •Loss of assets, decrease in book value •Potential decrease in goodwill value •Loss of human capital •Loss of cash reserves or increased liabilities to rebuild/recover •Potential bankruptcy |
| INDIRECT | Income | Destruction and/or damage of: <ul style="list-style-type: none"> •Public infrastructure •Suppliers and/or customers | <ul style="list-style-type: none"> •Higher costs of production •Loss of suppliers •Loss of customers •Business disruption, reduced output/sales •Opportunity costs of recovery expenditure •Loss of profits |
| MACRO-ECONOMIC | Income and Efficiency | <ul style="list-style-type: none"> •Reduction of country's output (GDP) •Increase in unemployment •Increase in inflation | <p>Reduced sales due to:</p> <ul style="list-style-type: none"> •Lower economic activity •Higher unemployment rate (lower disposable income for consumers) •Increase in prices discourages demand <p>Increased production costs</p> <ul style="list-style-type: none"> •Workers demand higher nominal wages to keep their purchasing power unchanged •Increased price of local inputs |

Source: Author's construction

However, from a business point of view, resources are limited and it is risky to invest in something such as DRM that will only yield benefits in the case of a relatively unlikely event. There are also other factors including budget constraints, narrow 'myopic' policies, inaccessibility of risk information and limited awareness, that all contribute to the underestimation of disaster risks. Table 5

presents a broader picture of the cost/benefit dynamics in business DRM engagement as differentiated by the particular motivations that drive their investments. Box 2 demonstrates the benefits of engaging in DRM. In this case, disaster preparedness emerges as an exemplary combination of business opportunity and risk-sensitive community engagement.

7. "Open for Business", Institute of Business and Home Safety. Available at www.ibhs.org/docs/OpenForBusiness.pdf
 8. Jonathan Bernstein, president, Bernstein Crisis Management, LLC in Director, June 1998, v51n11, p44.

BOX 2: MAIYA CO., LTD-- THE ECONOMIC BENEFITS OF MAINTAINING FOOD SUPPLY IN DISASTER-HIT AREAS

Maiya Co., Ltd is a locally based supermarket chain in Iwate Prefecture, Japan. During the 2011 Great East Japan earthquake, while other local stores and national convenience store chains were closed due to shocks in the supply chain, Maiya managed to stay open for business to provide necessary products to residents in the community. Maiya secured supplies in two ways. It established local community-based networks where trust-based relationships provided aid in case of emergencies. It also participated in a national association where over 200 small to medium local supermarkets provided backup supplies to each other in times of disaster. Maiya kept a supply of backup generators, fuel, floodlights, and plastic tarps so that outdoor shopping spaces could be set up in the event of power blackouts or store building damage. These supplies were periodically checked and replaced. During the earthquake, Maiya continued to sell their products in disaster-hit areas and opened satellite stores in temporary housing units where all the other stores were wiped out by a tsunami. Maiya also reached the residents in temporary housing areas and isolated communities by using truck stalls loaded with a variety of fresh foods. In August 2011, Maiya opened its first temporary retail space in Rikuzentakata City, where most buildings crumbled during the earthquake. The temporary store thrived as people had nowhere else to go to retrieve vital supplies. Maiya was able to open four additional stores by the summer of the following year. Although only 10 of Maiya’s 16 stores survived during the earthquake, Maiya’s post-disaster sales volume was actually equivalent to the previous year, with higher revenues per store than recorded in previous years.

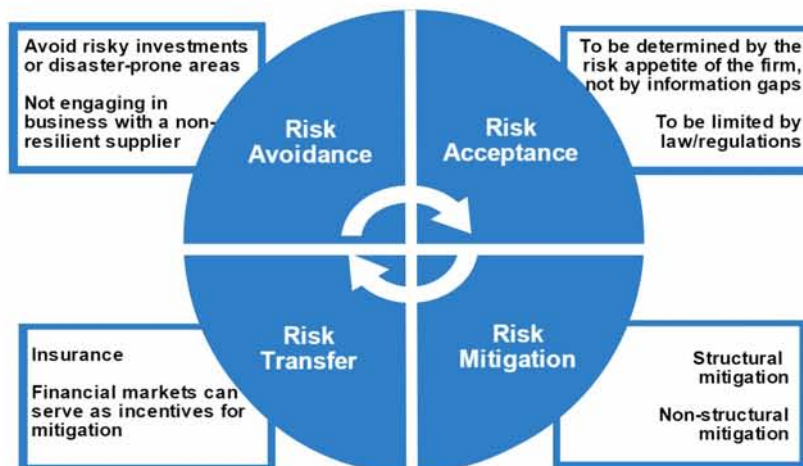
Source: Adapted from UNISDR, 2013a.

Risk management is not a new concept for businesses, especially for large firms that have well-defined risk governance structures and even employ risk managers. The typical business risk management cycle, which is comprised of the following five stages, can easily be adapted to the DRM context: (i) hazard identification and analysis, (ii) risk assessment and evaluation, (iii) identification

of risk bearing capacity, (iv) risk treatment strategy, and (v) implementation of the strategy and monitoring.

