

Conclusion: From Shared Risk to Shared Value

As the ongoing global economic crisis has put a **spotlight on hidden risks** in the global economic system, **landmark disasters**, such as Hurricane Sandy in 2012 and the East Japan Earthquake and Chao Phraya river floods in Thailand in 2011, may have contributed to a **turning point in business awareness of disaster risks**.

Businesses and governments are beginning to recognise a **new category of toxic assets** as an unforeseen consequence of economic globalisation. While these toxic assets do not currently appear on their balance sheets, **embedding disaster risk management in business processes is increasingly seen as a key to resilience, competitiveness and sustainability: a business survival kit in an increasingly unpredictable, complex and fast-changing world**.

But this change is recent, and there are few blueprints or well-worn paths to follow. In the coming years, as more businesses innovate and gain experience in this area, new paradigms will emerge that in turn will help to redefine the future of disaster risk reduction.

The transformation of the global economy over the last 40 years has created unprecedented wealth: Global GDP grew by 75 percent between 1992 and 2011 and global GDP per capita by 40 percent, while the proportion of the world's population living in extreme poverty fell from 46 percent in 1990 to 27 percent in 2005. Global life expectancy increased by 3.5 years between 1990 and 2010, and an estimated 90 percent of the global population will have access to clean water by 2015, up from 77 percent in 1990 (United Nations Secretary General, 2012).

At the same time, and as demonstrated in this report, business practices that have accompanied economic globalisation have often led to an unsustainable accumulation of disaster risk. Large businesses felt the magnitude of this unrealised risk in the disasters associated with Super-Storm Sandy in 2012 and the East Japan Earthquake and Chao Phraya river floods in Thailand in 2011. Smaller businesses, particularly in low and middle-income countries, are reminded more regularly of the accumulation of extensive risk through recur-

rent disasters that damage the infrastructure on which they depend. As a result, both businesses and governments begin to recognise a new category of *toxic assets* as an unforeseen consequence of economic globalisation. These toxic assets do not currently appear on their balance sheets.

This recognition has yet to trigger a paradigm shift in the values that underpin business decision-making. Hazard-exposed locations offer comparative advantages, creating powerful imperatives to run the risk. But this risk is slowly but surely appearing on business radar screens, especially when assessing trade-offs between costs and opportunities involved in any new investment.

In recent years, intensive disasters have revealed disaster risks embedded in the contemporary economic landscape. As the ongoing global economic crisis has put a spotlight on hidden risks in the global economic system, these landmark disasters may have contributed to a turning point in business awareness of disaster risks. As such, disaster risk



management is being increasingly viewed less as an additional cost and more as an opportunity to enhance business resilience, competitiveness and sustainability.

But this change is recent, and there are few blueprints or well-worn paths to follow. As such, this concluding chapter offers a compass rather than detailed navigational charts. In the coming years, as more businesses innovate and gain experience in this area, a new practice will emerge that in turn will help to redefine the future of disaster risk reduction.

16.1 Intersecting global crisis

Any economic system is underpinned by values (Castells et al., 2012). The increases in productivity and growth achieved during 40 years of economic globalisation have been nothing short of spectacular. But this growth has been achieved at the cost of an over-accumulation of shared risks that now threaten competitiveness and sustainability. Markets have placed greater value on short-term returns on capital than on sustainability and resilience. And businesses achieving these returns have been deemed competitive by investors.

Evidence gathered for GAR13 attests that this veneer of competitiveness may often be illusory. Businesses have exploited comparative advantages of different locations by decentralizing and outsourcing production, and have accelerated turnover time by fine-tuning the efficiency of their supply chains. In the process, however, they have increased their own exposure and vulnerability to earthquakes, storms, tsunamis, floods and droughts. In many cases, they have also generated significant shared social and environmental risks and costs.

As a result, many apparently productive and profit-generating assets on business accounts may really be disaster-prone contingent and potential liabilities.

