# ‘VULNERABILITY’: A MATTER OF PERCEPTION[1]

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November 2001

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of the Indonesian fires of 1997-98, which explains the various actors' perceptions of the fire hazard, its causes and their proposed solutions (*box 1*).

***Box 1: Interpretation of the 1997-98 fires in Indonesia and its consequence for disaster response (Harwell, 2000)***

During the El Niño drought in 1997-98, fires devastated Indonesia's forests, creating a vast shroud of smoke that reached as far as mainland Southeast Asia. The Indonesian government, international donors, environmental activists and local communities interpreted the causes of the fire differently, and therefore, their solutions to respond to the fires also varied.

The majority of the **Indonesian government officials** blamed El Niño and global warming – caused by industrialization in the First World - for the disaster. They saw fires as a result of unpredictable and uncontrollable nature, and of insufficient development to suggest that if the government had more modern technology, it could predict nature more precisely and respond more quickly. Government, therefore, emphasized the need for better technology to predict, monitor and address fires. This interpretation of the fires was blind for human factors causing the fire, and lacked the political will to address these.

**International donors** conducted wide-spread damage assessments, mainly through remote sensing – satellite photos showing area, thickness and content of smoke, and location of hotspots. Their interest was to estimate the impact on wildlife and natural resources. No one had collected any systematic field data of impacts on local communities, or investigated the cause of the fires. In fact, they kept silent about the role of the plantation sector in the fires, unwillingly to mix in "local politics'. Instead they constructed an analysis that Indonesian forests are of global interest, a source of priceless biodiversity. It is nature that is most vulnerable in this case. People inhabiting the forests are poor and degrade their environment in order to survive. Therefore, what the Indonesian government needs, is modern technology (like GIS) to slow the process of environmental degradation and to protect valuable resources. This interpretation blames poor local people for the fires, not the wealthier plantation sector.

The **local NGO community** revealed – using remote sensing as well – that the majority of hotspots originated on logging and oil palm plantation land. Since the 1960s, Suharto's economic development initiatives, supported by the IMF and World Bank, promoted capitalization of large scale 'natural resource production'. Government policies allowed plantation owners to use fire as a cheap and effective means of clearing land to establish plantations. This process of forest exploitation contributed to the outbreaks of fires, more so since the government lacked the political will to enforce the 'Zero Burn' legislation enacted in 1995 prohibiting the use of fire in commercial land clearing. This process created ecological and social landscapes vulnerable to fire. The NGO community blamed the plantation sector for the fires, as well as the inequitable government forest practices. Although the NGO sector advocated for local indigenous control of resources, it represented 'the forests that cannot represent themselves' rather than the local people. In this context they envisioned reforms of forest management policies to address fires and further environmental degradation.

While the rest of the world focused on the smoke visible from satellites, on the ground **farmers** endured the hardship caused by the fires. They lost both their gardens and fallback resources. The fire had destroyed everything, including their life savings invested in the landscape. Farmers blamed the land clearing activities of adjacent oil palm plantations for the fires. They even believed they were victims of arson, a means employed by plantation owners to displace farmers from their land in order to stake claims to locally-held lands. In cases where timber or oil palm plantations caught fire, the owners could not count on local help to extinguish the flames, indicating that the roots of the disaster lie with struggles over ownership of land and forest resources. It is not poverty or the 'slash and burn' practices of poor farmers that set the degradation of nature in motion, but the greedy and unjust behavior of concessionaires, politicians, and law enforcement officers involved in the conversion of forests to plantations. This created the vulnerable ecological and social conditions for the fire disaster.

The case of the Indonesian fires reveals that the responses - forecasting technology, remote sensing and reforms of the government's forest management policies – ignore the role of the palm oil and timber sectors and related government departments, which are in fact responsible for creating the onset of the fire disaster. The IMF even included

as a condition of its 'rescue package' loan (following the 1997 financial collapse) the further expansion of the oil palm sector and the inclusion of foreign investment in the forestry sector (Harwell, 2000:325). In this way existing relations of power are being reproduced. None of the actors involved considered the local people's views and their situation important, since it would only put more oil on the conflict (and fire). Fire in Indonesia will continue to happen, if economic and political power relations do not change.

As vulnerability reduction and targeting the most vulnerable groups are in fact related to social order and politics, Bender (1999) argues that there is little reason to expect that the IDNDR would have dealt with natural disaster reduction in a serious way. For many countries and donors, vulnerability reduction is too political.

