



Links between disaster risk reduction, development and climate change

A briefing for Sweden's Commission on Climate Change and Development

Conceptual and Perceptual Issues

Disasters are not new to human experience. For most of history, the devastation brought on by an earthquake, a hurricane or a prolonged drought was considered an act of God, and people resigned themselves to their fate. Much of humanity still feels helpless or believes itself punished by natural hazards. This perception has led to a strong emphasis on responding to disasters—to provide urgently needed help to the wounded and homeless—and rather less action to tackle the factors that make us vulnerable to the hazards in the first place.

It is important to recognise that a natural hazard event is not itself a disaster. But it may become so if a settlement is badly sited in a flood plain, or houses near a fault line are poorly constructed, or no warning system is in place. Disasters arise from the combination of hazard events and human vulnerability. Modern engineering practice has brought significant achievements through such things as seismic building codes and flood management systems, but there remains a general lack of awareness on how we humans contribute to the occurrence of disasters and on what we can, and should do, to avoid harm.

Even in societies that have robust disaster risk reduction and preparedness systems, government efforts are often heavily focused on security against terrorism with only minor recognition of the enormous threats posed by societies' growing vulnerability to natural hazards. Perceptions of risk are coloured by, and often distorted by, recent dramatic events such as a terrorist attack or a tsunami. Hazards that occur rarely or unpredictably such as earthquakes suffer from general lack of interest until a disaster occurs. This inhibits the sustained political commitment and action necessary to avoid future losses of lives and assets.

Nevertheless, over the last few decades, thinking has begun to change. Information on climate change is building a new perception of disasters as of our own making. The increase in storms, droughts and other hazards expected to arise from the accumulation of greenhouse gases in the atmosphere as a result of industrialization and deforestation is clearly not natural. Also, the concept of "risk" is increasingly entering the vocabulary of development practitioners and the private sector alike. Among technical professionals, there is a growing awareness of the need to systematically assess, reduce and manage the many types of risk that communities face.

The statistics of disasters provide sobering reading, especially in the context of climate change. Over the period 1995-2004, a total of 2,500 million people were affected by disasters, with 890,000 deaths and US\$ 570 billion losses¹. Weather and climate-related hazards accounted for 71 percent of large-scale economic disasters, 45 percent of recorded mortalities, 69 percent of economic losses and 90 percent of insured losses. Poor countries and people are disproportionately vulnerable. Of great concern is the fact that reported disaster occurrences almost doubled between 1995 and 2005. This increase may be partly a result of better information coupled with population growth, increasing exposure of population and economic assets, and a growth in the number of small-scale climatic hazard events with relatively low mortality. But the observed increases in storms, droughts and intense rainfalls reported for some regions by the IPCC Fourth Assessment Report suggest that we should not be surprised to soon see commensurate changes in the impacts of such hazards.

On a more positive note, the number of deaths from disasters has generally decreased over the last century, particularly for large-scale flooding and drought events, which in the past have killed hundreds of thousands or even millions of people. Thanks to better monitoring, early warning and preparedness systems, and response measures such as evacuations and food aid, such

¹ All statistical data given are derived from the CRED EM-DAT disasters database. See www.cred.be

massive disasters have not occurred in recent times². Unfortunately, the most recent decades have begun to show a reversing trend, with an increase in the baseline level of fatalities, possibly as a result of population increases and particularly as greater numbers of poor settle in hazardous areas. One of the most important trends to recognize is precisely that the poor are the hardest hit by disasters, just as they are by climate change impacts. Disasters undo decades of development efforts and may reverse the gains in poverty reduction.

Individual and societal perceptions of how much risk is acceptable vary widely. Many expect that their government will insulate them from all risks, whatever the cost. Others will totally block out consideration of serious risks that are rarely experienced or are hard for them as individual citizens to deal with. A useful concept, promoted by the ISDR, is that of “living with risk”, which implies reducing the risks to some level that is economically and psychologically acceptable. Note that while we can make our societies risk reducing and risk resilient, we cannot make them risk proof. The idea of “climate proofing” development is, thus, a fiction.

What we can and must do is systematically identify and reduce the vulnerabilities to the various hazards faced, whether related and/or unrelated to climate change. The measures needed, be they termed “disaster risk reduction” or “adaptation”, are in many cases the same. They include protection of environmental resources, land use planning and zoning, building codes and their enforcement, risk assessments and early warning systems, public awareness and education programmes, and most importantly sustained political commitment, policies, budgets and administrative systems to drive and support an effective risk reduction agenda.

Political and institutional issues

Disaster risk reduction and climate change occupy separate policy spheres in the international arena, and usually also at national levels, despite the fact that they interplay and overlap on all levels. The implementation of the intergovernmental *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters* is motivating and guiding worldwide efforts to reduce disaster risk, while the processes of the United Nations Framework Convention on Climate Change (UNFCCC) are facilitating and guiding negotiations and action to reduce emissions (mitigation) and to adapt to the impacts of climate change (adaptation).