This contingent liability extends to (i) financial institutions—such as pension funds, sovereign wealth funds—that have invested significant parts of their portfolio in businesses whose assets are at risk; and (ii) cities and countries that have hidden and dissimulated their disaster risks to attract investment. Imagery used by cities and countries to highlight their comparative advantages is increasingly sophisticated and now relies as much on intangible values, related to quality of life, as on the basic conditions of competitiveness, such as infrastructure and the labour force. But in hazard-exposed locations, these comparative advantages are also illusory and can be dispelled with a single intensive disaster. GAR13 opened with the example of the decline of the Port of Kobe following the 1995 earthquake—once the spell is broken and business leaves, it may never return.

The global financial crisis that began in 2007 has metamorphosed into a broader economic, political and social crisis, particularly in Europe and the United States of America. One of the visible causes of the crisis was an over-accumulation of financial risk through large flows of capital into speculative, debt-financed urban development. This debt—and the risks it internalized—was then sold and shared through opaque investment vehicles that had not been assessed or valued.

The accumulation of disaster risk in recent decades is analogous. In many hazard-exposed countries, governments, institutional investors, businesses and households are now sitting on another mountain of hidden debt—the contingent liabilities represented by unrealized disaster risk. This disaster-prone capital stock, whether privately or publicly owned, represents another category of toxic assets, which do not appear on any balance sheets.

In addition, the contemporary world is characterized by unmitigated climate change, volatile energy markets, material resource, water and food scarcity, unequal wealth distribution, increasing consumption, increasing urbanization, ecosystem decline,

economic and political turmoil, rapid technological change and the increasing interconnectedness of global trade, financial markets, and supply chains (PwC, 2012, KPMG, 2012), among other factors. These processes interact with each other and are underlying drivers of disaster risk. In this context, the ripple effects of recent intensive disasters have contributed to a world viewed more and more as a set of intersecting crises where it is increasingly difficult to separate cause from consequence (Williams, 2012). Many future disasters will form part of a challenging terrain of improbable and unpredictable events.

The number of business surveys released in the last years (Deloitte, 2012; Ernst and Young, 2012; Forbes, 2012; Aon Benfield, 2011) all highlight that businesses perceive an increasingly riskier marketplace characterized by complexity, uncertainty, unpredictable events, and sudden change in which risks can manifest themselves swiftly and unexpectedly, with far-reaching ramifications.

In this environment of uncertainty and volatility, the values that underpin business are starting to change. Many businesses are becoming more risk averse and are strengthening their risk management capacities. Risk management is being increasingly perceived less as a cost and more as an opportunity and value proposition. Risk perception, therefore, seems to have gone through a point of inflection. Businesses are beginning to see effective risk management as a key competitive advantage that can enable long-term profitable growth and sustained future profitability. Many more large businesses report having a dedicated risk management department, and responsibility and accountability for risk management is increasingly being vested in the top layers of management (Deloitte, 2012).

Recent business surveys highlight the value of strong and effective risk management, including reduced operational, credit, or market losses, and improved reputation and analyst ratings (Accenture, 2011). There are at least three interrelated ways in

which investing in risk management generates results for businesses (Ernst and Young, 2012). First, identifying, assessing and addressing critical risks increases ownership and accountability, reducing uncertainty and strengthening confidence not only within the business but also among investors, analysts and regulators. Second, addressing critical risks also can lead to important cost reductions and savings, which are critical to business performance. These include avoided losses from business interruption, avoided costs of rehabilitation or relocation of damaged plant and facilities, as well as efficiencies gained from taking anticipatory or preventative actions. And third, risk management can also be key to value creation.

By analysing and valuing risks correctly, businesses can accept and own certain risks, which provide competitive advantage; savings from effective risk management can fund other strategic corporate activities; and investments in risk reduction may lead to higher returns.

Businesses that have invested the most in risk management may financially outperform their peers. A survey carried out among 576 companies and reviewing almost 3,000 analyst and company reports highlighted that the 20 percent of businesses that had invested most heavily in risk management had implemented on average twice as many key risk capabilities as the 20 percent that had least invested and on average had earnings three times greater (Ernst and Young, 2012). Embedding risk management in business processes is increasingly seen as a key to resilience, competitiveness and sustainability: a business survival kit in an increasingly unpredictable, complex and fast-changing world.

