Disasters and development

A study by the Sustainable Development Network

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Introduction

This week, ministers and representatives of the United Nations will meet in Kobe, Japan, for the UN's World Conference on Disaster Reduction (WCDR). Kobe was chosen as a symbolic location, the site of a devastating earthquake in 1995 which caused the deaths of at least 6,000 people and also caused enormous damage to Japan's economy.

The WCDR was scheduled – and its agenda set – far in advance of the recent devastating earthquake and tsunami. Although special workshops were quickly organized to discuss an early warning system in the Indian Ocean, the agenda remains largely unchanged.

There is an old saying that 'an ounce of prevention is worth a pound of cure'. The UN has interpreted this phrase as a justification to discuss 'frameworks' and 'methodologies' for prevention strategies, not to mention 'implementation' of the agenda set at its first conference on disaster reduction in 1994.

Sir David King, the UK Government's chief science advisor, is among many alarmists who have suggested that human-induced climate change will lead to future disasters similar to that wrought by the recent tsunami. To address the threat of such disasters, he has proposed a new global research body modelled on the highly politicised Intergovernmental Panel on Climate Change.[1]

But is this focus on the development of frameworks, methodologies and research into natural disasters actually the best strategy for preventing loss of life? Might there not be something rather more practical that can be done to address the underlying causes of and vulnerability to disasters?

In 1906, San Francisco (California) experienced a major earthquake (estimated conservatively at approximately 7.7 on the Richter scale), which led to a fire in which thousands died; the total death toll was over 3,000; more than 200,000 people were injured; and the economic damage exceeded $400 million in 1906 dollars.[2] In 1989, San Francisco experienced another major quake (measuring at 6.7 on the Richter scale), which killed 62 people, and caused substantial economic losses, but San Francisco recovered quickly. As San Francisco has developed economically and put in place more robust buildings, roads and other infrastructure, the impact of earthquakes on the city has been reduced.

A similar contrast can be made between the wealthier and poorer areas affected by the recent earthquake and tsunami. Although all the stricken countries experienced tragic loss of life, injures and economic damage, the wealthier areas fared relatively better, not only experiencing fewer deaths and injuries but also being in a much better position to rebuild the local economy.

This study explores the reasons why natural disasters become tragedies and evaluates the UN's approach to disaster reduction.

Humanity's vulnerability to natural disasters

Since the dawn of human civilization, natural disasters – such as earthquakes, volcanic eruptions, tornadoes and hurricanes – have led to loss of human life, economic losses and sometimes even the fall of civilisations.

The conventional wisdom – promoted by the UN and many other organisations – is that, globally, the incidence of disasters has increased both in number and in impact. At the Second International Conference on Early Warning (which occurred in Bonn, Germany in October 2003), participants declared that disaster reduction is becoming more important due to a rise in the global population as well as urbanization.[3]

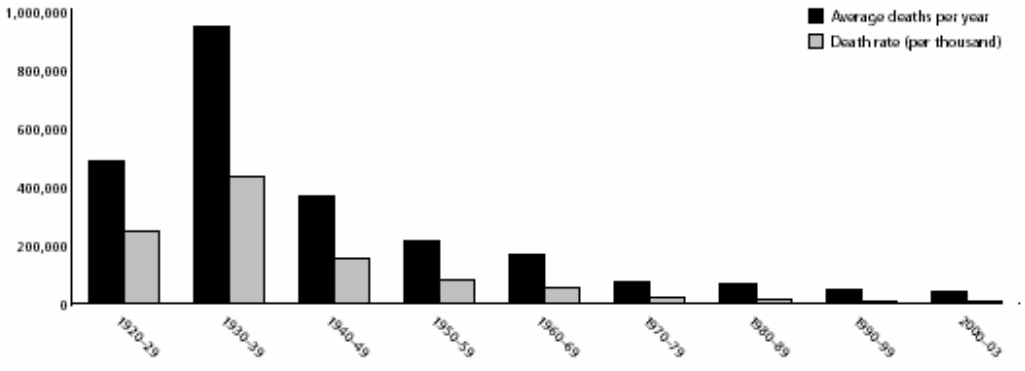
Documents prepared for the WCDR imply that floods, hurricanes, rainfall, heatwaves and droughts are related to climate change, and that these may be worse in the future:

