

## Sustainable Suffering? Reflections on Development and Disaster Vulnerability in the Post-Johannesburg World

Dr. Ben Wisner  
Development Studies Institute,  
London School of Economics  
[bwisner@igc.org](mailto:bwisner@igc.org)

Appearing in *Regional Development Dialogue*, 24, 1 (Spring), pp. 135-148  
(Originally submitted 16 January 2003)

### INTRODUCTION<sup>1</sup>

Ten years ago I published a paper entitled 'Disaster Vulnerability: Power, Scale, and Daily Life' (Wisner, 1993). I argued then, as I had been arguing for the previous 20 years, that there is nothing 'natural' about 'natural disasters' (Wisner et al., 1976). Careful authors distinguish between the trigger event, or hazard, and its consequences. Hazards can be natural events, but the hazard may not itself directly do harm. It may begin a cascade of events: a volcanic eruption that melts snow and ice, causing a rock avalanche that temporarily dams up a river that finally floods a town with mud and other debris (e.g. in Armero, Colombia in 1985, killing 23,000 people) (Blaikie et al., 1994: 190-191). In addition, extreme events like earthquakes, high winds, floods, and wild fires often produce secondary technological hazards such as toxicity or explosions as they affect factories, warehouses, pipelines, and other infrastructure. In practice it is hard to distinguish 'natural' from 'technological' in such cases.

'Disaster' is usually defined as a disruption or rupture of the normal social order so severe that it requires external assistance (Quarantelli, 1998). Each year there are many thousands of occurrences of this kind that affect some few dozens or hundreds of households in specific neighborhoods of big cities, in small towns, and in rural places. These events seldom make international news or even the national headlines. They include frequent, small floods in squatter settlements in Mumbai and Manila, landslides in Rio de Janeiro, snowstorms in Central Asia and the Andes, and the cycle of droughts and flood in many parts of Africa, or recurring outbreaks of dengue fever or cholera in Central America.

What is more often discussed both by the media and development planners are large scale events that displace tens of thousands of people, kill hundreds or thousands, do great harm to standing crops, livestock and stored food, infrastructure, and the built environment. Such disasters call forth large-scale international assistance, and they sometimes cause the legitimacy of governments or their policies to be questioned. Examples include the earthquake in Mexico City in 1985, eruption of Mt. Pinatubo in the Philippines in 1991, famines in Sudan and elsewhere in Africa in the 1980s and 1990s, extensive flooding in China in 1998, hurricane Mitch that devastated Honduras and

Nicaragua in 1998, another tropical super cyclone that affected Orissa state in India in 1999, an earthquake in NW Turkey that killed 30,000 people in 1999, and earthquakes in El Salvador and Gujarat, India, early in 2001.

None of these cases can be considered 'natural' or an 'an act of God'. In all these cases the extreme event took place in a context of vulnerability and exposure that had been produced by patterns of access to resources and information in society. Groups of people who are more vulnerable to harm in such events are generally marginal and lack economic and political power. In addition, very long standing patterns of urbanization, land ownership, land use, urban- rural relations, and governance determine what is done to prevent loss from extreme events – for example, whether rural health centers or schools are built to withstand earthquake and high wind, whether urban building codes are enforced, or whether a low caste group or illegal immigrants have access to recovery assistance.

All of this seems to have been well-accepted by now, even absorbed into conventional wisdom. Midway through the International Decade for Natural Disaster Reduction (IDNDR), in May of 1994, the Yokohama Message began to take on board the notion of vulnerability – the social side of the equation – as distinct from the side of natural hazards. Indeed there is broad agreement that security and risk reduction is a necessary part of poverty reduction to be found in numerous volumes of the UNDPs annual *Human Development Report* during the 1990s and in the livelihood approach to development policy that crystallized in the late in that decade (Chambers, 1995; Moser, 1998; Rakodi, 1999). The World Bank's *World Development Report* for 2000-2001 joined this consensus (World Bank, 2001: chapters 8 & 9), and this view can also be seen in the U.N.'s Millennium Goals approved by 191 countries in 2000 (to which I will return below in some detail).

Thus it is safe to say that there is general agreement that risk is a part of the daily life of the poor and that comprehensive development (meaning some combination of human and economic development) should provide the conditions for increasing personal and social protection (UNRISD, 2000). But is this only a conceptual position or is it being backed up by significant, large-scale action? In this present paper I will revisit my arguments concerning power, scale, and daily life and ask whether there is reality behind the rhetorical commitment to a mainstream position within development policy for disaster risk reduction. My answer will be a hesitant and contingent 'yes', although one might have to wait until 2015 to tell for sure.

## A COMMON CORE FOR BOTH DEVELOPMENT AND RISK REDUCTION AGENDAS<sup>2</sup>

The root causes of poverty and disaster risk are often identical and usually overlap. There are five common threads that links development and disaster. Failure of development policy or disaster reduction policy to address any one of these can result in failure or gross distortion of the outcomes of policy. These five common threads are:

- Governance and democratization
- Civil society participation
- Asset building and social protection

- Public health and quality of life
- Human rights and conflict management

I will draw out the connections between development and disaster by considering each of these five core elements of the new development agenda in turn.