An effective first step in risk management is determining how much risk the firm wants to avoid, accept, mitigate and transfer in order to optimize its operations (Figure 12).

Figure 12. Risk treatment strategies



Source: Author's construction

Table 5. Summary of business engagement in DRM

| | | WHY DO BUSINESSES ENGAGE IN DRM? | | |
|-------------------------------------|--|---|---|--|
| MODALITIES | SPECIFIC ACTIONS | ECONOMIC BENEFITS | LEGAL COMPLIANCE | SOCIAL/ ENVIRONMENTAL RESPONSIBILITY |
| PROTECTING THEMSELVES | Structural mitigation measures | To reduce business liability by avoiding risky investments To enhance resilience of supply chains | To comply with building codes To comply with specific safety-related regulations | To prevent or reduce loss of human lives (duty of care with employees) To reduce job destruction To ensure continued supply of goods and services |
| | Non-structural mitigation measures | To save assets by investing in risk management rather than bearing the after-event losses | To adhere to industrial/commercial restrictions To implement mandatory business continuity plans | |
| | Risk-informed investments | To assure business continuity To improve access to business financing | To fulfill contractual obligations with business partners | |
| ASSISTING THE COMMUNITY | Sharing business continuity plan (BCP) and awareness raising | To improve sales, profitability and security from their enhanced reputation To secure or even broaden “license to operate” with stability and avoiding conflict To gain from new business opportunities in DRM and/or related areas | To comply with specific safety-related regulations To comply with environmental laws | To protect human lives, ensure aid, goods and services To enhance society’s welfare To mitigate the adverse potential of disaster risks for example: •Mitigated environmental damage from unsustainable natural resource consumption •Reduced risks from disasters •Mitigated impacts of climate change •Mitigated industrial/technological disasters •Improved preparedness based on better risk information and risk disclosure •Availability of business assets and resources for prevention, preparedness, response and recovery |
| | Corporate social responsibility (CSR) after disaster impact; philanthropy | | | |
| | Risk-sensitive investments | | | |
| SUPPORTING THE PUBLIC SECTOR | Public-private partnerships (PPP); tri-sector partnerships (TSP) | To obtain business opportunities in supplying goods and services and the development of resilient infrastructure To promote mutual accountability To improve access to information, knowledge and technology | To fulfill contractual obligations in PPP and TSP agreements | To act as a responsible risk shareholder To practice transparency To provide expertise, goods and services To contribute to emergency use of assets |



Businesses can choose to avoid risk by limiting their exposure to hazards, for example by not investing in disaster-prone areas, and not engaging in business with clients who have a high-risk profile. Risk acceptance is a feature that distinguishes businesses from DRM practitioners who focus on reducing risks. The level of risk acceptance should be determined by the firm's risk appetite and not by gaps in the available information or a lack of awareness. It should also be limited by law in order to avoid moral hazard problems. Should businesses choose to mitigate part of the risk assessed, they can opt for implementing structural measures such as building retrofitting; or non-structural mitigation measures that can raise awareness through training and education. Non-structural measures may entail emergency management plans, business continuity plans, risk communication strategies or implementation of other standard operating procedures. Ideally, these measures should be conducted after undertaking a comprehensive cost-benefit analysis in order to make the most of available resources. Businesses can also choose to transfer the remaining risk to insurance companies or the financial market through insurance policies and other risk financing and risk transfer instruments.

In the following section, four specific tools that have been commonly employed by businesses to reduce disaster risk are described. For example, national, regional or international standards act as contractual requirements to increase business resilience, while business continuity plans ensure the stability

of business operations in the event of a disaster. Disaster risk financing and risk transfer can be used to retain or shift the risk, whereas cost-benefit analyses can be used to inform DRM-related decisions.

Standards

Companies may choose to implement all or part of a published standard, or simply use them as a benchmark of best practices to increase the resilience of their business partners and reduce their own risk.⁹ For instance, they can put in place contractual requirements for a specific certification that increases the likelihood of supply chain continuity. There are national standards used by governments as a tool to ensure a minimum standard of resilience. Some examples include: building codes in Japan (JPC, 2014); regional standards as adopted by the Pacific Area Standards Congress (PASC) and the ASEAN Consultative Committee for Standards and Quality (ACCSQ). There are also ISO standards, some of which are relevant to DRM procedures.¹⁰ ISO 22301 and ISO 31000 are applicable in the response and recovery phases of a disaster, and apply to the standardizing resilience levels of physical capital (e.g. concrete properties, ductility of iron pipes) that are also applicable in the mitigation/prevention phase. The adoption of DRM international standards presents numerous benefits, but there are also various challenges which need to be addressed. For example, obtaining an ISO certification is costly, especially for SMEs, in terms of both human and economic resources (Box 3).

