In the aftermath of the Indian Ocean tsunami of 2004, the international humanitarian and disaster relief community witnessed the increasing willingness of the private sector to engage in activities related to natural disaster management. The bulk of that engagement focused on emergency response and relief, with significant resources also committed to longer-term efforts in recovery and reconstruction. Yet private sector resources must also be extended to work in Disaster Risk Reduction (DRR). This work offers greater scope for involvement, more opportunities to leverage core private sector competencies, and a more sustainable paradigm for engagement than traditional response and relief. Risk-reducing activities can be undertaken as a part of recovery and reconstruction, though their importance is not limited to the post-disaster context.

Embracing the concept of DRR is important for all actors – public, private and non-governmental. While robust cost/benefit analyses still need to be conducted, professionals in the field of disaster management argue that the human and economic costs of natural catastrophes will be reduced most effectively by investments in Disaster Risk Reduction (DRR).[1] Such risk-reducing activities may include monitoring and surveillance of natural hazards; attempts to mitigate the impacts of those hazards; and efforts to better prepare exposed communities to respond should the arrival of the hazard turn into a crisis. These activities need to be established as a core aspect of development – and the private sector has a significant opportunity to contribute to that process.[2]

Private sector engagement with these activities simply makes particular sense. This recommendation proposes that businesses have

1. Greater scope for engagement in DRR than in response and relief
2. Greater opportunity to leverage core business competencies through DRR than through response and relief
3. Greater inclination to engage sustainably with disaster management in a DRR context than through response and relief

In South Asia, the ongoing recovery and reconstruction post-Tsunami offers an opportunity to prove this argument by engaging business in vital risk-reducing activities. These activities should not, however, be considered limited to post-disaster reconstruction – they are important for sustaining human and economic development.

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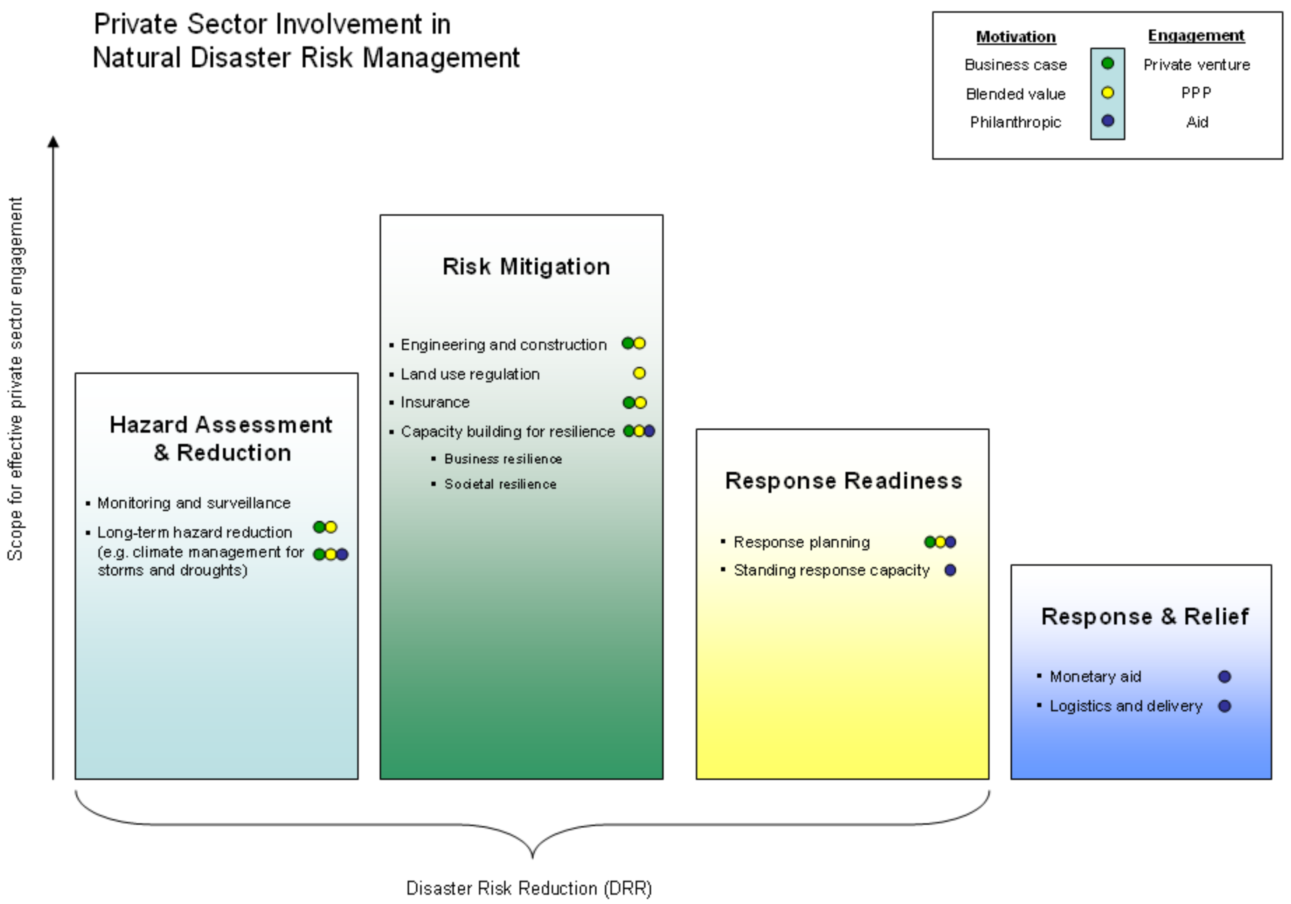
[1] See for example ProVention, ''Measuring Mitigation': Methodologies for assessing natural hazard risks and the net benefits of mitigation - A scoping study / Synthesis report.'