### Governance and Democratization

The current development agenda holds the nation state responsible for both human development and risk reduction. The implicit, sometimes explicit, deal between the international financial institutions (IFIs) / donors and developing countries in implementing Poverty Reduction Strategy Papers (PRSPs)<sup>3</sup> is that budget, as opposed to project, support will be provided as long as the state shows itself to be capable, accountable and welcoming to civil society participation. The rural and urban poor do not 'cope' with the vicissitudes of daily life in isolation from government at various scales. Their level of capacity to cope is largely a function of their access to resources (e.g. land, credit, information), and this access is determined by administrative and legal arrangements (Blaikie et al., 1994: 46-72). Such institutional arrangements can help or hinder the imaginative and energetic coping activities of the affected people (Blaikie et al. *op. cit.*; Chambers, 1988; Wisner, 1988: 208-216).

These views have become widely accepted. For example the Economic Commission for Latin America and the Caribbean and Inter-American Development Bank state in a joint report, "It must be emphasized that the strengthening of the democratic system is essential to vulnerability reduction, and is, in turn, a prerequisite for sustainable development" (CEPAL/BID, 2000: 21).

Democratization of access to information is critical element in linking development and disaster risk reduction. Information is very unevenly distributed in society just the distribution of income and power are skewed. Where this applies to warnings of hazard events, the result can be deadly. For example, poor, isolated people who make their living on the western coast of Gujarat producing salt either did not hear the cyclone warning in 1998 or did not understand or believe it (Kalsi and Gupta, 2002). In this cyclone in June, 1998, some 3,000 people lost their lives, 200,000 houses were damaged, and the economy suffered losses of U.S.\$700 million. However, there had been quite accurate identification and tracking of this storm for five days. The problem seems to have been that cyclones are much less frequent on this western coast of India than they are in the East, that people were therefore less familiar with them, that preparedness also was insufficient, and that some day labourers and isolated low-income workers such as those who laboured in the salt pans and households who depended on fishing did not receive or did not believe or understand the warning (Kalsi and Gupta 2002). This same source also connects the failure of the warning system to fundamental aspects of the political economy of growth and failures of governance (p. 202):

"Due to privatization of ports and development of coastal areas for commercial and tourism interests, the fisherfolk have been involuntarily displaced from their places of residence to areas that are viewed as more disaster-prone. These fisherfolk were

affected by a storm surge (up to 3 m high), and entire settlements were washed away. Being new to areas where they had been displaced, and without good communication lines, they were highly vulnerable”.

Bad governance in the form of gross corruption, or in its subtler form of extreme urban bias or skewed distribution of services (e.g. ten percent of the farmers receiving 90% of the farm extension time, or, as in El Salvador, 79% of all farm loans going to the large coffee plantations), will have the effect of limiting the range and effectiveness of local coping practices and undermining livelihood security (Wisner, 2001a). The aid-dependent and corrupt state can, in fact, actually welcome disasters. Natural hazards seldom affect the small elite class in a negative way. They live in safely-located, well-built homes, have diverse and large income sources and reserves (and usually insurance), and have access to the best health care. On the contrary, disasters attract large amounts of foreign assistance, at least some of which can be plundered. Some of the rest can be allocated in ways that buy clientage and votes. Disasters also divert attention from the underlying failure or weakness of national development strategies, and throw opposition parties into disarray. Even if the opposition mounts a credible critique of a government's handling of disaster relief and recovery, the incumbent has the advantage of being to appeal to “national unity at a time of crisis”.

My 1993 paper was written in the context of concern with the collapse of the state in Somalia. What was then a relatively new phenomenon – humanitarian crisis in the absence of a functioning national state – has now become all too common (Vaux, 2001). Even as both development and disaster reduction agendas demand more of the state, the cases of state failures multiply. If regimes continue to resist or manipulate and deflect the process of democratization and if the number and severity of conflicts cannot be reduced, will ‘governance’ and ‘democracy’ be anything more than ideals in the development and disaster reduction agendas?

### Civil Society Participation

Development and disaster reduction agendas promote civil society participation with equal vigor. Civil society participation in development and disaster reduction can come in two ways. First, this takes the form of democratic priority setting and monitoring of implementation at the national scale. However, there is a second important manifestation of civil society participation. This takes the form of decentralized ‘community based’ or ‘citizen based’ natural resource management, hazard mitigation and planning, and livelihood enhancement activities. Community-based forestry, pasture, and water management schemes have proliferated as part of the agenda of sustainable human development (Adams, 2001: 334-367), and there has been similar increase in projects that base disaster risk reduction at the local level. Mainstream institutions such as the World Health Organization and International Federation of Red Cross and Red Crescent Societies strongly endorse community involvement in disaster planning (WHO, 1999: 30-36; IFRC, 1999).

Increased community participation was one of the major recommendations made in the Yokohama Message marking the midpoint of the IDNDR (Ingleton, 1999: 320).

Since then there have been many breakthroughs in the development of techniques of hazard and vulnerability assessment carried out by lay people in their own surroundings and the emergence of regional networks of non-governmental organizations that promote the use of these planning techniques such as La Red in Latin America (La Red, 1992; Maskrey, 1993), Peri Peri in Southern Africa (von Kotze and Holloway, 1997), and Duryog Nivaran in South Asia (Ariyabandu, 1999), as well as in countries such as Philippines (Heijmans and Victoria, 2001) and India (Bhatt et al. 2002). Progress has also been made in integrating local knowledge and outsider, technical expertise (Wisner, 1995).