9. Marc Siegel. Standards to Enhance Organizational Resilience: Security, Preparedness, and Continuity Management. <http://disaster-resource.com/newsletter/subpages/v256/meettheexperts.htm>

10. ISO official website, accessed on January 15, 2014: <http://www.iso.org/iso/home/about.htm>

BOX 3: SURVEY RESULTS REGARDING ISO 22301, THE INTERNATIONAL STANDARD FOR BCM

In 2012 the Business Continuity Institute (BCI) published a two-part survey on the adoption of BCM Standards and ISO 22301 (Business continuity management system requirements). The main findings regarding the businesses views on the standard are:

- ✓ 85 per cent of respondents felt the main advantage of the ISO was to be found in providing a common language for international business. It facilitates communication within the business as well as with customers and suppliers.
- ✓ BSI members based in Europe, Asia, the Middle East and Africa responded positively regarding ISO in terms of its brand benefits and their likely adoption of it. North American respondents indicated they were less likely to adopt ISO 22301.
- ✓ 67 per cent of respondents will seek to align with ISO 22301 over the next three years.
- ✓ ISO 22301 will lead to much higher levels of certification.

Comply, certify or align? The main findings on the adoption of international standards for DRM were:

- ✓ 57 per cent of responding organizations (BCI members) have developed an in-house BCM model aligned with one or more BCM international standards.
- ✓ 17 per cent are BCM ISO compliant.
- ✓ 13 per cent are BCM ISO certified.

Sources: Person and Woodman, 2012 and BCI, 2013.

Business Continuity Management and Business Continuity Planning

Business continuity management (BCM) is an organization-wide discipline and a complete set of processes that identifies potential impacts which threaten an organization (Goh, 2009). The main objectives include: (i) supporting the holistic management within the organization; (ii) identifying potential threats

to operations of the organization; and (iii) coping with business disruption by implementing business continuity plans (BCP). The BCP is a set of "prior arrangements and procedures that enable an organization to respond to an event in such a manner that critical business functions can continue within planned levels of disruption" (Goh, 2009, p.22). However, only 13 per cent of SMEs in APEC economies have a BCP, while 47 per cent are not even aware of what a BCP is (ADRC, 2012).¹¹ To overcome this challenge, initiatives such as JICA's Area-BCP, represent a new approach to protecting people's lives and preventing loss of income due to disrupted operations (Box 4). These initiatives help businesses maintain their reputation by sustaining contractual obligations to clients and partners in the most difficult times.

BOX 4: AREA BUSINESS MANAGEMENT AND BUSINESS CONTINUITY PLANNING

JICA have sought to disseminate the Area BCP approach in collaboration with the ASEAN Coordination Centre for Humanitarian Assistance on Disaster Management (AHA Centre). February 2013 saw the launch of a study: "Natural Disaster Risk Assessment and Area Business Continuity Plan Formulation for Industrial Agglomerated Areas in the ASEAN Region". JICA describes the approach as a "scalable cross sector coordination framework of disaster management for business continuity" (JICA, 2013). Under the project, Regional BCPs will be prepared for selected industrial agglomerated areas in Indonesia, the Philippines and Vietnam, helping stakeholders in each of the selected areas to agree upon a coherent and integrated framework of mitigation measures and recovery activities. Following the application of this area-wide resilience approach in each of the locations mentioned above, JICA's aim is to further engage with the private sector to disseminate the concept of Area BCPs across more countries in ASEAN and beyond. JICA proposes that the Area BCP approach holds a number of benefits including: encouraging organizations to improve their own BCPs; promoting cooperation and communication among local enterprises and members of supply chains; and helping to integrate the DRM planning efforts of local stakeholders.

Source: JICA (2013)

11. The survey considered SMEs as companies with less than 300 employees.



Risk Transfer and Financing

Disaster risk financing is the retention of risks combined with the adoption of a specific financing strategy to ensure that the appropriate funds are available to meet financial needs in the event of a disaster (OECD, 2012). The main risk financing tools include cash reserves, contingency capital, financial derivatives, loans, catastrophe bonds, and post-disaster financial aid. Conversely, disaster risk transfer involves shifting the risk to others who, in exchange for a premium, provide compensation when a disaster occurs, thus ensuring that any financial gap that might emerge is either partially or fully covered (OECD, 2012). Insurance and reinsurance companies are usually the ones who bear the risk, which they pool and diversify, further distributing the risk to third parties. However, in principle, cost-effective investments for structural disaster risk mitigation are often preferable to insurance policies as they increase the value of assets while making businesses more resilient to disasters. However, it must be noted that risk financing and risk transfer tools “may or may not reduce risk” (Warner et al., 2009). Insurance is not the panacea of risk management and adaptation. In reality, insurance can fail to reduce risk or advance adaptation unless it is implemented properly - in a functional market - and in combination with other risk mitigation measures.

Cost-Benefit Analysis

Cost-benefit analysis (CBA) may be conducted using a forward-looking (risk-based) or a backward-looking (impact-based) method, based on disaster risk information or post-disaster damages, respectively. However, conducting a CBA can be technically complex, requiring considerable resources in terms of both human capital and time, which may prove challenging for many SMEs. To overcome this problem, FEMA (2007) has proposed a three-step “simple listing” method that allows SMEs to undertake a purely qualitative CBA which can be applied when it is not possible or appropriate to conduct a quantitative review of cost-benefits.