As highlighted in Chapter 11, although corporate risk management is usually focused on financial, economic, market and legal risks, there are signs that disaster risk management is becoming a real concern. One business survey now lists disaster risk as the 16th most important out of the top 50 risks, and as the 6th most important driver strengthening

risk management (Aon Benfield, 2011). Some large global consultancies and brokers are investing to develop decision platforms for disaster risk management for the business sectorⁱ, highlighting that this will be a growing market as businesses increase their investments in disaster risk management.

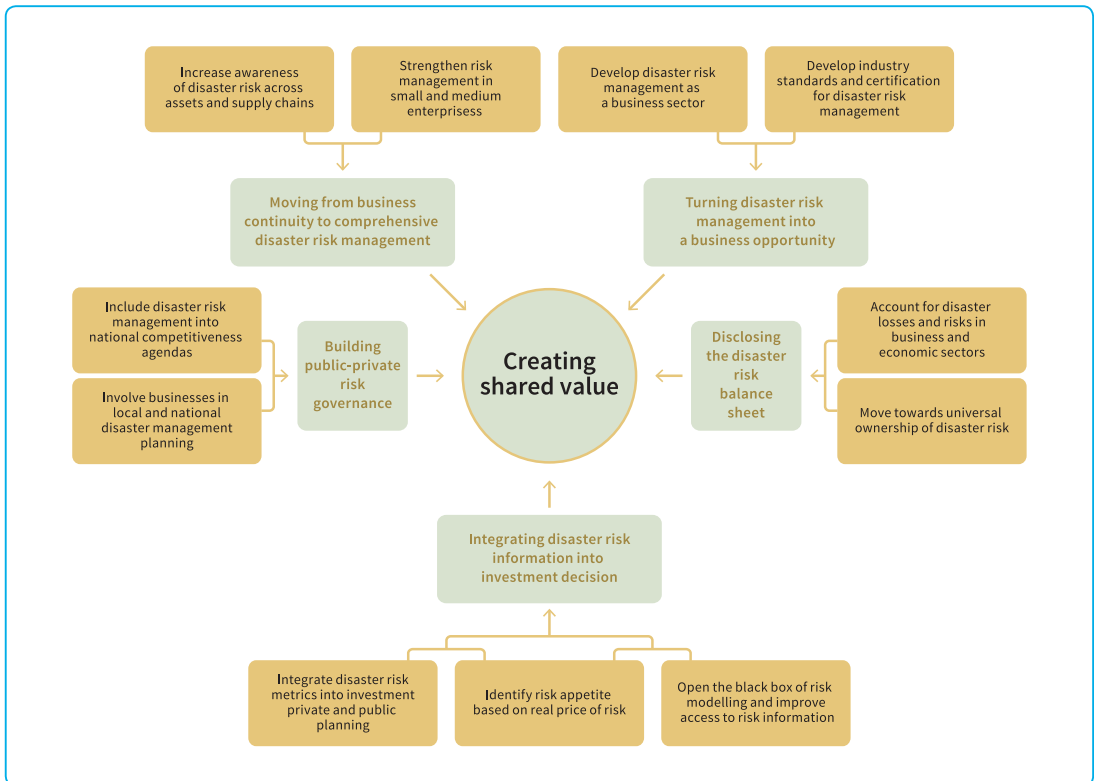
Businesses and their investors, therefore, are just starting to perceive disaster risk as a critical threat and the need to include disaster risk management as an integral component of corporate risk management. Evidence showing that investing in disaster risk management can give business a competitive edge is mounting. At the same time, as the market for corporate disaster risk management begins to develop, it creates major multiplier effects, as more and more business take investment decisions that reduce rather than increase disaster risk. In the same way that individual business investments over time can accumulate to generate systemic disaster

risk, risk-informed investments can over time reduce that systemic risk.

Global foreign direct investment (FDI) is projected to reach US\$1.8 trillion in 2013 and US\$1.9 trillion in 2014 (UNCTAD, 2012). In 2011, 46 percent of this investment went into manufacturing and another 40 percent into services, including infrastructure. And approximately US\$777 billion or half of all FDI flowed into low and middle-income countriesⁱⁱ. Whether or not these trillions of dollars of new investment flow into hazard-exposed areas and how the resulting disaster risks are managed will have a decisive impact on the future of disaster risk.