Following hurricane Mitch in Central America many citizen-based groups lobbied for changes in the way that the national governments of Honduras, Nicaragua, El Salvador, and Guatemala plan for and respond to hazard impacts. Some have argued that the greatest positive outcome of the recovery period following this devastating hurricane was the emergence and consolidation of a large, diverse social movement focused on disaster prevention and preparedness (Gass, 2002).

Civil society participation is surely a centerpiece of both development and risk reduction thinking, but how much is actually being implemented? How effective in shifting government policies are citizen-based lobbies? In countries with decades' long histories of elite control and non-democratic politics it may take many years to see progress. Meanwhile, the second form of civil society participation – decentralized, local hazard mitigation – cannot be expected to do the entire job of increasing security.

#### Asset Building and Social Protection

The notions of sustainable livelihoods, social capital (networks), and access to resources are common to current ways of thinking about both human development and disaster reduction. A striking example of this new thinking is the way micro-credit schemes have proliferated following the success of the pioneering example of the Grameen Bank in Bangladesh (Yunus, 1998). The importance to rural and poor urban households of remittances from abroad is also acknowledged to have become more and more a part of livelihood systems, and some international initiatives have attempted to streamline the electronic transfer of funds while introducing lower-cost alternatives to established oligopolies that charge large transfer fees.

In the area of disaster risk reduction the transfer of funds from individuals abroad to assist recovery has been a notable feature of recent events such as the earthquakes in Gujarat and El Salvador. In addition, policy and practice in the prevention and mitigation of disaster risk has come to acknowledge many of the same asset building processes, including:

- Diversification of income sources
- Development of micro-credit small banking systems and micro-insurance
- Diversification of agricultural production
- Development of local networks and knowledge base
- Strengthening local coping mechanisms
- Development of 'buffers' to cushion the trauma of disasters
- Development of storage of crops and seeds and community grain banks

Households, villages, urban neighborhoods with livelihoods anchored by such institutional arrangements are more likely to have surplus income and time available to allow for the kinds of citizen participation and local planning and management discussed earlier.

Such efforts at risk reduction at the local level need, of course, to be supported by public resources. So risk reduction policy has also followed the trend in more general development thinking by emphasizing the importance of social funds, pension arrangements, and other ways national resources can be used to spread risk and absorb shocks.

While asset building and social protection hold much potential for reducing disaster risk, such initiatives contradict the dominant tendency in the world toward reduction of the scale and functions of government and encouragement of privatization. In view of the trend toward state withdrawal and privatization, new forms of private sector accountability and hybrid public-private forms of banking, insurance, and service provision will have to emerge if the livelihood approach is to be anything more than a comforting theory. In addition, without reform of access to land and water in many places the livelihood and asset building approach will stall and prematurely falter.

### Public Health and Quality of Life

Public health has come to be seen not as a technical specialty but a core element in any development strategy. Health has also taken centre stage as a major element in risk reduction as well as issue in disaster response and recovery. In both contexts health is seen as an important element that underlies quality of life, dignity, capabilities, and productivity (Kabir et al., 2000). Ill health, disability, and premature death have huge economic costs (Sachs, 2002). The crisis produced by HIV-AIDS in Africa is an example of the way that illness and death of a large part of the labour force can exacerbate a natural hazard such as drought.

Gardner (2002: 10) observes that health officials in the 1970s believed that the era of infectious disease was about to come to an end world wide. However, today we find that "20 familiar infectious diseases – including tuberculosis, malaria, and cholera – [have] re-emerged or spread ... And at least 30 previously unknown deadly diseases – from HIV to hepatitis C and Ebola – [have] surfaced" (pp. 10-11).

Although in 1998 the UNDP was able to conclude that on average health had improved world wide during the past 30 years (UNDP 1998: 21-23), in many African countries this was not the case. HIV-AIDS deaths have grown from 500,000 world wide in 1990 to nearly three million in 2000. Most of the deaths from HIV-AIDS occur in the less developed countries (LDCs) and four-fifths of these in sub-Saharan Africa (Gardner, 2002:12). In the world at the end of 1999, there were 34 million people living with HIV, of whom 25 million (74%) lived in sub-Saharan Africa. Of these, one million were African children, and there were over 12 million children orphaned by AIDS. The magnitude of this disaster dwarfs the impact of all geophysical hazards combined. The sheer numbers are staggering. HIV-AIDS in Africa also presents great complexity in its 'long wave' consequences for production, social relations, and vulnerability to future crises including the effects of global climate change. One already sees such

consequences in the way that labor shortage due to HIV-AIDS has exacerbated the drought emergency in Malawi and other parts of southern Africa during 2002 (de Waal, 2001 & 2002; FAO, n.d.).

Although health appears on the agendas of both mainstream development and disaster risk reduction, the resources for addressing health needs have not been forthcoming. Only a fraction of the US\$ 10 billion Kofi Annan has requested for a fund to combat HIV-AIDS, malaria, and tuberculosis has been pledged. Much more effort will be required if rhetoric is to be translated into reality.