Risk Management for SMEs

A holistic approach to disaster resilience should encompass all types of private sector organizations including SMEs. While SMEs are the most exposed to disasters, due to lack of resources, low capacity and low levels of awareness, disaster risk management may not be high on their agendas. As mentioned above, very few SMEs are even aware of what a BCP is, let alone have one. Consequently, SMEs need to increase awareness of their own vulnerabilities and center their efforts in non-structural risk mitigation. Support must be forthcoming to these smaller organizations from the public sector.



The private sector can also offer solutions via business-to-business approaches, especially within the GVC context. In particular, the business continuity plans of TNCs can be end-to-end, meaning that they also support and integrate business continuity of the growing number of SMEs plugged into their value chain. Cisco, a global information and communication technology provider, has implemented a supply chain resiliency programme based on the global value chain approach. The programme enables the company to predict potential risk points and work with members of its supply chain including SMEs to manage and minimize those risks. As a result, Cisco is able to recover quickly from external disruptions such as natural disasters. (Miklovic et al., 2010)

In summary, businesses, through their investments, can determine their level of exposure to disaster risk as well as influence the level of risk faced by society at large. The private sector needs to exercise this responsibility by undertaking more risk-sensitive investments that build profitable and sustainable business models while simultaneously contributing to the enhancement of societal resilience. By framing the private sector as one of society's key 'risk shareholders', businesses can begin to appreciate the responsibility they have as well as the benefits they can derive by contributing to the resilience building agenda. The public sector has an important role to play.

4. The Role of the Public Sector in Increasing Business Resilience



An increasing number of stakeholders are advocating for governments to support business resilience. To this end, governments have two primary responsibilities. First, in the context of DRM, it is widely accepted that governments are expected to take the lead in reducing society's disaster risk to ensure the wellbeing of its citizens. Second, bankrupt or disrupted businesses in the aftermath of a disaster often transform into wider economic and social problems — ultimately presenting a challenge that has to be managed by governments.

Governments can advocate for disaster risk management practices of the businesses by:

- Incentivizing private sector investments in resilience and risk reduction;
- Establishing boundaries and limits on risk-generating investments and operations; and
- Leading, coordinating and supporting disaster response and recovery efforts.

Since poor governance can exacerbate risks faced by both businesses and society,

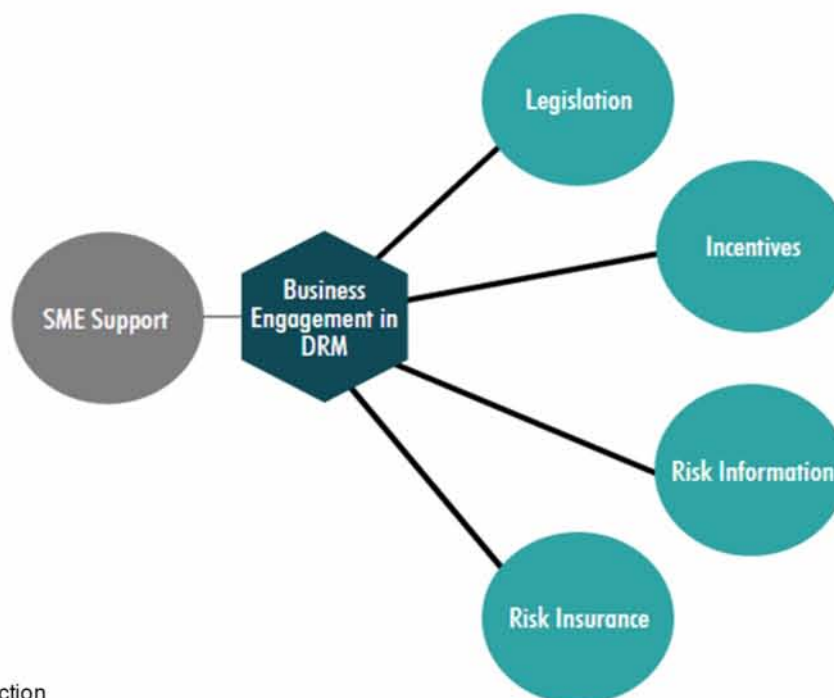
governments also need to be held accountable for inefficiencies and poor management in dispensing these duties.

The role of the public sector towards fostering DRM practices is primarily through the creation of an enabling environment for businesses that fosters increased investment in DRM. This calls for sound legal and regulatory frameworks and monetary and non-monetary incentives (Figure 13).

Legal and Regulatory Measures

Since legal and regulatory frameworks vary from country to country depending on factors within the nation such as: the political system; the inherent disaster risk; the level of economic development and the institutional capacity, among others, there is no one-size-fits-all framework. The main components of an enabling legal and regulatory framework, which can be tailored to individual country needs, is presented in Table 6.