Businesses able to estimate and manage their disaster risks will be less likely to invest in hazard-prone areas. And if they do, they will more likely invest in measures to reduce the vulnerability of their plants and facilities. The same businesses will be

Figure 16.1 Key areas for the future of risk governance



(Source: UNISDR)

more likely to have addressed disaster risks in their supply chains and to have increased their resilience. And the disaster risks they have decided to accept will be explicit rather than hidden on their balance sheets. More importantly, they will have recognised that investing to avoid shared risks and costs and to address the underlying risk drivers, in partnership with the public sector and civil society, is not only good but essential for business itself. Unless those shared risks are transformed into shared values future business will be neither competitive and sustainable nor resilient.

Already, nascent practices are starting to bring this emerging paradigm shift from generating shared risks to creating shared value into focus, opening new doors, encouraging further questioning, exploratory practices and innovative research. As Figure 16.1 shows, these practices suggest five broad areas of opportunity for business that in time may redefine the practice of disaster risk management.

16.2 Putting the disaster into corporate risk management

As business awareness of disaster risk grows, more and more businesses will expand their existing risk management strategies to include disaster risk. While they are currently addressing disaster risk through the lens of business continuity planning, several businesses are gradually shifting their focus from preparing for and responding to disasters to identifying, analysing and managing disaster risks.

From business continuity planning to disaster risk management

As discussed in Chapter 11, most businesses are currently addressing disaster risk through the paradigm of business continuity planning. Analogous to emergency preparedness and response approaches in the public sector, business continuity planning enables businesses to identify potential threats to their operations and supply chains and to develop

contingency plans that enable business to be resumed quickly and with minimal disruption. By offering immediate and visible benefits, in terms of predictability and reduced losses, business continuity planning is essential to any corporate risk management strategy.

But while essential, it is only a part and not the whole. Businesses not only need to strengthen their resilience when disasters occur but also measure how their investment decisions are modifying the levels of disaster risk they face. By shifting their focus from exogenous threats to how risks are constructed through investment decisions, firms will achieve a major conceptual shift in business culture with implications for where risk management functions are located in an organisation and the profile of risk managers.

As Chapters 11 and 15 highlighted, investments are currently being made in developing new applications and platforms for visualizing and managing the disaster risks businesses face. As these and other platforms are brought to the market, corporate risk managers will have access to tools that can enable disaster risk to be integrated into broader risk management efforts, beyond the narrow focus on business continuity planning. Such frameworks and platforms can also facilitate knowledge networking with peers, scientific institutions and the public sector.

The conceptual shift from managing disasters to managing risks will be facilitated in businesses where risk management is already viewed as an integral part of investment planning and corporate strategy rather than as a specialised department that helps the business plan and manages contingencies. The shift will also be facilitated in those businesses where the risk management function includes staff with a broader understanding of the dynamics of risk rather than staff with a security and emergency management background.



Increasing awareness of disaster risks

One obstacle to integrating disaster risk considerations into broader corporate risk management is a lack of awareness of its critical importance among corporate leaders and senior executives. Until there is greater awareness of the risks that they currently face and that may have been created through uninformed investment decisions, businesses will continue to be surprised by disasters.

At present, disaster risk management is not explicitly included in the risk management curriculum of a majority of business schools and is rarely featured in leading business journals. By adding risk management to existing business school curricula, the way that risks are managed in businesses could begin to shift.

If levels of disaster risk and its management were included systematically as an indicator in surveys of risk and business performance, and in analyst forecasts and reports, this would equally provide a strong incentive for businesses to strengthen their disaster risk management function. As further explored below, it would also encourage governments to invest in more effective disaster risk management.

Strengthening disaster risk management in small and medium enterprises (SMEs)

As Chapter 11 highlighted, although large global corporations have risk management departments, few SMEs have the capacities to analyse or address their disaster risk. However, the growing concern of large businesses with supply chain vulnerability and resilience may provide a vehicle to support and strengthen disaster risk management in SMEs.