In recent years, the disaster reduction community has energetically engaged in the climate change discussions, offering concepts, tools and methods for adaptation. This dialogue has revealed significant differences in concepts and perspectives between the disaster risk reduction and climate change fields. For example, in the language used in the climate change field, “mitigation” refers to reducing greenhouse gas emissions, rather than mitigation of disaster impacts, and “adaptation” refers to reducing the vulnerability arising from just climate change.

However, the efforts to bridge the two spheres are paying off. In particular, the Bali Action Plan agreed by Governments in December 2007 clearly identifies consideration of disaster reduction strategies for enhancing action on adaptation, and is a significant step toward achieving a properly integrated approach. Elsewhere, disaster reduction managers are beginning to contribute to national climate change policies and to consider how to adjust risk assessment and reduction measures in response to projected changes in risk patterns.

Disaster risk reduction is gaining recognition in other UN processes such as the United Nations Economic and Social Council (ECOSOC) and the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UNOHRLLS). The Small Island Developing States noted the need to reduce risk and the impacts of climate change in the Mauritius Strategy on sustainable development. As part of his policies on climate change and disaster risk reduction, the United Nations Secretary-General has spoken on the need to act, stating that risk reduction is about common-sense practices to help protect communities from the effects of natural hazards³. On his initiative, the UN Development Group is studying the implementation of risk reduction in the

² The 2004 Indian Ocean tsunami was geologically an exceptional event; nevertheless it reminds us that high levels of vulnerability remain in certain “hotspot” situations.

³ Opening statement at the first session of the Global Platform for Disaster Risk Reduction, Geneva, 5-7 June 2007. See http://www.preventionweb.net/globalplatform/first-session/docs/session_docs/GP-Acting-with-common-purpose.pdf

UN's development policies. Another process of increasing relevance is that of the World Trade Organization (WTO), which has important links for poor countries dependant on agricultural exports. There may be opportunities to develop synergies with WTO processes on disaster risk reduction and climate change adaptation. International processes that address specific sectors, such as health or environment, should also be considered.

But it is at national and local levels that most efforts to reduce disaster and climate change risks must be made, and here the fragmentation of sectoral policies is often an impediment to integrated approaches. Disaster risk reduction is not itself a sector, and to be effective it requires informed action in and across many sectors, from education and health to infrastructure and environmental regulation. In practice, disaster risk reduction is usually handled by civil defence or emergency management departments, which typically have few operational links with either the environment ministries that usually lead climate change policy or the economic ministries that oversee national planning and development policy.

Many countries are forming national platforms for disaster risk reduction as a means to stimulate integrated policy and action and to improve coordination and collaboration between sectors. Likewise there is a need to develop vertical integration from local to national levels and to decentralize ownership of risk reduction and management to levels where action can be taken. Engaging the public in disaster reduction and promoting champions for the cause are necessary and important complements to governmental action and coordination. Efforts are also needed to engage the business community, to draw on the private sector's expertise and to build their commitment to cooperative private and public action to reduce risk and adapt to climate change.

Investment and funding issues

In addition to conceptual and institutional issues, resource issues are a major factor in the challenge to reduce disaster risk and improve adaptive capacity. One obstacle is the lack of common agreement on the nature of disaster risk reduction and climate change adaptation in development processes. Disaster risk reduction is not a prominent concept in the IPCC Fourth Assessment Report, for example. Disaster risk reduction investment is not classified by the OECD Development Assistance Committee as a component of sectoral development assistance—investment in disaster prevention and preparedness being identified as humanitarian aid. Many development projects, such as the building of water management infrastructure, are extremely effective at reducing risk and preparing for climate change, but may not be identified as investments in risk reduction and adaptation. Conversely, some development or adaptation strategies may possibly increase vulnerability. For instance, some experts are concerned that the widely promoted adaptation measure of switching to drought-resistant seeds could inadvertently worsen malnutrition if the new crops provide fewer nutrients.

This raises a core issue of accountability for the costs of disasters. The increases in disaster risk that may arise from public or private initiative, such as forest or wetland exploitation, poor settlement planning, or vulnerability-raising infrastructure projects, should be treated not as externalities but incorporated into the evaluation and costing of the policies and projects concerned, perhaps by adding disaster risk as a formal part of the environmental impact assessment process. If this were done properly, it would provide significant incentives to reduce risks. This question of accountability, which is also a critical issue in climate change, requires much more analysis and debate and the development of suitable methodologies.