Figure 13. An enabling environment for greater engagement of businesses in DRM



Source: Author's construction

Table 6. Components of an enabling legal and regulatory environment for business engagement in DRM

| STAKEHOLDERS | OBJECTIVES, GOALS AND EXPECTED RESULTS | INSTRUMENTS |
|-----------------------------------|--|---|
| BUSINESS | <p>Align public and private interests and promote DRM</p> <p>Incentivize DRM activities, such as investments in infrastructure</p> <p>Prescribe safe standards for conducting business including obligations to develop business continuity plans</p> <p>Incentivize training on DRM related skills</p> <p>Promote preparedness and mitigation through e.g. increasing insurance penetration rates</p> | <p>Building codes</p> <p>Corporate laws</p> <p>Land use laws</p> <p>Tax codes</p> <p>Restriction on industrial/commercial zones</p> <p>Labour law</p> <p>Safety regulations</p> |
| PUBLIC-PRIVATE PARTNERSHIP | <p>Enable PPP projects and related activities such as procurement and public services</p> <p>Incentivize PPP through subsidies, tax rebates etc.</p> | <p>Public administration laws (e.g. procurement)</p> <p>Tax codes</p> <p>Corporate laws</p> <p>Labour law</p> |

Source: Author's construction

The majority of countries in Asia and the Pacific have made good progress in establishing legal frameworks for DRM (ESCAP, UNISDR 2012). On the regulatory front, the DRM-related measures typically encompass building codes, land use planning, safety and resilience standards, and corporate and business risk information disclosure measures. Many countries in the region have introduced these key regulations as part of their DRM strategies. However, the challenge lies in implementation, as developing countries typically lack both the human and economic resources necessary to properly implement existing frameworks. The lack of clarity and awareness of relevant laws and regulations, in combination with general reluctance to adhere to regulations that may complicate business operations, as well as a lack of government funding to enforce said laws and regulations only serve to further add to the challenge.

The onus therefore falls upon governments to develop and enforce legal and regulatory frameworks where stakeholders can easily operate in a responsible manner. In some cases, disasters can be the catalyst for change by opening 'windows of opportunity' where demand-driven DRM strategies, and legal or regulatory frameworks can be adopted and enforced, as shown in the case of post-tsunami Sri Lanka (Box 5).

Monetary and Non-Monetary Measures

Monetary and non-monetary incentives offer governments an opportunity to stimulate private sector engagement in DRM. In designing these incentive schemes, special attention needs to be paid to SMEs, specifically addressing the need to build awareness, develop capacity and increase resources in order to effectively incorporate DRM into their business practices.

Generally, monetary incentives aim at engaging businesses by either making their DRM investments more affordable through tax credits/deductions or by providing subsidies/grants which are conditional on meeting minimum risk-sensitive standards in investments and expenditures (see Table 7). Post-disaster financial aid could also be delivered on a conditional basis to make sure that the investments undertaken with financial aid during the recovery phase are indeed risk-sensitive and do not contribute to the 'rebuilding' of risk.

BOX 5: DISASTER AS A WINDOW OF OPPORTUNITY: THE CASE OF POST-TSUNAMI SRI LANKA

Following the devastation brought by the Indian Ocean Tsunami of 2004, The Government of Sri Lanka took advantage of public and political recognition of the need to overhaul and adapt disaster management provisions in the country. Legislative changes and a restructuring of the agencies and institutions responsible for DRM activities were key actions that formed part of Sri Lanka's long term response to the Tsunami. Six months on, in May 2005, the Disaster Management Act (No.13) was enacted, providing the legal basis for a DRM system in Sri Lanka.

This Act established the National Council for Disaster Management to provide high-level input into DRM planning and also saw the establishment of a Disaster Management Centre with offices in each of the country's 25 districts. Furthermore, the country's first comprehensive national disaster management plan ("Toward a Safer Sri Lanka, Road Map for Disaster Risk Management") was published in December 2005, marking a shift towards comprehensive planning in Sri Lanka which came about as a direct result of the Tsunami which struck the country a year earlier.

Source: Author's construction



UN Photo/Jawad Jajali

Table 7. Selected monetary incentives for DRM engagement

| MONETARY INCENTIVES | DESCRIPTION |
|----------------------------------|---|
| Business Tax | Includes tax credits, deductions and exemptions made available to businesses that invest in DRM including through the construction of resilient buildings. |
| Sales Tax | Sales tax incentives typically provide an exemption from, or refund of, the national sales tax for the purchase of a DRM system or measure (e.g. emergency warning systems, maintenance of evacuation routes, signs and shelters). |
| Property Tax | Incentives include exemptions, exclusions, abatements and credits. Such incentives may apply to the additional cost of a resilient building (e.g. earthquake proof). |
| Rebates | Rebates to promote the installation of disaster resilient features (e.g. flood proofing, IT back-up systems). |
| Subsidies, Grants and Soft Loans | Subsidies, grants and soft loans are offered to encourage the adoption of disaster preparedness practices (e.g. education and training in evacuation procedures) and the use of disaster risk reduction system (e.g. emergency warning systems, maintenance of evacuation routes and vehicles, signs and shelters). |
| Loans | Loans provide financing for the purchase of DRM systems or equipment. Low-interest or zero-interest loans can be made available for integrating disaster resilient programs and practices into businesses. |
| Post-Disaster Financial Aid | Aid targeted to individuals and companies that have been affected by a disaster. The objective is to alleviate immediate suffering and facilitate resilient recovery and reconstruction. |

The public sector can also play a role in partnering with insurance and reinsurance programmes to help provide adequate coverage for natural disasters. Insurance is a powerful instrument that can be used to incentivize the private sector to invest in DRM.