Rapid progress is currently being made in analysing and modelling supply chain risks. Businesses are examining different strategies to reduce supply chain risk including adding inventories; shortening supply chains and increasing supply chain visibility; design information portability; diversifying risks by creating redundancy; defining alternative distribu-

tion channels and suppliers; enhancing relationships with supply chain partners; relocating or protecting high-risk facilities; and working closely with the public sector. For example, sourcing from only one supplier can reduce production costs, but increases risk if that supplier is affected in a disaster. Although having multiple suppliers in different locations may raise transaction costs, it reduces the risk of disruption by securing supply substitutes. Similarly, businesses are now increasingly selecting suppliers on the basis of risk criteria rather than purely on cost minimization.

SMEs play a critical role in most supply chains. Large businesses have a vested interest in ensuring that their supply chain partners, including SMEs, are managing their disaster risks. Supply chain risk management may therefore become a vehicle through which large businesses with the necessary capacities can strengthen disaster risk management in SMEs, which lack those capacities.

16.3 Eyes wide open: integrating disaster risk information into business investment decisions

Businesses will continue to invest in hazard-exposed locations given the comparative advantages that many of these places offer and because infrastructure and supply chains are already in place. Often, accepting a certain level of risk in a location can give a business a competitive advantage. But by integrating disaster information into a broader analysis, using appropriate risk metrics and open access information can mean that investment decisions are taken with eyes wide open.

Identifying risk appetite

Businesses in the tourism sector will continue to invest in SIDS; in the agribusiness sector, in countries with large areas of potentially productive farmland; and in the urban development sector, in rapidly expanding cities in low and middle-income countries.

But some businesses are now starting to include disaster risks when considering the costs and benefits and trade-offs implicit in these investment decisions.

Integrating disaster risk estimates into a broader analysis, which takes into account other considerations such as labour costs, access to markets, stability and infrastructure, would enable businesses to identify which risk layers can be reduced (for example, through investments in strengthened building or protective measures); which risks cannot be reduced; and which would have to be managed through other mechanisms, such as insurance, or those that can neither be reduced nor shared. By analysing the cost-effectiveness of these different disaster risk management strategies, businesses can decide how much disaster risk to accept and how much to invest in reducing or sharing that risk; in other words, businesses can now identify how much risk appetite is appropriate for their goals and objectives.

Integrating disaster risk metrics into investment planning

To factor disaster risks into their investment decisions, businesses need access to risk information and up-to-date estimates that can be easily integrated into planning and decision-making. As a first step, this may consist of horizon scanning of the countries and cities they are considering for their investment. Developing such disaster risk profiles requires risk information and metrics at an appropriate scale and format.

At present, the growing volume of risk information being produced at different scales—by universities, scientific and technical institutions and others—is rarely standardised, compiled or aggregated in a way that can be used by corporate risk managers, finance or planning ministries or by city planners and administrators.

But this scenario is changing rapidly. As highlighted in Chapter 15, new efforts are stimulating interac-

tion and convergence between private and public risk modelling, as evidenced by the Understanding Risk conferences organised by the World Bank in 2010 and 2012ⁱⁱⁱ and new platforms such as the Willis Re. Atlas platform (see Chapter 15). The GAR global risk model and national disaster loss databases, now being published by an increasing number of countries, are helping to provide open access risk metrics that can be used for business investment decisions.

The integration of disaster risk metrics into analytical business forecasts will be another critical path for improving the availability of risk information, particularly for businesses that are not able to manage their own risk identification and estimation platforms.

Opening the black box: open source and open access disaster risk information

Proprietary risk models produced by the risk modelling industry are designed to provide detailed information to value the prime of specific portfolios of assets for the insurance industry and to identify potential risks of insolvency. These models are not necessarily designed to support investment decisions by businesses or governments. As highlighted in Chapter 13, this contributes to an information asymmetry in which purchasers of insurance, including businesses and governments, do not have access to the information that the insurance industry is using to determine pricing levels.

As open source and open access risk information becomes more readily available and improved, the situation may begin to change. Increased risk information availability will facilitate a healthy debate between businesses, governments and insurers regarding risk levels, patterns, trends and pricing. It may also encourage governments to develop more appropriate regulatory frameworks for the insurance industry.

Most important, it will enable a greater social awareness of disaster risks, which in turn may lead to



greater investments in disaster risk reduction from all levels—businesses; local and national governments; communities; and households.