[2] The Hyogo Framework for Action, 2005-2015 (UN/ISDR), is the most complete overview of the opportunities for public, private, and multilateral actors to engage in Disaster Risk Reduction as an aspect of human and economic development.



The figure above offers broad categories for natural disaster risk management activities. The height of the bars indicates the scope for private sector engagement in these activities. Some examples of each activity are included, with green, yellow, and blue circles indicating the expected private sector motivation for engaging with the activity and the associated expected form of that engagement.

Hazard Assessment and Reduction

Thorough natural disaster risk management should address the hazards themselves – here usually meteorological hazards (storms, droughts) or geophysical ones (earthquakes).

Businesses will play an important but limited part in assessing hazards, particularly through the support of monitoring, surveillance, and the development of early warning systems. Improved surveillance of natural hazards like storms and earthquakes is both publicly beneficial and of private value, particularly for companies undertaking holistic Enterprise Risk Management activities. While governments and international organisations may always hold primary responsibility for surveillance and early warning, there may be opportunities for the private sector to provide appropriate support for development of these technologies in developing countries. Multinational corporations (MNCs) considering the ‘country risk’ exposure of their investments should be particularly interested in the potential long-term risk reduction benefits of a public-private partnership (PPP) for improved monitoring, surveillance, and early warning.

Hazard reduction may seem counterintuitive where the hazard is as uncontrollable as mother nature herself, but given the growing consensus around the impacts of climate change on storm intensity and drought patterns, there may be opportunities for public and private actors to reduce the hazards they will face in the very long term. Where progressive legislation has been brought to bear, hazard-reducing actions (such as emissions reductions to slow global climate change) have moved from the realm of social responsibility all the way to competitive imperative. Innovative attempts to pool and market incentives for a broader set of environmental hazard reductions have met with only limited success, but may prove to a be a long-term sustainable option for risk reduction.[3]

Risk Mitigation

It is in the area of risk mitigation where the business community has the broadest scope for participation natural disaster risk management. Risk mitigating activities may include everything from business continuity planning, to building retrofits, to the broader extension of insurance via micro-insurance and insurance pooling, to information- and expertise-sharing, to the support of forward-thinking regulation of land use[4] and trade policies.[5]

There is a pure business case for some of these activities, which offer profitable opportunities and/or competitive advantages to firms, and should be pursued in the marketplace. Others may offer a blended social and business value and be most effectively undertaken in public-private partnership. But nearly all of these risk-mitigating opportunities make use of both the assets and skills businesses can bring to the table, be they technical competencies in construction or financial risk modelling, skills in management and training, or a deep understanding of how regulation impacts the business environment.