### Human Rights and Conflict Management

Many development agencies speak in terms of a 'rights driven' approach (Wisner and Fordham, 2001). This means at least two things, and both of them have parallels in the policy and practice of risk reduction. The first is that human rights must be respected by the state and state-surrogates, as in the case of humanitarian assistance during conflict or where the state has collapsed. There is also consensus that disaster victims have a right to assistance, and that this assistance should measure up to agreed standards (Sphere Project, 2002). This first meaning is connected with notions of good governance and accountability discussed earlier.

The second sense of 'rights driven' is that not only are political and civil rights to be respected, but that economic and cultural rights are an essential part of the development process. Some have written of 'livelihood rights' (Sachs et al., 2002). The implication of the assertion of rights to the resources necessary for a secure livelihood (whether those are land, credit, skill training) for risk reduction should be clear from the prior discussion of asset building and social protection.

However, no amount of capacity building and policy that provides for sustainable livelihood security can do much in the face of immanent death or displacement by violent conflict. In addition, conflicts can exacerbate extreme natural events such as drought in Afghanistan and volcanic eruption in eastern Congo. Violent conflict interacts with natural hazards in a wide variety of ways (Aragón and Wisner, 2002):

- Violent conflict is often one of the causes of social vulnerability.
- Displacement of large numbers of people in war and other kinds of violent conflict can lead to new forms of vulnerability (exposure to disease risks, to hazards in new rural or urban environments).
- Socially vulnerable groups in extreme natural events are often also vulnerable to abuse (injury, death, rape, forced labor and enslavement) during violent conflict.
- Violent conflict can interfere with the provision of relief and recovery assistance.
- Participatory methods meant to empower and engage socially vulnerable groups may be difficult to implement during violent conflicts.
- Application of established knowledge and practice for mitigation of risk from extreme natural events is often difficult or impossible during violent conflict.

- Violent conflict often diverts national and international financial and human resources that could be used for mitigation of risk from extreme natural events.
- Violent conflict sometimes destroys infrastructure important to mitigation of natural hazards (e.g. irrigation systems, dams, levees) or compromises warnings and evacuations (e.g. land mines on roads).
- Failure of sustainable development can result in conflict over resources that lead to violent confrontation.
- Violent confrontations often wreck havoc on the vegetation, land, and water, undermining sustainable development.
- Some economic development strategies and policies can lead to marginalization and exclusion, hence creation of social vulnerability to extreme natural events, and they may simultaneously provoke expressions of social unrest such as food riots.

For all these reasons conflict management, as well as, human rights, appear on both development and risk reduction agendas. The question, however, is not whether it is logical and appropriate for human rights and conflict resolution to have a place in the core agendas of development and risk reduction policy. The salient issues are implementation and action. Globalization has encouraged the migration of millions of workers – many of them illegal or undocumented – to the industrial centers of the global economy and export enclaves ('free trade zones') within developing countries. Others are unfortunate enough to live in regions within which criminal and/ or corporate elites contest control over oil, minerals, and drugs. There is little evidence that the human rights of people in these hazardous situations are being protected nor that such conflicts are becoming fewer.

#### THE MILLENNIUM GOALS AND DISASTER RISK REDUCTION<sup>4</sup>

The close fit between development and risk reduction agendas can be seen by inspecting Millennium Goals closely. Eight Millennium Development Goals (MDGs) were agreed by world leaders in the *Millennium Declaration* of September 2000. These goals were further broken down into 18 targets (measured by 48 indicators), mostly to be achieved by 2015 (United Nations, 2001a). Whilst critics may regard these goals as yet more empty political rhetoric, their significance lies in the fact that these are now the internationally agreed yardsticks for national development, with numerical targets and quantifiable indicators to assess progress. All the signatory countries now claim to be working to these goals, and donors are providing sharply focused aid packages to support their endeavors. The crosscutting and common themes in such development policy and disaster reduction policy can be seen clearly in the language of these goals.

Within the *Millennium Declaration* there are several locations where disaster risk reduction is relevant. Under the goal "Eradicate Extreme Poverty and Hunger" there are two targets: to halve between 1990 and 2015 the proportion of people whose income is less than US\$ 1 a day, and also to halve in that same period the proportion of people who suffer from hunger. The evidence is overwhelming that this income goal and vulnerability reduction are co-dependent. Likewise, what is now known about famine

and chronic hunger and ill health makes the relevance of vulnerability reduction to the second millennium target obvious (and vice versa).

The fourth millennium goal is to "Reduce Child Mortality". Since children under five years of age are particularly vulnerable to the impacts of many hazards (Blaikie et al., 1994: 13) as well as the stress of displacement and household livelihood disruption, again it is obvious that vulnerability reduction and successful action on this millennium goal require the same policies.

Millennium goal number six is to "Combat HIV/AIDS, Malaria, and Other Diseases." Here, too, there are numerous cross connections between these biological hazards and many other natural hazards. For example, African populations affected with HIV/AIDS are less able to cope with the stress of drought because of shortage of labor to engage in traditional alternative livelihood activities. In a famine, as in Malawi in 2002, people living with HIV also require more food, and they are more susceptible to the physiological stress of hunger. Taking another example, flooding can bring on epidemic increases of malaria and other water related disease. Indeed, disaster risk reduction is very tightly bound up with millennium goal number six.