However, as exemplified by Thailand following the 2011 floods, governments need to address inherent market failures in order to utilize risk financing and risk transfer as a means of building resilience (Box 6).



BOX 6: PUBLIC-PRIVATE CATASTROPHE-RISK FUND (THAILAND)

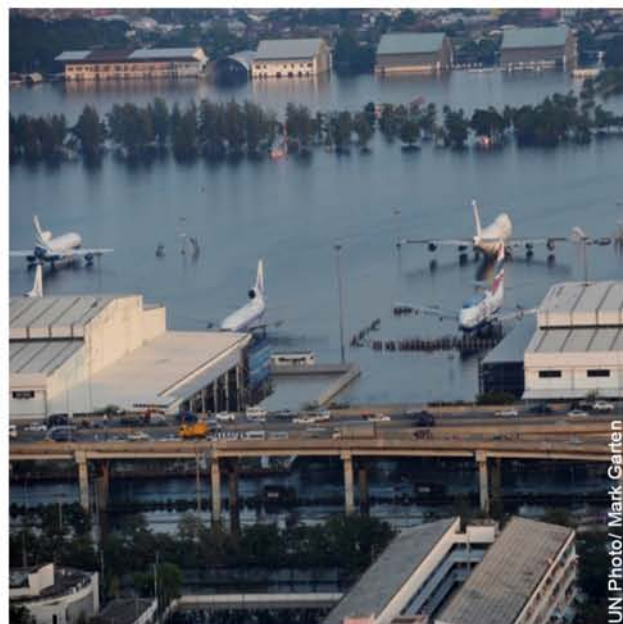
The 2011 Thailand floods proved to be one of the world's most costly disasters in terms of insurance payouts. Premium rates have increased sharply and sublimits have been imposed since then. Many property insurers and reinsurers left the market due to high-insured losses, making flood insurance difficult to obtain. Consequently, the Office of Insurance Commission of Thailand set up a THB50 billion catastrophe fund to offer competitive insurance coverage for natural disasters. This catastrophe fund will act as a primary reinsurer and the fund will purchase a reinsurance programme to enhance the capacity of insurance companies. This risk-sharing scheme between the Thai government and the Thai non-life insurance sector offers protection for households, SMEs and industrial factories.

Source: Adapted from Meghan and Stahel (2013)

Strong institutional frameworks are an important means of non-monetary incentives as they create an enabling environment within which businesses can operate smoothly. In addition, access to public procurement and contracts, new business opportunities, certification schemes and awards, as well as technical assistance, information exchange, and knowledge transfer have proven to be effective.

The public sector has a special role in improving the availability, accessibility and affordability of disaster risk information which stakeholders can utilize to better assess risk, and make risk-informed, risk-sensitive investments. Governments across the region are developing modern information services which provide timely information to decision makers during critical periods of a disaster (Box 7).

By incorporating the right information, these portals can also be used for other purposes, such as land use planning that can assess how infrastructure, people and areas may be exposed to hazardous conditions.



The private sector can benefit from this information by using it to mainstream DRM into their business risk management and BCPs, in order to enhance their coping capabilities.

There is also considerable opportunity for the private sector to contribute meaningful information as well. Data generated from their own risk analysis could feed into public sector databases, thereby strengthening the accuracy of the information. Data and information on disaster risks should increasingly be treated as a 'public good' and need to be more comprehensive, accessible and reliable than is currently the case.

While the public sector has an important role in enhancing business resilience, it should be understood that disaster risk management is everyone's business. High profile policy frameworks such as the post-2015 disaster risk reduction framework, regional platforms such as the Asian Ministerial Conference on Disaster Risk Reduction, and prominent intergovernmental forums at ESCAP, all need to be fully utilized to bring fundamental changes in DRM practices across the board.

BOX 7: GOVERNMENT SUPPORT FOR SMEs VIA WEB-BASED BUSINESS RESILIENCE RESOURCES IN NEW ZEALAND

Following a major earthquake which struck Christchurch in 2011, the New Zealand Government responded to calls to strengthen DRM provisions for SMEs which were particularly badly affected by this disaster. Auckland City Council formed a focus group comprising SME representatives, leaders from larger private sector organizations and council members who identified the need to promote active BCP implementation amongst SMEs.

A business resilience website (www.resilientbusinesses.co.nz) was selected as the primary medium by which to engage with SMEs. The initiative was championed by large private sector organizations and promoted via chambers of commerce and national business associations. The website, an adaptable and cost-effective resource, provided organizations with open access to user-friendly, interactive tools which assisted them in building tailored BCPs.