The financial services sector has a strong business case for its engagement in risk mitigation, from sales of appropriate insurance products to the issue and trading of 'Cat Bonds', which benefit both traders (through low statistical correlation with other financial instruments) and societies (by increasing access to insurance capital). Swiss Re recently issued earthquake bonds on behalf of the Mexican government, providing $160 million in additional insurance against a major earthquake and increasing the total amount of 'traded' natural catastrophe risk by more than 4%. Both construction and environmental engineers are also likely to profit from risk-reducing contracting to build more resilient physical infrastructure (buildings, pipelines, etc) and natural infrastructure (coastlines, mangroves, watersheds, etc.). Kousky and Zeckhouser's 'JARring Actions that Fuel the Floods' offers a number of suggestions for policy-based incentives that can spur this kind of private investment.[6] The private sector should be encouraged to participate in the policy dialogue around such risk mitigation; feedback from the markets is the most effective way to price the benefits of risk mitigation and the necessary costs that may come in the form of taxation or subsidies to support private investment.

Where businesses have been able to provide *resources* to tsunami response and relief, many may be able to draw more deeply on core business *competencies* given the chance to participate in proactive mitigation. Investments in recovery offer a terrific chance to leverage these competencies and mitigate future risk. Engineering and construction expertise should be tapped to reduce future vulnerabilities, and appropriate work should be incentivised by regulation. The market for insurance should be examined, and if it is found to be weak, regulatory incentives and opportunities for pooling should be explored. Businesses should plan for resilience, through financial and operational risk mitigation measures. They should also contribute to the resilience of the local economic environment, through support for appropriate regulation and through their ability to create social capital as employers and actors in the community.

How much more effective is investment in mitigation versus response? Unfortunately, impact and cost/benefit assessments remain extremely thin on the ground, but there is a growing consensus in the field that the yield to many investments in risk mitigation is significantly greater than that of similar

[3] See, for example, http://www.ecosystemmarketplace.com/
[4] For example, both re-insurers and holders of Natural Catastrophe bonds may wish to lobby for land use regulation th decreases their financial exposure to disasters. ForestRe's bond issue supporting forest management around the Panama canal is another example of business identifying an interest in appropriate land use regulation.
[5] Dr. Vinya Ariyaratne of Sri Lanka's largest development NGO (the Sarvodaya Shramadana Movement) has argued tl trade environments are essential to the creation of resilient economies able to bounce back from disasters.
[6]See Daniels, Kettl, and Kunreuther, *On Risk and Disaster*

investments in response and reconstruction.[7] While business contributions to response and relief are valuable, the greatest opportunities to make a difference may lie in mitigation.

Significantly, these opportunities may also be sustainable. These actions are not tied to the occurrence of a crisis, and they offer incentives, in the form of economic self-interest and increased partnership with the public sector, that one might expect to be more sustainable than the corporate philanthropic impulse.

Response and Relief

The bulk of the private sector's participation in natural disaster management, to date, has come during post-event response and relief in the form of cash, assets, and logistical support. There is certainly room for more private sector engagement; and some estimates suggest that corporate philanthropy in this area could increase from the current $1.5 billion per year to $10 billion or more.

Yet the activities available to businesses in this phase are inherently limited in *scope*. One reason is perceptual: disaster response and relief will probably always be seen as a *public* good, and people expect their governments to provide such services, as evidenced by the response to Hurricane Katrina in 2005. More practically, major catastrophes require a coordinated response, and enterprising companies wishing to help are generally discouraged, with good reason, from acting independently beyond the contribution of aid and resources to primary response actors. Even businesses involved in core service provision (food, transport, communications, power, etc.) are often not the most qualified providers of *emergency* services, and their involvement in response will typically be managed by a dedicated emergency response agency.