At this point, I would like to raise some issues regarding 'vulnerability' that need further clarification and discussion. The first issue is how communities – (repeatedly) affected by disasters - view and respond to 'vulnerability'. This issue is relevant since most of the aid agencies just make assumptions regarding local people's needs and priorities, and treat them as recipients or beneficiaries of their programs, not as creative actors in disaster risk reduction. The second issue is what the consequences are of local people's perceptions and actions for disaster policies in general, and assessment tools in particular. The third issue is of a different level and relates to the political nature of the concept: if most disaster management agencies and governments ignore the social and political origin of disasters, how can disaster risk reduction ever happen?

This paper does not aim to present clear-cut answers, but merely reflections from a practitioner's point of view. While working with grassroots communities in disaster-prone areas – mainly in the Philippines and Nepal - I often encountered contradictions between local people's behavior and preferences on one side, and the disaster policies and practices of aid agencies (including donors) on the other side. Vulnerability reduction and the selection of appropriate measures is often a competition between different actors, who seek to realize their needs and interests.

**Local people's perception of 'vulnerability'**

Hazards have always been part and parcel of the world's reality, and populations inhabiting hazard-prone areas adapted strategies to deal with extreme events, using their own capabilities, skills, talents, knowledge and technologies. Learned from their ancestors and their own experiences, these adaptation strategies are made part of their traditions and culture (Blolong, 1996: 15). When hazards strike, people have always been ready to cope and did not rely much on support and assistance from outsiders such as government. In this historical perspective, local people have no concept of 'vulnerability'

forest resources intensified. And arson – allegedly applied by plantation owners – resulted in destruction of farmers' savings and their inability to cope with extreme pressures. And this was unprecedented (Harwell, 2000: 328).

Similarly, local communities in the uplands of the Philippines have been increasingly exposed to the negative impact of typhoons and drought since the seventies. They blame the government's logging policies, mining operations and the construction of hydroelectric dams for the increasing occurrence of flashfloods, landslides, pollution of water and fish kill. Nowadays, local people also observe that even normal monsoon rains trigger adverse disastrous events like landslides and floods, which never occurred before. In their view, the conceptual difference between a typhoon (*hazard, extreme event*) and monsoon rain (*normal climatic condition*), has become negligible, since effects at community level have become similar. The vulnerable condition in which people live, can now turn not only extreme events, but even normal events into disaster situations.

Another concern for local communities, and perceived as more disastrous than natural hazards, are the government's 'development' projects like dams for electricity generation and irrigation, mining operations, plantations and recreation areas that require conversion of prime agricultural land to industrial and commercial uses[i]. These projects might favor national and global interests; local communities, however, are not consulted, but get displaced, losing their livelihoods and rights to cultivate (ancestral) lands

' than with those of a typhoon, typhoons destroy crops, houses and infrastructure, but do not necessarily undermine the basis of people's means of survival. Displacement, as a result of 'development aggression', deprives people of their land which is the most crucial resource to sustain their livelihood. Government or private investors offer compensation that is far below the amount needed to rebuild a livelihood elsewhere, and land is not made available.

It is commonly accepted among researchers and disaster managers that development creates new forms of disasters, for instance technological hazards and pollution. But '*development aggression* ', causing displacement of people, is not recognized as a human-made disaster, except by the affected communities themselves and a few supportive local NGOs. Discussing the issue results either in a political debate or in a conceptual discussion of terms and definitions.

In the 'disaster pressure model ', Blaikie et al (1994) extensively explain the progression of vulnerability from root causes through dynamic pressures resulting in local unsafe conditions. In this model, government policies and programs are considered the result of unequal power relations that create vulnerability and unsafe conditions at the local level. These deprive people of the resources to cope with extreme events (Bankoff, 2001, 7). According to the 'disaster pressure model ', the *decision* to construct a dam might be considered a root cause of creating unsafe conditions at local level, particularly the threat of flashfloods in case the dam breaks. But the actual forcible *eviction* is a disaster, according to the affected families; even more so because no decent and permanent relocation settlement is provided for

[iv]. In this situation people 's usual coping

***Box 2: Government flood forecasting in Canada perceived by local residents*** *(Buckland, 1999)*

During the 1997 Red River Flood in Canada, the provincial government ordered local authorities to evacuate citizens to safe places. Local authorities, however, had difficulties in following the provincial evacuation order, since most citizens refused to evacuate. In return, the provincial government used exaggeration and intimidation to encourage the evacuation, like arguing that a four-to-six-foot 'wall' of water was approaching the communities along the Red River. Local residents, who had previously experienced Red River floods, correctly understood prairie flooding to progress slowly, and not as a dramatic 'wall' of water.