The seventh millennium goal is to "Ensure Environmental Sustainability". There is a clear link with this goal and the impact of hazards since major disasters, or the regular occurrence of persistent smaller events, can cumulatively wipe out any hope of sustainable urban or rural environments (World Bank, 2003: 59-123; UNDP, 2002; ISDR, 2001). In particular, one of the targets associated with this goal is to achieve a significant improvement in the lives of at least 100 million slum dwellers by the year 2020 (Target 11). Much research and project experience has shown the multiple hazards faced by the poor in informal settlements in cities (Hardoy & Satterthwaite, 1989; Mitchell, 1999; Wisner, 2002a). Since most of the population increase among humanity during the next twenty years will be in the cities of developing countries, it will be impossible to achieve 'significant improvement' in the lives of that number of slum dwellers without dealing with their vulnerability to floods, storms, earthquakes, landslides, and epidemic disease (Wisner, 2002b).

Among the targets defined as part of the eighth and final millennium goal, "Develop a Global Partnership for Development", the special challenges faced by small island states are mentioned (Target 14). There are numerous examples of the catastrophic damage to island economies and livelihoods brought about by volcanic eruptions, tsunamis, and tropical cyclones (Pelling and Uitto, 2001).

In Section IV of the *Millennium Declaration*, entitled "Protecting our Common Future" there is a commitment, however not expressed or quantified as one of the central eight millennium goals, "to intensify our collective efforts to reduce the number and effects of natural and man-made disasters" (United Nations, 2001a: 35). In the so-called *Road Map* towards implementation of the millennium goals, the leitmotif is protection of the vulnerable and promotion of human security (United Nations, 2001b). Whilst the direct concern is with women and children in complex humanitarian emergencies, the enforcement of international undertakings to protect human rights, conflict management and peace-building, these sections of the *Road Map* can equally be seen to apply, indirectly, to reduction of vulnerability to natural hazards. The *Road Map* for implementation also announces a fundamental change from reaction and response to prevention and mitigation.

## RHETORIC AND REALITY

In 1993 I cited then current opinion that daily life of many people was a "permanent emergency" (Maskrey, 1989), that disasters could be interpreted as "the extreme situation which is implicit in the everyday condition of the population" (Baird et al., 1975), and that disasters "bring to the surface the poverty which characterizes the lives of so many inhabitants" (Hardoy and Satterthwaite, 1989: 203). Little has changed by 2003. The World Bank's extensive ethnographic research project *Voices of the Poor* that formed the basis of the sections on risk in the *World Development Report 2000-2001*, came to the same conclusion (Narayan and Petesch, 2002). The challenge isn't to recognize this reality but to do something about it. The question is whether the recent changes in development policy are likely to reduce vulnerability.

In another previous work I was forced to conclude that the international development community had failed to take advantage of the opportunity offered by a strong interpretation of the basic needs approach to development (Wisner, 1988). Many similar opportunities have come and gone (Cammack, 2002). For instance, who is foolish (or wise) enough to speak about a 'peace dividend' as a lever for development any more? One must wonder, then, whether the rise of risk reduction to prominence as an essential part of sustainable human development is only another chimera, a shimmering mirage in the desert of neo-liberalism and *Realpolitik*.

Will the Answer Come from Johannesburg?

The answer will come soon enough as the undertakings at the WSSD (World Summit on Sustainable Development, also called Rio + 10 and the Johannesburg Summit) are implemented and the results tallied up. As with the Millennium Goals – many of which are reflected in the agreements reached in Johannesburg – these WSSD targets are intimately bound up with risk reduction and opportunities to build capacity for self and social protection (United Nations, 2002).

Consider, for example the agreements on water supply and renewable energy. Water and renewable energy came up at Johannesburg in a more holistic way than they did during the International Water Supply and Sanitation Decade (1980-89) or the World Conference on Energy held in Nairobi in 1980. Targets were defined. By 2015 the number of people without access to safe water is to be cut in half. This is specific and concrete. It would mean that 880 million people would have improved access to water by 2015 (WEHAB Working Group, 2002: 18). Childhood diarrhea would decrease. It is the number one killer of children under five in the world today, claiming a large percentage of the 10.5 million children who die every year (Lopez, 2000). Six thousand children die each day from dehydration that accompanies diarrhea (UNICEF, 2002). Blindness from fly-borne trachoma would also decrease, an infection easily prevented by washing the face and hands that is responsible for six million cases of blindness in the world today and 146 million active cases that could result in blindness (WHO, n.d.). In addition, healthier people can produce more, and families can save on health expenditures if their members are not sick from water-related diseases. Thus it is safe to predict that incomes would go up.