> *Two-thirds of all disasters are climate or weather-related. Floods and hurricanes inflict high tolls on lives lost and damaged infrastructure, while droughts bring prolonged devastation and famine to millions. The impact is especially severe on those who suffer already as a result of poverty and disease. It is clear that many countries and communities are not resilient to the natural variability of the climate.*[4]

The UN cites other factors that lead to disasters, including environmental problems such as loss of biodiversity, a lack of urban planning in poor countries, and a 'growing gap' between the world's rich and the poor. The UN believes that these and other natural disasters will continue to increase in the 21st century.

However, as can be seen in Figure 1, the reality is that global deaths from climate-related disasters have declined significantly since 1930. If these truly do represent two-thirds of all natural disasters, then we can only conclude that the long-term trend in deaths from natural disasters is a downwards one.

Figure 1 Global deaths and death rates due to climate-related disasters, 1920–2003[4]



source: Goklany, I. (2004) using EM-DAT, The OFDA/CRED International Disaster Database, www.em-dat.net - Université Catholique de Louvain - Brussels - Belgium

Others have claimed that human factors such as lack of city planning in poor countries will increase exposure to natural disasters. City planning may help to alleviate disasters in some wealthy countries. But in poor countries, planning regulations are often used to the detriment – rather than to the benefit – of their citizens. Many residents of poor countries lack secure tenure to their properties and so are unable to benefit from improvements that they make to those properties. As a result, they do not build substantial dwellings, living instead in ramshackle tin huts, which represent a minimal investment. Many such homes were swept away in the tsunami, even though construction methods and technologies have been developed that would have spared homes from the potentially devastating effects of the sea. Planning regulations are likely to make the problem worse by providing bureaucrats with a justification to interfere with the construction of buildings and/or to exact bribes.

An idea also persists amongst pundits and activists that the disparity between the world's rich and poor is growing larger, and that this may lead to more people exposed to the effects of natural disasters. This view is contradicted by numerous economic studies in recent years.[5] However, the governments who perpetuate poverty should not be excused for their resolute failure to promote policies that support economic development.

The United Nations' Solution to Natural Disasters

The United Nations declared the 1990s the 'International Decade for Natural Disaster Reduction'. In 1994, the UN adopted the Yokohama Strategy and Plan of Action for a Safer World at the World Conference on Natural Disaster Reduction.[6] The Yokohama Strategy included an affirmation of the increased burden of disasters worldwide, the necessity to develop 'sustainably', to urge countries to place disaster reduction at the fore of their policy agendas, and to encourage countries to share knowledge and technology about disasters, amongst other things. In 1999, the UN General Assembly established the International Strategy for Disaster Reduction the purpose of which is to foster 'disaster resilient communities by promoting increased awareness of the importance of disaster reduction as an integral component of sustainable development…'[7]

No policy has been officially proposed for the WCDR; part of its mandate is precisely to agree to discuss and contemplate such suggestions. Salvano Briceno, head of the UN International Strategy for Disaster Reduction secretariat, said: "All governments… need to give more resources to preventing and reducing the risk rather than just coming along after every disaster to provide relief, which is just getting bigger and bigger."[8]

The U.N. identifies five priorities for action[9] in their Draft Programme Outcome Document:

- Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation
- Identify, assess and monitor disaster risks and enhance early warning
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels
- Reduce the underlying risk factors
- Strengthen disaster preparedness for effective response.

By all appearances, the United Nations will be prompting governments to invest more, to spend more, and to encourage wealthy governments to transfer their money to poor ones, in

the form of bilateral and multilateral foreign aid. In its review of the Yokohama Strategy, the UNISDR has also suggested that disasters might be averted by more collaboration with NGOs such as the World Wide Fund for Nature, the International Institute for Sustainable Development, and the IUCN.[10]

Progress?