When water levels rose, the majority of communities protected by a dike complied with the evacuation order, while communities outside the dikes, i.e. more at risk, mostly ignored the warning. These people did not fear any loss of life, but were concerned about their properties. Experience with past floods evolved into precaution measures like elevated flood-paths, and sandbag-dikes. These flood-mitigating precautions, supported by the same government, involve labor-intensive monitoring. This was the main reason why local residents refused to evacuate.

Local authorities, on their turn, considered other factors when the evacuation order from higher level confronted them: if they would follow the order, they could loose community support. If they disobeyed, they feared reduced rehabilitation funds from higher levels.

analyze the nature and behavior of drought in the past, and how farmers have developed strategies to mitigate effects of drought. Furthermore, the NGO did not recognize the farmers' HYV strategy as viable: it condemned the farmers' solution as environmentally and economically unsustainable. Besides, HYV is not a drought-resistant crop, like TRV, corn, peanuts, or other alternative crops. Farmers would have preferred assistance to develop a marketing strategy for their bamboo products. But they cooperated with the NGO, since they also desperately needed seeds to plant. The CBSBP was not a success, however. Only in one community (out of 18 communities) were farmers able to store seeds after the harvest. But these were used to feed the family before the next planting season.

- *Indigenous tribes in Carbasana, Capiz Province, Panay*
  These communities still practice *'kaingin',* a

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awareness, and leads to the formation of new local institutions or to the strengthening of existing ones. The voice of people at risk should be made heard.

***Box 6: Capability building towards a resilient community***

In November 1995 a super typhoon hit the village of Libis, San Mateo, Rizal, which is situated along a river in the suburbs of Metro Manila. Floods damaged houses and destroyed home-based livelihoods. Some children almost drowned after being trapped by floodwaters. Blamed for the flood was a protective wall along a middle class sub-division that effectively acted as a dam, but caused the water to rush in the

The Center for Disaster Preparedness and the Citizens' Disaster Response Network in the Philippines are currently piloting a participatory risk assessment method that has all the above features, and aims to identify community-specific strategies for immediate and long-term (disaster) risk reduction. It builds on CDRN's existing Hazard, Capacity and Vulnerability Assessment (HCVA) method, with two remarkable differences: (1) it tries to better balance people's risk perceptions with outsiders' knowledge, and (2) it uses the 'disaster crunch and release model' to develop people's analytical capacities and to raise the awareness of community members about the root causes of their vulnerability. Box 7 explains briefly the steps of a participatory risk assessment at community level.

***Box 7: Process of Participatory Risk Assessment as piloted by CDP and CDRN in the Philippines***

A participatory risk assessment has basically five steps:

1. *Hazard Assessment:* Community group discussion starts with a concrete event (hazard) experienced by the community. People can vividly memorize what happened when the hazard hit them. The purpose of a hazard assessment is to specify the nature and behavior of past hazards and potential threats to the community. Hazards - natural and human-made - are described and analyzed by people recalling warning signs, forewarning period, speed of onset, frequency, when, duration of impact, and how people perceive these hazard risks – 'part of normal life', 'rare', 'dangerous' or 'new'. Tools often

5. Community people prioritize the elements at risk that need to be protected or strengthened. By converting the 'crunch model' into positive statements the 'release model' is created, providing the direction in which people's capacities (from step 3) should be strengthened to address root causes of vulnerability (from step 4). This puts capacities of poor people in a wider context, and risk reduction measures beyond the emergency and disaster paradigm.

The Participatory Risk Assessment is part of a capability building process to transform communities at risk into resilient communities. To obtain reliable assessment results, there should be a certain level of contact and trust between the community and outsiders. The most common way aid agencies meet with communities at risk, is during and directly after a hazard event when they provide relief assistance. Relief boosts people's moral and motivational senses, rather than fulfilling their urgent basic needs. However, relief aid could be an entry point to establish contact and to build initial rapport with community leaders. From here a process of community capacity building can start to address their vulnerabilities. In the long run the need for relief interventions in a particular high-risk community is reduced.