16.4 Towards public-private risk governance

As businesses start to scrutinize the levels of disaster risk internalised in cities and countries before making investment decisions, this will change their investment behaviour over time. In turn, risk-sensitive business investment will provide an important incentive for improved disaster risk management and increased investment in risk reduction by national and local governments.

Managing risks to strengthen competitiveness

At present, hazard-exposed cities and countries often hide or dissimulate their disaster risk to attract investment. There is only anecdotal evidence that cities and countries that effectively manage their disaster risk are more successful at attracting investment than those who understate and underplay their risk levels. However, as open access risk information becomes increasingly available to business, and as business becomes more aware of disaster risk, competitiveness strategies based on risk denial will become less effective.

As disaster risk starts being factored into business investment decisions, countries with lower risks or which can demonstrate that their disaster risks are effectively managed will have a comparative advantage to attract investment. From this perspective, attracting continued investment is likely to become one of the primary motivations for strengthening disaster risk management at the national and local levels.

Some governments are already beginning to include disaster risk management as part of their competitiveness agenda. This implies that disaster risk management will have to be integrated into the

work of trade and investment boards and ministries. For example, information should be provided on disaster risks and how they are being managed to potential investors and that information needs to be factored into the planning vehicles aimed at attracting investment in manufacturing and services, such as special economic zones, and into the granting of concessions for mining, oil and gas, timber and agriculture.

Risk-sensitive business investment will also generate a demand for analysis and forecasts that include rather than ignore disaster risk. And as that analysis is generated, it will encourage countries to invest further in disaster risk management. If, at the same time, disaster risk management is integrated into the many different competitiveness indices,^{iv} this will provide further incentives, generating a virtuous circle in which countries and cities invest in disaster risk management to enhance their competitiveness, and businesses invest more in those countries that can demonstrate effective risk management.

In the case of some very high-risk countries, such as SIDS, strengthening disaster risk management may be the most effective way to increase competitiveness. As highlighted in Chapter 7, given their geography and small size of their economies, SIDS have many constraints to enhancing competitiveness. Precisely because such a large proportion of their capital and investment is at risk, reducing that risk can be their best chance to strengthen competitiveness and attract investment.

New approaches to risk governance

GAR11 laid out the case for integrating disaster risk management into public investment planning and called for the strengthening of risk governance in which finance and planning ministries play a key role. This built on the findings of GAR09, which highlighted the need for strengthened partnerships between national and local governments and local communities.

Evidence presented in this report shows that risk

governance at the national and local levels is unlikely to be effective without the involvement of business. Ineffective land-use planning, vulnerable infrastructure and environmental degradation erode business competitiveness. SMEs in particular are heavily dependent on publicly managed and regulated infrastructure and services. At the same time, public regulation alone is rarely effective to regulate business investment in a way that contributes to risk reduction. Businesses, therefore, have a vested interest in the effective management of disaster risks in the city regions where they are located. And to manage those risks, national and particularly city and local governments need the participation of business.

Examples of successful coordination between public administrations and small and large businesses abound (Wedatta et al., 2012; Ingirige and Amaratunga, 2012). However, as highlighted by the national HFA reports, there is still an enormous gap between policy and strategy, on the one hand, and between implementation and accountability, on the other hand, which needs to be bridged. At the same time, many public-private partnerships (PPPs) are still limited to emergency response, reflecting the current focus on disasters rather than on risks in both public and private sectors.

Actions by the public sector are critical to all sectors. They include creating conditions for a well-structured and functioning local insurance market; producing and making available accurate, up-to-date and relevant risk information; and working jointly with business and civil society on regulating land-use, building and ecosystem services. Given its role in providing employment, public sector action to reduce risks faced by SMEs are particularly important.

The counterpart to these actions would be business participation in national and local risk governance frameworks on a strategic basis that goes beyond collaborating in emergencies through the corporate social responsibility function. This participation

could include, for example, reaching consensus on land-use planning and zoning decisions in a way that commits both business sectors and local and national governments; providing technical support to designing and implementing disaster risk management strategies and plans; and investing in risk reduction measures that benefit both business and the wider community.