What has the UNISDR achieved in the past ten years, with a budget of $5 million a year? In its own review of the Yokohama Strategy and Plan of Action for a Safer World prepared for the WCDR, its 'progress' seems extremely illusory:

> *In the past 10 years, concepts associated with disaster risk reduction have advanced in both scope and sophistication.*
>
> *There is evidence of greater official and public understanding that the threat of combined political, economic and environmental consequences of disasters demands more effective means to address vulnerability to current and emerging risks.*
>
> *The use of commonly understood terminology for risk reduction, recognized policy frameworks and implementation mechanisms is increasing.* [11] (emphasis added)

According to this view, the UN cares more that people use the right language to talk about disasters after they have occurred. Moreover, the UNISDR aims to make its scope as wide as possible – in this way, the agency focuses on all disasters, rather than just natural disasters, and is thus less accountable. Little work at all seems to be dedicated to understanding and eliminating the underlying causes of tragedies related to natural disasters.

Information and infrastructure

The WCDR will consider early warning and response systems – and this is sensible given the recent tragedy in Southeast Asia. With sufficiently robust early detection, this tragedy could have been alleviated to some extent, especially in countries such as India and Sri Lanka that had relatively more time to respond. Some people were alerted to the tsunami and either had time to leave, or to move to safe areas. Fundamentally, when people are given sufficient forewarning, the chances of people coming to harm or death is dramatically reduced.

Barun Mitra, a member of the Sustainable Development Network, puts this succinctly:

> *Information is power when information is credible, timely, locally relevant, and widely accessible to the population.*[12]

Translated into UN language, Principle 5 of the Yokohama Strategy and Plan of Action for a Safer World reflects the same idea:

> *Early warnings and their effective dissemination using telecommunications and broadcast services, are key to successful disaster risk reduction.*

But the question here is *why* information was lacking, or information existed, *why* it was not transmitted in most of the countries affected by the tsunami.

Mitra explains:

> *In India, the flow of information has been in the stranglehold of various information and communications policies. Centralising information flow, as most governments in India have tended to do, more often than not defeats the very purpose of that information. In fact, at the end it leaves even the government in a blind. It is no coincidence that even 48 hours after the sea surges, no information was available from many parts of the affected areas, and consequently, speedy relief did not reach these areas.*

When even basic communications infrastructure is non-existent, a flow of information is impossible. And the reason that basic forms of infrastructure – whether communications, transport, medical – is that underlying incentives to provide that infrastructure are absent in most poor countries. This, unfortunately, will not be discussed at the WCDR.

Wealth correlates with greater resilience

The UN's 10-year review of the Yokohama Strategy and Plan of Action for a Safer World acknowledges that people in wealthier countries are far less vulnerable to the effects of natural disasters:

> *While only 11 per cent of people exposed to natural hazards live in low human development countries, they account for more than 53 per cent of total recorded deaths*.[13]

While its data are not fully robust, the Tyndall Centre for Climate Change Research does offer a good starting point for comparing countries on the basis of their resilience and ability to adapt to disasters: its "New Indicators of vulnerability and adaptive capacity"[14] report measures the ability of various countries to adapt to various disasters. The vulnerability scores are revealing. The countries which are most vulnerable and least resilient to disasters are also amongst the poorest. Afghanistan, Democratic Republic of Congo, and Somalia received a score of 50, Angola received 48, Burundi and Iraq scored 43, Liberia, Niger and Sierra Leone had a score of 42, Ethiopia received a 41, while Burkino Fasa, Central African Republic, Eritrea, Gambia, Equatorial Guinea, Mozambique, Mauritania, Rwanda, and Zaire received 40.[15] (Note: Countries at this end of the spectrum tend to have fewer indicators of resilience, meaning that we should be circumspect with the data).

Wealthy countries, meanwhile, tend to be the most resilient to disasters. Countries with a score of 10 (the best possible) include the U.S.A., Australia, Switzerland, Denmark, Luxembourg, the Netherlands, Norway and New Zealand. Closely behind with a score of 11 are Sweden, Israel, Ireland, Great Britain, Finland, Germany, Canada, Belgium, and Austria.