Targets for use of renewable energy are less specific, yet the spirit of the Johannesburg meeting was to acknowledge that clean, cheap, accessible energy for all is an important part of achieving sustainable development. Instead of the 10% or even 15% increase worldwide in energy from renewable sources that many delegates wanted, the Summit only agreed on a "substantial increase" with "a sense of urgency". The word 'urgency' seems mild when one considers that two billion people do not have access to reliable, clean forms of energy, including nine out of ten Africans (UNEP, 2002). The health costs of cooking with wood and coal and dung as fuel are enormous in many lands. For example, 500,000 people are thought to die from smoke related respiratory disease each year in India, and some 2 million people worldwide (Smith, 1999).

There are some very specific technical links between a variety of common natural hazards and improvements in access to water and to clean energy. In the course of most local, small-scale water projects, an opportunity arises for residents to study and to become more aware of the local relief and pattern of water flow in the watershed where they live. Early warning of flash flooding could easily be built in to this phase of a water project. For example, in Honduras and Jamaica women in the highlands have been trained to monitor stream flow and report increases that could herald flooding in a few hours or days. Measures to mitigate drought could also be piggybacked on the construction of a village drinking water supply. With the availability of rural electricity provided by solar, wind, micro-hydro technologies, a further foundation is provided for more wide-spread and reliable communication systems that could be used for transmitting a warning message. Use of renewable energy for domestic purposes such as cooking would prevent the cutting of trees that anchor slopes and prevent landslides and reduce the risk of flooding.

Localities composed of well-nourished and healthy individuals and households with diverse and productive livelihoods have been shown to have the capacity to resist extreme events and resilience to recover quickly. In this way it is also of indirect relevance to disaster risk reduction that both water supply improvements and substitution of alternatives for wood fuel in the kitchen can bring health benefits – reduction in diarrhea for one, and respiratory disease from wood smoke for another. In turn, savings to the household from not having to travel as often to find health care and not having to buy medicine may go to further improvements in nutrition and well-being. A healthier labor force will work harder and perhaps more productively since water and electricity could provide the basis for new rural and home based industries.

## CONCLUSION

During the 1990s the conceptual apparatus and rhetoric of development and disaster risk reduction have largely merged. The contemporary agendas of sustainable human development and disaster risk reduction certainly have a common core. I have reviewed these common elements above. They include issues of good governance and democratization, civil society participation, asset building and social protection, public health and quality of life, human rights and conflict management. While there are positive pilot programs and projects in each of these areas, it is too early to tell whether this new thinking will bear fruit on a scale necessary to roll back increasing disaster risk. Global climate change and the globalization of much business and finance has

redistributed risk spatially and socially (Handmer and Wisner, 1998; Wisner, 2001b). Those left isolated from the global market or relegated to marginal and menial positions in it are likely to be more and more at risk from extreme natural events such as storms and floods affecting squatter settlements of cities (Wisner, 2002a). The analysis of development and of disaster have improved, but little risk reduction will occur if the verbal commitment to good governance, human rights, and strengthening of livelihoods is not followed by resource transfers and a reformed international trading system.

#### REFERENCES CITED

Adams, W.M., *Green Development: Environment and Sustainability in the Third World*. 2<sup>nd</sup> ed. (London: Routledge, 2001).

Aragón, Fernando and Wisner, Ben, "Mitigating Disasters and Conflicts," in: Lead, *Sustainable Development* (London: Leadership for Environment and Development (LEAD), 2002 [www.lead.org](http://www.lead.org) .

Ariyabandu, M.M., *Defeating Disasters: Ideas for Action*, (Colombo: Duryog Nivaran and Intermediate Technology Development Group, 1999).

Baird, Alex, O'Keefe, Phil, Westgate, Kenneth, and Wisner, Ben, *Toward an Explanation and Reduction of Disaster Proneness*. Occasional Paper 11. (Bradford, UK: Bradford University, Disaster Research Unit, 1975).

Bhatt, Mihir, Kropac, Michael, and Kikani, Himanshu, *Instituting Mitigation* (Ahmedabad: Disaster Mitigation Institute, 2002).

Blaikie, Piers, Cannon, Terry, Davis, Ian, and Wisner, Ben, *At Risk: Natural Hazards, People's Vulnerability and Disasters*. (London: Routledge, 1994).

Cammack, Paul, "Attacking the Poor," *New Left Review* 13 (January-February, 2002):125-134.

Chambers, Robert, ed., *Vulnerability, Coping and Policy*. Theme issue of *IDS Bulletin* 20,2 (1988).

Chambers, Robert, "Poverty and Livelihoods: Whose Reality Counts?" IDS Discussion Paper 347 (Falmer, Sussex, UK: Institute for Development Studies, University of Sussex, 1995).

Economic Commission for Latin America and the Caribbean (CEPAL) and Inter-American Development Bank (IDB), *A Matter of Development: How to Reduce Vulnerability in the Face of Natural Disasters* (Mexico City: CEPAL, 2000).

de Waal, Alexander, *AIDS-Related National Crises: An Agenda for Governance, Early-Warning and Development Partnership*. AIDS and Governance Issue Paper No. (London: Africa Justice, September, 2001).

de Waal, Alexander, "What AIDS Means in a Famine" *New York Times* (19 November, 2002), op-ed page.

Gardner, G, "The Challenge for Johannesburg: Creating a More Secure World." In: L. Starke, ed., *State of the World 2002* (New York: W.W. Norton, 2002), pp. 3-22.