*Figure 1: Modified Disaster Crunch Model to analyze processes in Mindanao, Philippines, that led to armed conflict between Moro Islamic Liberation Front and the Armed Forces of the Philippines, from community members perspective in May 2000.*

| **Hazard: Crisis indicators** | **Elements at Risk (Disaster Situation)** | **Unsafe conditions** | **Dynamic Pressures** | **Root Cases** |
|---|---|---|---|---|
| • Rumors<br>• Harassment<br>• Isolated killing<br>• People disappear<br>• Fire<br>• Rape<br>• Bombing<br>• Shelling<br>• Forced resettlement in protective camps<br>• Curfew<br>• Food blockade | • People – killed, wounded, injured, exhausted, hungry<br>• People are afraid, traumatized, suffer mental illness<br>• Women give premature birth, have miscarriages<br>• Family separation<br>• Divided communities: Moro – Christian<br>• Houses, schools and other assets lost<br>• Animals lost / injured<br>• Low mobility affecting livelihood / harvest<br>• Economic disruption<br>• Education of children disrupted<br>• Destruction of infrastructure<br>• Environmental destruction<br>• Spread of diseases<br>• People are displaced<br>• Cramped / poor facilities in evacuation center<br>• Feeling intimidated by aid workers<br>• Tired of answering questions posed by aid workers / outsiders | • Community situated in or near MILF camp / military detachment<br>• Community located in target area of TNCs, mining companies, etc.<br>• People not able to bring clothes, assets, etc. to evacuation center (EC), because no warning<br>• Too dangerous to continue harvest, therefore acute hunger<br>• Illiteracy (on Human Rights issues, Mining Act, etc.)<br>• No secure evacuation site<br>• No water available in EC<br>• Low employability<br>• Poor health condition / malnutrition<br>• Food shortage<br>• Discrimination by other groups<br>• Accused of being sympathizer with rebels<br>• Dangerous to return to previous home because of vigilantes<br>• Traditional leadership structures not recognized by aid workers<br>• No say in local politics<br>• Feeling inferior, marginalized | • Internal refugees belong to marginalized groups, because of origin or religion<br>• Low income levels and unstable livelihoods<br>• No secured land rights<br>• No access to basic services<br>• GO does not prioritize humanitarian assistance<br>• GO and TNCs force access to exploit natural resources (gas, wood, gold, land, etc)<br>• Incorrect projection of conflict by media<br>• Internal refugees used by politicians for personal (election) gains<br>• Cease fire violations | • Since colonial times domination of 'outsiders' over original population<br>• Land grabbing laws made in Manila<br>• Philippine Government favors TNCs' interests over Moro issues<br>• Philippine Government uses militarization to ensure access to natural resources<br>• Philippine Government uses Abu Sayyaf and biased media to declare total war in Mindanao<br>• Laws, GATT, etc. further marginalize original population<br>• Difference in political and economic Ideology |

Usually, a participatory risk assessment is part of a Disaster Preparedness Training for community members. The output of the training is an initial community-specific Counter Disaster Plan and the formation of a Grassroots Disaster Response Organization (GDRO) or structure appropriate to the community. To make a GDRO functional, follow-up support is often necessary. The particular risk reduction measures that need to be undertaken from here, largely depend on the kind of hazards, existing capacities and the level of vulnerabilities. These can be responses with immediate benefits like a warning system, an evacuation plan and diversification of crops, or long term risk reduction measures like tree planting, community alliance building and advocacy for resettlement and land rights. This process can take several years and some of the root causes might not be eliminated in a lifetime. It may require the effort of generations.

**Conclusion**

Vulnerability to disasters is a matter of perception, and in most aid agencies' perceptions, the view of local people is lacking. Most agencies tend to think on behalf of the victims, not realizing that disaster-prone communities might interpret their circumstances differently. Assessing vulnerability is just one side of how people take risk-related decisions. If we want our disaster responses to be meaningful, we need to give affected communities a voice and recognize their risk perception as well as their active role in exploring strategies that ensure livelihood security on the long-term. The latter means that we should strengthen these strategies to address the root causes of their vulnerability, and to broaden our perspective beyond the disaster response framework. Part of this, is supporting alliance building among communities at risk, as well as with organizations and groups in society that advocate justice, peace and responsible governance. After all, addressing vulnerability is a political issue.

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