Wealth increases resilience and decreases vulnerability

The evidence suggests that people in wealthy countries are more likely to survive natural disasters, and are more resilient in the face of events beyond their control. People in wealthier countries are more likely to have savings. Relative to their wealth, people demand increasing amounts of security over uncertainties – and this is the role of insurance, which enables people to isolate themselves from natural hazards. People in wealthier countries are more likely to be able to afford insurance – and insurance is more likely to be available in such

an environment. These factors reinforce themselves, and consequently people are in a better position to plan for uncertainties in the future.

Wealthier people are also in a much better position to help their fellow human beings when a tragedy occurs. We have observed this after the Asian tsunami tragedy: a generous outpouring of financial assistance by private individuals has come from around the world.

Poverty, in contrast, means that people must simply try to survive, much less plan for the future. The lack of enforceable, transferable property rights and related institutions (such as effective, efficient courts of law) means that people lack the incentive and even the ability to invest in making their homes more sturdy and robust. Poverty and the lack of these institutions prevent people from making longer-term investments because they lack surplus income and are unable to obtain low-cost loans secured on property. The absence of adequate court systems to enforce contracts and property rights means that financial institutions are weak and Insurance is rarely available to such people. As a result, when disaster strikes, the poorest people are most likely to suffer loss of life and recovery takes longer.

Ironically, while most poor people cannot obtain insurance, people in wealthy countries often are subsidised through government-run insurance programmes. This effectively causes a 'moral hazard' by enabling them to engage in risky behaviours such as living in 'tornado alleys' or on the seafront.

Development and the institutions that create wealth and prosperity

Economic development and technological progress result in prosperity and enable people to be more resilient to disasters. But what are their underlying causes? The underlying drivers are the presence of the following institutions:

Property rights: Property rights are created in order to resolve competing claims over resources. To function effectively as an incentive both to use and conserve resources, property rights must be well-defined, enforceable and transferable. In this way, property rights are capital; they give people incentives to invest in their land and they give people an asset against which to borrow, so that they might become entrepreneurs. The innovation of new technologies occurs when people are allowed to benefit from the investments they make through ownership of property.

However, poor countries generally lack well defined, readily enforceable property rights. People in poor countries are oppressed by tenure rules which make it difficult for them to rent, buy or sell property formally. Land transactions typically involve paying large bribes to local officials, who have a vested interest in maintaining the status quo.

Contracts: Another fundamental institution for sustainable development is freedom of contract. This includes both the freedom *to* contract – the freedom to make whatever agreements one desires, subject to fair and simple procedural rules – and the freedom *from* contract – the freedom not to be bound by the decisions of others. Freedom of contract is a fundamental part of the freedom to associate with others. It includes the freedom to transact – to buy and sell property – and as such it is an essential adjunct to the right to clearly defined and readily enforceable property rights.

Contracts and property rights underpin the functioning of markets. The freedom from contract prevents others from attempting to interfere with one's right to engage in exchange. The freedom to contract also enables people to bind themselves to agreements and thereby creates greater legal certainty. This in turn encourages people to engage in trade and investment. Armed with enforceable property rights and contracts, the peasant becomes a merchant.

Rule of law: The rule of law, brokered by an independent and fair judicial system, is necessary to ensure that property rights, contracts and the freedoms associated with a democratic and free society are upheld, respected and enforced for all members of that society. When the rule of law is absent – that is, when the power of discretion is vested in politicians, bureaucrats and civil servants – this is a certain formula for bribery and corruption. In this situation, economic and entrepreneurial activity becomes dependent exclusively on political manoeuvring rather than on based on its benefits to consumers and society.

Open trade: Open markets and the freedom to invest encourage competition. By removing barriers to trade, all people can engage in mutually beneficial exchanges. This enhances competition, creates incentives for innovation and leads to more rapid advances in human welfare and environmental protection. Removing market-distorting taxes and subsidies, especially to agriculture and other products where people in poorer countries have a comparative advantage, encourages economic development and benefits consumers.