Gass, Vicky, *Democratizing Development: Lessons From Hurricane Mitch Reconstruction* (Washington, D.C.: Washington Office on Latin America, 2002).

Hardoy, Jorge and Satterthwaite, David, *Squatter Citizen: Life in the Urban Third World* (London: Earthscan, 1989).

Heijmans, A. and Victoria, L., *Citizen-Based and Development-Oriented Disaster Response* (Quezon City: Center for Disaster Preparedness, 2001).

International Federation of Red Cross and Red Crescent Societies (IFRC), *Vulnerability and Capacity Analysis* (Geneva: IFRC, 1999).

Ingleton, J., ed., *Natural Disaster Management*. (London: Tudor Rose, 1999).

Kabir, Md. A., Rahman, A., Salway, S., and Pryer, J., "Sickness Among the Urban Poor: A Barrier to Livelihood Security," *Journal of International Development* 12,5 (2000):707-722.

Kalsi, S. and Gupta, M., "Success and Failure of Early Warning Systems: A Case Study of the Gujarat Cyclone of June, 1998", in: J. Zschau and A. Kueppers, eds., *Early Warning Systems for Natural Disaster Reduction* (Berlin: Springer Verlag, 2002), pp. 199-202.

La Red, *Agenda de la Investigacion y Constituion Organica* (Lima: La Red & ITDG, 1992) <http://www.desenredando.org/public/libros/1992/agenda/index.html> .

Lopez, Alan, "Reducing Child Mortality," *Bulletin of the World Health Organization* 78,10 (2000):1173.

Maskrey, Andrew, *Disaster Mitigation: A Community Based Approach*. Development Guidelines No. 3. (Oxford: Oxfam, 1989).

Maskrey, Andrew, ed., *Los Desastres No Son Naturales* (Lima: La Red & ITDG, 1993) <http://www.desenredando.org/public/libros/1993/dnsn/index.html> .

Mitchell, Kenneth, ed., *Crucibles of Hazard: Megacities and Disasters in Transition* (Tokyo: United Nations University Press, 1999).

Moser, Caroline, "The Asset Vulnerability Framework: Reassessing Urban Poverty," *World Development* 26,1 (1998):1-19.

Narayan, Deepa and Petesch, Patti, *Voices of the Poor: From Many Lands* (New York: Oxford University Press, 2002) also see:  
<http://www.worldbank.org/poverty/voices/reports.htm> .

Pelling, Mark and Uitto, Juha, "Small Island Developing States: Natural disaster vulnerability and global change," *Environmental Hazards* 3 (2001):49-62.

Quarantelli, E., *What is a Disaster?* (New York: Routledge, 1999).

Rakodi, Carol, "A Capital Assets Framework for Analysing Household Livelihood Strategies: Implications for Policy," *Development Policy Review* 17 (1999):315-342.

Sachs, Jeffery et al., *Report of the Commission on Macroeconomics and Health* (Geneva: World Health Organization, 2002).

Sachs, Wolfgang et al., *The Jo'burg Memo: Fairness in a Fragile World* (Berlin: Heinrich Boell Foundation, 2002).

Smith, Kirk, "Indoor Air Pollution," *Pollution Management in Focus*. Discussion Note No. 4. August, 1999, pp. 1-4  
[http://wbln0018.worldbank.org/Networks/ESSD/icdb.nsf/D4856F112E805DF4852566C9007C27A6/EC27FD19F013AED585256801005A1865/\\$FILE/In+Focus+4.pdf](http://wbln0018.worldbank.org/Networks/ESSD/icdb.nsf/D4856F112E805DF4852566C9007C27A6/EC27FD19F013AED585256801005A1865/$FILE/In+Focus+4.pdf) .

Sphere Project, *Humanitarian Charter and Minimum Standards for Relief*. 2<sup>nd</sup> ed. (Geneva: The Sphere Project, 2002) <http://www.sphereproject.org> .

UNICEF, "Focus on Diarrhoea, Dehydration and Rehydration" web page on website *Rehydration Project* <http://www.rehydrate.org/facts/> , 13 May, 2002.

United Nations Development Programme, *Human Development Report 1998* (New York: Oxford University Press, 1998).

United Nations, *United Nations Millennium Resolution*. Resolution Adopted by the General Assembly (A/Res/55/2) (New York: United Nations, 2000)  
<http://www.un.org/millennium/declaration/ares552e.pdf> (see also:  
<http://www.un.org/millenniumgoals> ).

United Nations, *Road Map towards the Implementation of the United Nations Millennium Declaration*. Report of the Secretary General to the Fifty Sixth session (Ref A/56/ 150) (New York: United Nations General Assembly, 2001)  
<http://www/undp.org/mdg/roadmap.doc> .

United Nations, *Report of the World Summit on Sustainable Development* (A/Conf.199/20) (New York: United Nations, 2002)  
[http://www.johannesburgsummit.org/html/documents/summit\\_docs/131302\\_wssd\\_report\\_reissued.pdf](http://www.johannesburgsummit.org/html/documents/summit_docs/131302_wssd_report_reissued.pdf) (for background, see: <http://www.johannesburgsummit.org/>).