16.5 Disclosing the disaster risk balance sheet

Reporting on disaster risk by business is currently largely unregulated, but will become increasingly important in future. Businesses begin to undertake integrated reporting that includes information on sustainability and risks in the full picture of business performance. As disaster risks become factored into the decisions of investors, businesses will then have powerful incentives to invest in effective disaster risk management.

Reporting risks

As highlighted in Chapter 12, increasing pressure from government regulators is likely to provide a powerful incentive for businesses to identify, estimate and disclose both their internal and shared risks. These regulators are confronting businesses with additional sustainability-related legislation and fiscal instruments. At present, these additional regulatory requirements are largely focused on climate change. However, the scope of these instruments could easily be expanded to address other kinds of disaster risks, including those associated with geological and not just weather-related hazards. Increasingly, business, investors and governments are recognizing that more transparency is good for business. Image is improved and reputational risk diminished, which is critical given the increasing sophistication of the global media in exposing practices that increase or share disaster risk. Also the risk or litigation from those sharing the disaster risks generated by business would be



reduced. This is particularly important give new and emerging perspectives on claims and compensation.

If both disaster risks internalised in a business's own assets and operations as well as shared risks that are transferred to others are accounted for and reported, then investors would be able to factor these risks into their investment decisions, avoiding businesses with high and unmanaged disaster risk. Improved reporting would also encourage disaster risk to be factored into analyst and credit ratings, which would further encourage businesses to invest in effectively managing their disaster risks.

Similarly, improved reporting may contribute to more sensitive insurance pricing. Insurance pricing could then become another important catalyst for greater transparency in equity markets and more prudent investment practices (Stahel and Orié, 2012).

One issue that needs to be addressed is agreement on common standards and metrics for measuring and quantifying disaster risks. Estimating the cost of shared risks is not a trivial exercise, particularly when it comes to valuing natural capital. As a result, performance criteria for investment contracts and loans that take natural capital—and disaster risk considerations—into account have yet to be identified (Cambridge Programme for Sustainable Leadership, 2011b). Recent initiatives are now addressing this gap (TEEB, 2010) although there is still a need to link the real costs of externalities, such as environmental pollution or destruction of natural capital, to the cost of increased shared disaster risk.

Universal ownership of disaster risks

Other concepts such as 'universal ownership' have the potential to encourage risk-aware investing by large institutional investors, such as pension funds and sovereign wealth funds. Given that these funds have a fiduciary responsibility to their beneficiaries for prudence and to provide sustainable long-term

income, there is a strong incentive to make investments that avoid the generation of shared disaster risks.

In principle, fund beneficiaries can gain from reduced environmental costs associated with fund investments, i.e. by reducing the corporate externalities of business investments, the value of the funds can increase, and costs—such as higher taxes to compensate for externalities—can be significantly reduced (UNEP FI and PRI, 2011).

The effectiveness of universal ownership will depend on overcoming information asymmetry, in which providers of investment opportunity know more than investors and control the information of those whose money they manage. Although fund managers may have fiduciary responsibility for prudence, this will be reinforced if beneficiaries actively encourage investments that do not lead to increasing disaster risk.

Given the volume of capital under the management of large pension and sovereign wealth funds, the effective application of the principal of universal ownership could provide a major incentive for businesses to manage their disaster risks more effectively and to ensure that their investments are risk-neutral. Stronger emphasis and direction of asset owners to their managers to integrate disaster risks into their investment strategies across all asset classes could generate significant change (IIGCC et al., 2010).

16.6 The business of managing disaster risks

The size of the market for disaster risk reduction is potentially huge. The World Bank, for example, estimates that climate change adaptation will require investments of US\$75–US\$100 billion annually between 2010 and 2050 (World Bank, 2010). The costs of corrective disaster risk management may be similar. But in reality, the market is much greater. If all the US\$1.9 trillion of

FDI foreseen for 2014 were disaster-risk sensitive, this would represent an enormous business opportunity. And FDI is only a small proportion of total investment in produced, natural and intangible capital.