Source: Adapted from APEC, 2013

5. Collaborative Arrangements



Engaging businesses in DRM involves working with stakeholders, institutions and organizations from diverse sectors and backgrounds across national, regional and global scales. There is a need for multi-sector collaboration across public, private and nonprofit sectors as well as academia. Public-private partnerships (PPPs) are medium to long-term arrangements between the public and private sectors, where tasks or responsibilities traditionally undertaken by the public sector are provided or shared by the private sector. PPPs have traditionally been used to run and finance a wide array of

projects including energy and water infrastructure, hospitals and medical services, education, airports, and seaport container services. While the emphasis has often been on infrastructure, PPPs are now increasingly being used across a broad range of public services, including DRM. PPPs are often seen as beneficial arrangements as they mobilize the technical and financial resources as well as the commercial, managerial, and operational expertise of the private sector to deliver various public services. They tend to come with a set of benefits and challenges, some of which are listed in Table 8.

Table 8. Benefits and challenges of PPP agreements

| BENEFITS | CHALLENGES |
|--|--|
| Increased efficiency in the delivery of public services and infrastructure | Assessing risk transfer |
| Increased technical know-how | Limited incentive for continued investment (especially towards the end of contracts) |
| Lower or no public sector expenditure Improved quality of public services | Limited competition for the private sector (especially with large infrastructure projects) |
| Reduced whole life costs | Setting tariff payments (i.e. providing fair pricing for the private sector and public in general) |
| Generating commercial value from public sector assets | Creating a clear legal and regulatory framework |
| Developing local private sector capabilities | Coordination may prove difficult |

Source: Author's construction

Different types of PPP agreements, differentiated by the degree of participation of the private sector, are illustrated in Figure 14. On the low end of the scale, there are services, management, and lease contracts where the private sector is responsible for the operation and maintenance while the public sector retains the ownership. On the high end, there are joint ventures where the private sector is involved as an operator and/or owner.

PPPs can play an important role in DRM. These collaborative efforts can benefit the public sector by improving the efficiency of public service delivery by harnessing private sector knowledge and resources while private companies can offer benefits through profit making and reputational gains (Box 8). Nevertheless, there are also pitfalls associated with PPPs including unclear expectations regarding accountability as well as the risk of the public sector capacity being 'hollowed out' by outsourcing functions to private companies.

Figure 14. Types of PPP organized by degree of involvement of the private sector



Source: Authors' adaptation from ADB's PPP handbook.

BOX 8: EMERGENCY AGREEMENTS IN JAPAN: A SUCCESSFUL MODEL OF A PPP

Emergency Agreements (EAs) are a strategy for enabling community and local-level resilience through public-private partnerships, which have proven effective in Japan. EAs work similarly to BCPs; both these methods try to reduce the impact of a disaster by preparing countermeasures in advance. At its core is a (usually) bilateral written agreement for the private sector party (company or industry association) to provide specific goods or services to the public sector party (usually local governments) in the case of an emergency. The EA can be activated on request or upon specified trigger events (e.g. an earthquake of a certain magnitude). A March 2012 survey of 66 prefectures and cities in Japan found a total of 7,378 EAs in use by these local governments. Of these, 6,415 were signed between local governments and the private sector.

The large numbers of EAs per city/prefecture indicate that local governments across Japan are matching and meeting specific needs - identified through disaster risk management planning - with the specific strengths that can be found among local businesses in their community. The advantages of utilizing the private sector's reservoir of specialist skills and tools have been recognized. For example, by having private sector experts on call, local governments can assure their 'success in the last mile,' i.e. effectiveness in meeting individual needs in their community. According to a March 2012 survey, most (6,546) of the existing EAs were created sometime after the 1995 Great Hanshin-Awaji Earthquake; as such, their longevity also demonstrates the effectiveness as well as the sustainability of the approach.

EAs serve as a highly visible promise from the private sector company to the community via the local government; a promise to be on hand to offer aid, which businesses will do their utmost to fulfill by improving their own resilience. Businesses ranging from general contractors, supermarkets, to wholesale manufacturers at least partially credit EAs as motivation to make improvements to their own business continuity and preparedness.

Source: UNISDR (2013b; 2013c). Survey results available at: http://www.jiji.com/jc/graphics?p=ve_soc_jishin-higashinohon20120308j-03-w360

Businesses can benefit from entering into partnerships with non-profit organizations with whom they share a similar thematic agenda or interest. Such engagements require a high level of trust and typically work best on the basis that all parties are equal partners. Well-established, long term partnerships can also act as a powerful marketing tool for enterprises to gain a competitive edge through a positive corporate reputation. A key challenge is for governments to establish a proactive enabling environment to allow the transformation of these partnerships, which usually end with philanthropic or transaction-type outcomes, into long-term and integrative ones. To this end, dissemination of best practices of the business-non-profit collaboration is needed. Looking forward, the focus should also be on building networks that can systematically bring together the business sector and the non-profit organizations.

One of the ways for multiple sectors of society to engage meaningfully in filling gaps in DRM is through 'platforms' – intermediaries that exist to facilitate the systematic involvement of various stakeholders, including the private sector, in DRM. The development of such platforms for the exchange of information has the ability to address some of the challenges related to cross-sector collaboration. Therefore, a number of platforms have emerged that promote and support the engagement of the private sector in DRM at national, regional and global levels.