United Nations Economic and Social Department and ISDR, *Environmental management and the mitigation of natural disasters: a Gender Perspective* (Geneva: ISDR, 2001)  
[http://www.un.org/womenwatch/daw/csw/env\\_manage/](http://www.un.org/womenwatch/daw/csw/env_manage/).

United Nations Environment Programme (UNEP), "Putting Energy Into Sustainable Development: UNEP Launches New Global Clean Energy Network At Johannesburg World Summit", UNEP Press Release, 1 September 2002.

United Nations Food and Agriculture Organization (FAO), "AIDS – A Threat to Rural Africa" <http://www.fao.org/Focus/E/aids/aids1-e.htm>, n.d.

United Nations Research Institute for Social Development (UNRISD), *Visible Hands: Taking Responsibility for Social Development* (Geneva: UNRISD, 2000).

von Kotze, Astrid and Holloway, Ailsa, *Reducing Risk: Participatory learning activities for disaster mitigation in southern Africa* (Durban, South Africa: International Federation of Red Cross and Red Crescent Societies and Department of Adult and Community Education, University of Natal, 1998) & see <http://www.egs.uct.ac.za/dimp/>.

WEHAB Working Group, *A Framework for Action on Water and Sanitation* (New York: United Nations, August, 2002).

Wisner, Ben, Westgate, Ken and O'Keefe, Phil, "Poverty and Disaster," *New Society* (London), 9 (September, 1976):546-548.

Wisner, Ben, *Power and Need in Africa: Basic Human Needs and Development Policies*. (London: Earthscan Publications, 1988).

Wisner, Ben, "Disaster Vulnerability: Scale, Power, and Daily Life," *GeoJournal* 30,2 (1993):127-140.

Wisner, Ben, "Bridging 'Expert' and 'Local' Knowledge for Counter-Disaster Planning in Urban South Africa," *GeoJournal* 37,3 (1995), pp. 335-348.

Wisner, Ben, "Risk and the Neoliberal State: Why Post-Mitch Lessons Didn't Reduce El Salvador's Earthquake Losses," *Disasters* 25,3 (2001a):251-268.

Wisner, Ben, "Capitalism and the Shifting Spatial and Social Distribution of Hazard and Vulnerability," *Australian Journal of Emergency Management* 16,2 (Winter, 2001b):44-50 <http://www.ema.gov.au/5virtuallibrary/pdfs/voll6no2/wisner.pdf>.

Wisner, Ben, "Disaster Risk Reduction in Megacities: Making the Most of Human and Social Capital" (Paper presented in the World Bank/ ProVention Consortium workshop, The Future of Disaster Risk: Building Safer Cities, Washington, D.C., 4-6 December, 2002a).

Wisner, Ben, "Globalization of Risk and the Globalization of Safety: Cities in the 21st Century" (Invited keynote presentation for the session on Vulnerability of Megacities at Forum Katastrophenvorsorge III, Potsdam, 8 October, 2002b).

Wisner, Ben, "The Communities Do Science! Proactive and Contextual Assessment of Capability and Vulnerability in the Face of Hazards" in: G. Bankoff, G. Frerks and T. Hilhorst, eds., *Vulnerability: Disasters, Development and People* (London: Earthscan, 2003, in press).

Wisner, Ben and Fordham, Maureen, eds., *Human Rights and Disaster*. Webpage dedicated to papers on this them on the website RADIX <http://www.anglia.ac.uk/geography/radix> , 2001.

World Bank, *World Development Report 2000-2001* (Washington, D.C.: The World Bank, 2001).

World Bank, *World Development Report 2003: Sustainable Development in a Dynamic World* (Washington, D.C.: The World Bank, 2003).

World Health Organization (WHO), *Community Emergency Preparedness* (Geneva: WHO, 1999).

World Health Organization (WHO), "Introduction" web page in web site *Alliance for the Elimination of Trachoma* <http://www.who.int/pbd/trachoma/introd.htm> , n.d.

Yunus, Muhammad, *Banker to the Poor* (London: Aurum Press, 1998) & see: <http://www.grameen-info.org/> and <http://www.microcreditsummit.org/> .

## ENDNOTES

<sup>1</sup> I would like to thank, among many others, Krishna Vatsa, Ian Cristoplos, Sonia Kruks, Greg Berger, Gabi Kruks-Wisner, Allan Lavell, Piers Blaikie, Ian Davis, Terry Cannon, John Handmer, Juha Uitto, James Putzel, John Twigg, David Alexander, Philip Buckle, Ilan Kelman, Frauke Kraas, and Maureen Fordham for comments and suggestions over the past two years that have led to this paper.

<sup>2</sup> I am particularly grateful to Ian Christoplos with whom I have spent several months debating the size of this list of core themes and their content.

<sup>3</sup> The production of national PRSPs is part of the process set in motion both to reduce foreign debt in the most highly indebted, poor countries (HIPC countries), while ensuring that debt reduction and restructuring of governance and public spending results in sustainable poverty reduction.

---

<sup>4</sup> I have based this detailed discussion of the Millennium Goals on drafts that I have been exchanging with Krishna Vatsa, George Washington University, in the course of developing a treatment of these goals for UNDP's forthcoming *World Vulnerability Report*. Some of the wording is Vatsa's and some is mine.