Disaster risk management as a business sector

Many businesses now see disaster risk management as both an opportunity and a key sector for development. Among companies polled by the Economist Intelligence Unit, 63 percent saw opportunities to generate value from disaster risk reduction (for example, developing new crop-insurance products or designing more resilient structures) and 20 percent had already generated new revenue (UKTI, 2011).

As highlighted in this report, these opportunities include the development of applications to provide risk estimates and information and platforms for corporate risk management. They will also increasingly embrace the design of infrastructure and buildings, of ecosystem approaches to disaster risk management, and the provision of advice and technical assistance to the public sector.

But the scope is not restricted to those activities explicitly labelled disaster risk management. A large and growing number of business initiatives are unfolding in all regions. They are creating value from the sustainable management of natural capital and the environment, from reducing energy consumption and investing in renewable energy and from involving and benefiting local communities and households.

Although many of these initiatives contribute to climate change mitigation and adaptation, environmental sustainability and increasing local incomes and employment, some already generate co-benefits vis-à-vis reduced disaster risk. The green building movement is a good example of a new business area that generates benefits in all these domains. The vast scope of these initiatives not only includes businesses but designers^v and others that stimulate business innovation.

Many of these initiatives are now being driven under the sustainability agenda of businesses rather than through the risk management agenda. However, to the extent that they address underlying drivers of disaster risk—such as declining ecosystem services and badly planned and managed urban development—they will also have a major impact on the future of disaster risk. They often reflect a change of core values in a new generation of professionals entering business, which are more likely to embrace concepts such as sustainability and equity more than their peers of previous generations. But they also recognise that change requires investment and investment can mean business opportunity.

Businesses investing in these initiatives often recognise that the creation of shared value rather than shared risk is essential for longer-term business resilience, competitiveness and sustainability, while presenting immediate opportunities to generate revenue and new business opportunities.

Certification and standards

The development of disaster risk management as a business sector that creates shared value will be stimulated by the introduction or adoption of certification or similar types of ‘seals of approval’ (Johannesson et al., 2013; FM Global, 2010; Mahon et al., 2012). This may include the development of international standards, such as ISO, but also voluntary industry sector-specific certification programmes.

Certification programmes already exist in a number of sectors, for example, in sustainable tourism and forestry and in energy-efficient building. At present, these programmes rarely make explicit mention of disaster risk management, though reducing disaster risks may be an important co-benefit. For example, certification of sustainable urban development can be adapted to include assessment of drainage and run-off capacity, flood risk and heat absorption.

The benefits of certification are that businesses investing in hazard-resistant building or infrastructure, for example, would probably see higher growth and



returns than those that do not, as certification is increasingly recognised and valued by consumers. This would provide a tangible incentive for businesses to invest in a way that reduces rather than creates shared disaster risks.

16.7 Epilogue

This report has made the business case for disaster risk reduction. The factoring of disaster risk considerations into business investment decisions is critical to achieve more resilient, competitive and sustainable economies and societies. And creating shared value through investing in disaster risk reduction can itself be a huge business opportunity. Perhaps the most important achievement of the HFA is an enhanced global understanding of the principal pillars of disaster risk management, particularly among national and local governments and civil society. This now has to mature into a real understanding of disasters not as exogenous threats to an otherwise functioning economic and social system, but as a material expression of serious fissures in our approach to economic growth and development.

This report highlights that unless this understanding is now integrated into business investment, the possibility that the HFA goal will be achieved is remote. The future of disaster risk hinges on the extent to which business embraces disaster risk reduction.

As we now approach 2015, international efforts are intensifying to formulate a new framework for disaster risk reduction: HFA2. Ensuring that the business case for disaster risk reduction is explicitly included in that framework will provide a critical incentive for the constructive engagement by business, on which future resilience, competitiveness and sustainability depend.

Notes

- i PwC and Willis Re., for example.
- ii The UNCTAD report refers to developing countries, which are low and middle-income countries.
- iii <https://www.understandrisk.org>.
- iv WEF competitiveness index; UN HABITAT urban prosperity index and UNCTAD FDI attractiveness index.
- v <http://inhabitat.com/how-americas-infrastructure-can-be-strengthened-against-future-natural-disasters/3/>, <http://www.worldchanging.com/cities/>, <http://www.ecogeek.org/>, <http://greenopolis.com/>.