At the national level, Singapore established the National Business Continuity Management (BCM) programme in 2008 to strengthen the resilience of Singapore-based businesses and to drive the interaction of the public and private sectors in DRM. For this purpose, the Government assigned the Singapore Business Federation (SBF) to oversee the programme and coordinate closely with other business associations. Through various activities such as workshops and training sessions, the SBF worked towards increasing the awareness of BCM among businesses in Singapore. Companies can access BCM materials and receive support to secure BCM certification through the programme. Singapore's experience strongly suggests that business associations can contribute to the development of effective DRM platforms.



Similarly, the Government of Viet Nam developed a national DRM action plan for the private sector through the Viet Nam Chamber of Commerce and Industry. At the provincial level, this partnership developed and implemented disaster preparedness activities, while it also engaged in disaster information dissemination and public awareness, training and capacity building (ADPC, 2013). Other examples of national platforms from the region include the Business for Peace Alliance in Sri Lanka; the Corporate Network for Disaster Response in the Philippines and the Disaster Resource Network in India.

To engage more readily in DRM activities, businesses can formally organize themselves by establishing DRM reference groups within existing platforms such as business advisory councils at international and regional levels or business associations such as chambers of commerce at national and local levels. Regional platforms include the Asia-Pacific Business Forum (APBF), which has emphasized inclusive and sustainable business (Box 9); the Pacific Asia Travel Association (PATA) with its emergency preparedness scheme; and the Pacific Platform for Disaster Risk Management (PPDRM) based in Fiji. Although these are positive initiatives, they are mostly linked to specific countries or sub-regions, or not currently focusing intensively on DRM.

BOX 9: ESCAP BUSINESS ADVISORY COUNCIL ADVANCING THE REGIONAL DRM AGENDA

The particular case of the ESCAP Business Advisory Council (EBAC) is a prime example of how regional forums can foster the gradual embracement of DRM by business. Established among leading businesses in a wide range of industries and sectors in 2004, EBAC is the only region-wide multi-stakeholder business forum that promotes ethical and responsible business practices and provides business perspectives on development issues to governments. Through a periodical Asia-Pacific Business forum (APBF), EBAC ensures that markets, commerce, technology and finance in the Asia-Pacific region advance in ways that benefit economies and societies everywhere.

Following through the Rio+ 20 Conference on Sustainable Development (2012), EBAC set up a Sustainable Business Network to address the issues of environmental sustainability and social inclusiveness in business. Acting as a force of change, it mobilizes businesses to comply with existing global business norms such as the United Nations Global Compact, Global Reporting Initiative, OECD Guidelines for Multinational Enterprises, and ISO 26000. Through the Sustainable Business Network, members advocate to governments the requirements for an enabling policy environment for corporate sustainability; promote exchange of best practices among businesses; and address the issues of micro, small and medium enterprises.

The network established a task force on Inclusive and Sustainable Trade and Investment under which the issues of DRM and climate change are being discussed. Through capacity development and policy dialogues that include local chambers of commerce and industry, members from the private sector support job creation, poverty reduction, and engagement of groups in society who are marginalized in both society and the economy, particularly in underdeveloped regions such as the Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs), and Small Island Developing Countries (SIDs). Such a commitment to marginalized communities inevitably drew the DRM task force to conduct formal discourse such as the 6th Asian Ministerial Conference on Disaster Risk Reduction. In the 11th Asia Pacific Business Forum, held in Colombo in 2014, the task force further embedded DRM issues into the agenda for the regional business forum. In this conference the task force decided to take up the challenge of addressing DRM and climate change as its central focus. This can certainly provide critical impetus for the private sector's more substantial engagement in DRM in the Asia-Pacific region.

Source: Author's construction

6. Conclusion

Those seeking evidence of success and signs of hope can find many: disaster-related fatalities are decreasing, awareness of disaster is rising, and there is evidence of an increasing will to engage in multi-stakeholder collaboration. However, many challenges still lay ahead.

The private sector is increasingly engaging in DRM but it remains a rather passive player in various international, regional and national DRM frameworks and platforms. There is a need to recognize that business can contribute to building risk, and as “risk shareholders” need to be held accountable for their own share on risk creation, both by governments through adequately enforced legal and regulatory systems and by society. The private sector must therefore step up and contribute to the crucial task of making societies more resilient.

The paradigm on business participation in DRM hence needs to be shifted, from reactive to proactive behaviors that prevent and reduce risk; from short-term to long-term perspectives that will increase stability and sustainability; and from one-time corporate social responsibility actions to longer engagements that create shared value.

Governments also need to support private sector engagement by providing for sound legal and regulatory frameworks, as well as monetary and non-monetary incentives. Special support should be provided to SMEs to help them address disaster risks more effectively.

Partnerships between business, governments, non-profit organizations and academia offer not only individual incentives to each other but also collective benefits for the society at large, for they increase efficiency in the use of resources, facilitate exchange of information, enhance risk sharing, and help to better protect and assist the community during and after disruptive events.

The effective implementation of the post-2015 framework for disaster risk reduction, which will be agreed to at the World Conference on Disaster Risk Reduction in Sendai, in March 2015, very much depends on the actions of the private sector.

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