Finally, private sector involvement in relief and response is not particularly sustainable. Contributions to these activities are primarily driven by philanthropic and humanitarian concerns, and we have seen through the two South Asian disasters of the last 24 months that factors such as donor fatigue and the vagaries of media coverage can affect the reliability of private aid.

Yet we see increasingly significant and sustainable contributions being made by the private sector to response, through investment in what might be called Readiness to Respond. There is scope for greater involvement here, as private sector actors can play key roles in developing and communicating response plans to employees and communities. And by engaging in partnerships in advance of a catastrophe, business can draw not only on a sense of social responsibility, but also its enlightened self-interest in minimising disruptions to local economies and societies.

The United Nations and the World Economic Forum have partnered for the Humanitarian Relief Initiative, which aims to systematically develop partnerships between humanitarian actors and the private sector in which companies commit to make certain assets, skills or other resources available on a standby basis for use by UN agencies during major emergencies. As a first step, this Initiative is working with the UN World Food Programme, which in collaboration with Citigroup, has created the WFP Corporate Emergency Alliance, a corporate alliance for such standby private sector resource commitments. In this alliance, a network of corporate partners will contribute pre-identified high priority goods, such as forklifts, cargo trucks and storage tents, which are needed in the first critical hours of an emergency. WFP will establish agreements with companies willing to provide these assets and by pre-positioning the goods ready for deployment will dramatically cut down on the agency's response time. Through this venture, corporate partners can contribute to emergency relief and planning in an efficient and meaningful way on a global scale and they have much more impact through collective action of this kind than if they had acted alone. This partnership will enable more timely, effective private sector engagement as well as increase the overall response capacity of the humanitarian system. The Humanitarian Relief Initiative will be extended to work with additional UN agencies, in addition to the World Food Programme, later this year.

[7] One USGS survey suggests an indicated 7:1 benefit:cost ratio for a global mitigation investment of US $ 40 billion. See ProVention, ''Measuring Mitigation': Methodologies for assessing natural hazard risks and the net benefits of mitigation - A scoping study / Synthesis report.'

Conclusion and Recommendation

To date, private sector involvement in natural disaster management has focused on response and relief. While there is still great need for post-disaster aid, there appears to be even greater scope for the extension of this engagement to Disaster Risk Reduction (DRR). Further, many risk-reducing opportunities offer the hope of better leveraging the broader competencies of the private sector, improving effectiveness and return to resources invested. These investments may also prove more sustainable, for they draw on a range of motivations from private profit to public good and generate beneficial impacts over a longer period of time.

The private sector's willingness to contribute to Tsunami relief and reconstruction has been impressive and represents an important moment for the international humanitarian community. Work must continue, however, to incorporate a vision of Disaster Risk Reduction into the region's recovery, and to engage the private sector in that work as much as possible. Businesses operating in the affected regions must begin to look at their own risk exposure, and to consider appropriate ways to reduce that exposure through appropriate investments in hazard monitoring, risk mitigation, and resilience. Together with governmental and intergovernmental actors the private sector must look for ways in which its own long-term self-interest will be served by enlightened partnerships that mitigate potential consequences and foster more resilient communities and economies.

Many governments and international NGOs have begun to look more carefully at DRR as an important part of sustainable human development, many via adoption of the Hyogo Framework for Action. The World Economic Forum has begun to explore, in collaboration with governments, intergovernmental bodies and its private sector stakeholders, a programme for developing Public-Private Partnerships for Disaster Disk Reduction. Whether or not DRR initiatives would have decreased the devastation of December 2004 must remain a matter for speculation, at least until thorough cost/benefit analyses have been performed. Nonetheless, it seems clear that the opportunity to engage the private sector in DRR before such devastation occurs again should not be missed.