Good governance: While there is no magic formula for good governance, it is enabled by transparency and accountability amongst elected officials, bureaucrats and civil servants, and the elimination of practices which are a source of corruption. Good governance would be achieved with more universal application of the rule of law, and an understanding amongst people that the rule of law is higher than the discretionary power often employed by governments.

These particular institutions create the right set of incentives for economic development and the acquisition of innovative modern technologies, and in turn these incentives create the right circumstances for future planning.

Corruption

Poverty and corruption seem to occur jointly. Indonesia, one of the countries most severely affected by the tsunami (with over 100,000 lives lost prematurely), ranks extremely low on Transparency International's annual 'Corruption Perceptions Index.' The Index attempts to measure the extent to which people feel that their government is or is not corrupt.

Predictably, wealthier countries tend also to be more transparent. The highest ranking (i.e. least corrupt) countries in the 2004 Corruption Perception Index are also those that have created the right conditions for economic growth: Finland, New Zealand, Denmark and Iceland, Singapore, Sweden, Switzerland; Norway, Australia. The United Kingdom is ranks number 11, Canada ranks 12, and the United States ranks 17 along with Ireland and Belgium.[16]

Meanwhile, the countries ranking lowest – i.e. the most corrupt – tend also to be amongst the poorest. The dubious honour of the lowest rank on the index belongs to Angola, the

Democratic Republic of Congo, Cote d'Ivoire, Georgia, Indonesia, Tajikistan and Turkmenistan, Azerbaijan, Paraguay, Chad, Myanmar, Nigeria, Bangladesh and Haiti.

Corruption is certainly a hindrance to disaster reduction and to the elimination of poverty – and it is a symptom of a bigger problem in societies, which is the absence of the institutions outlined above, which serve to empower people against bureaucratic plunder.

Conclusions

The Sustainable Development Network believes that governments and international agencies must stop focussing on ways to stick plasters over gaping wounds and must commit instead to eliminating the underlying causes of vulnerability to disasters and other causes of premature deaths.

Over 160,000 people died prematurely and tragically in recent weeks. But *every week* in 2005, over 120,000 people (mostly children) will die from preventable causes – including malaria, indoor air pollution, malnutrition, lack of clean water and poor sanitation. These deaths – over six million per year – occur exclusively in poor countries. A majority of these deaths are related to lack of economic development and access to technology.

A vicious cycle of poverty and oppression is directly or indirectly responsible for the majority of the deaths from the tsunami, and deaths from preventable causes. They lead to needless suffering of poor people, especially when natural disasters occur, in contrast to their counterparts in wealthier countries. Sadly, the 'solution' proposed by some politicians in rich and poor countries -– more foreign aid –- is unlikely to actually improve the situation.

Only through the institutions of a free society can poor people move from the vicious circle of poverty and oppression, to a virtuous circle of empowerment and development.

About the Sustainable Development Network

The Sustainable Development Network – www.sdnetwork.net – is a global network of organizations whose mission is to encourage policies which allow individuals to pursue their goals without bureaucratic intervention. The SDN focuses on the institutional framework within which people act, to ensure that policies encourage individuals to make the best use of resources and to protect the environment, while improving both their own well-being and the well-being of others.

Resources:

The U.N. Website: http://www.unisdr.org/wcdr/

Emergency Events Database (EM-DAT): http://www.em-dat.net/who.htm

Tyndall Centre for Climate Change Research new Indicators of Vulnerability and Adaptive Capacity: http://www.tyndall.ac.uk/research/theme3/final_reports/it1_11.pdf

2004 Economic Freedom of the World Report: http://www.freetheworld.com/release.html
Transparency International 2004 Corruption Perception Index:
http://www.icgg.org/corruption.cpi_2004_data.html

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References

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[3] To read their statement, see here (PDF):
http://www.ewc2.org/upload/downloads/Conference_Statement.pdf
[4] http://www.unisdr.org/wcdr/basic-inf/wcdr-presskit/wcdr-press-kit.pdf, « climate change and disaster risk reduction » page 17`
[5] See David Dollar and Aart Kray, *Growth Is Good for the Poor*, available at
http://www.worldbank.org/research/growth/pdfiles/growthgoodforpoor.pdf
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