A consequence of the lack of common recognition of disaster risk reduction is inadequate quantitative information. Global assessments have outlined the broad patterns of global natural hazards and risks, but systematic monitoring of disaster risk is more the exception than the rule. Data on risk reduction and adaptation efforts—on where they are being done, how effective they are, and what choices enable success or lead to failure—are also very limited. A fundamental problem is that disaster risk is poorly quantified in financial terms: it is difficult to ascertain the value of lowered risk and disasters averted, or the efficiency of particular measures to reduce risk. Insurance markets provide pricing of certain types of risk, though a large fraction of assets worldwide are not insured and this is particularly so for the poor. A number of significant initiatives are currently being taken to help close these gaps in quantitative information⁴ and thereby provide better foundations for investment decision-making.

⁴ A Global Assessment Report on disaster risk and risk reduction is being prepared by the ISDR system with support from UNDP and the World Bank and will be published mid 2009. The World Bank with support from

Despite the lack of exact figures, it is clear that countries need to invest much more in disaster risk reduction. Perhaps the most effective route to take is to incorporate risk considerations in development policies and poverty reduction strategies, including ensuring that development projects themselves are disaster resilient—or at the very least do not exacerbate risks. To date, few development projects consider the possible effects of disasters or shocks in terms of people's safety and even return on investment, but a number of guidelines and initiatives to integrate disaster risk reduction into development projects are being developed and tested by the United Nations, the World Bank and various non-governmental organisations⁵.

Simultaneously, there is a growing view that adaptation initiatives also should be integrated into development processes and not undertaken alone. As a simple example, to improve early warning capabilities, adaptation funds should be used alongside other funds to strengthen existing storm warning systems and not to create special systems. Such an approach presents an important opportunity for synergy, to support measures that build comprehensive resilience to climate risk. Funding mechanisms for adaptation⁶ should benefit from experience gained in reducing disaster risk, for instance by using successful knowledge and tools and tailoring such tools to different contexts and sectors rather than “reinventing the wheel”. At the same time, well-funded adaptation efforts are likely to help standardize good disaster risk reduction practice, strengthen local and expert knowledge bases, and accelerate the development of quantitative information.

A key area for future policy analysis is the exploration of the need for investment in attacking the root causes of disasters in relation to investment in humanitarian response and relief. This needs to be seen as part of the recent initiatives to develop Good Humanitarian Donorship policies. Consideration also should be given to developing mechanisms to support local investment in disaster risk reduction and in the management of risks.

Recommendations

The following points are proposed as recommendations for the Commission to consider making. They are aimed at policymakers and relevant organizations, particularly those concerned with development, climate change, and public safety.

A: Climate change and development policymakers

1. Integrate adaptation action into development strategies, including through coordinated funding arrangements, with the common goals of reducing poverty and vulnerability, building resilience to hazards and cutting disaster risks.
2. Make use of the Hyogo Framework as the primary guide for reducing disaster risks and addressing the disaster risk reduction elements of the Bali Action Plan, and draw on the International Strategy for Disaster Reduction system to provide technical support.

B: National policymakers

3. Include disaster risk reduction as a core feature of sustainable development and adaptation to climate change, and undertake awareness-raising to change public perceptions to see disasters as human-induced and preventable.
4. Stimulate the engagement of local government and local organizations in disaster risk reduction, including in risk assessment and risk management, and encourage the documentation and sharing of successful local experience.
5. Develop stronger mechanisms of accountability for the human factors in disasters, especially those arising from neglect of legal requirements or externalities of development projects.

C: International organizations and donors

United Kingdom and the Netherlands is undertaking a study on the costs of adaptation, while the United Nations (through the ISDR) and the World Bank are undertaking a parallel study on the economics of disaster risk reduction.

⁵ For example see (i) <http://www.unisdr.org/eng/risk-reduction/sustainable-development/cca-undaf/cca-undaf.htm>, (ii) <http://www.unisdr.org/eng/hfa/docs/Words-into-action/Words-Into-Action.pdf>,

(iii) <http://gfdrr.org/index.cfm?Page=home&ItemID=200>, and (iv) <http://www.proventionconsortium.org/>

⁶ Three adaptation-related funds exist under the UNFCCC and its Kyoto Protocol, but adaptation funding activity has been limited so far. The estimates of required adaptation funding have been put variously at several tens of billions of US dollars per annum, which implies a significant challenge for current funding mechanisms.

6. Undertake awareness-raising and policy change to position disaster risk reduction as an essential element of strategies and programmes for adaptation and development.
 7. Develop standard methodologies and indicators that can be used to systematically integrate disaster risk reduction and climate change adaptation in country development planning and programming.
 8. Boost efforts to provide a quantitative basis for policy, in particular by tracking the status of changing disaster risks, monitoring risk reduction and adaptation efforts, and quantifying the economic costs and benefits involved.
 9. Develop strategies for investing in addressing the root causes of disasters as an essential complement to investment in humanitarian response and relief and as a part of Good Humanitarian Donorship policies.
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