

Community vulnerability and local knowledge

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Introduction

Your excellencies, ladies and gentlemen, distinguished guests:

With a quarter of a billion people being affected by disasters each year and some ten million more joining their numbers annually, disaster response has little chance of being a dyeing industry. Globally, natural disasters kill around 150,000 people a year. So whilst disaster reduction must be about preventing these deaths, it must also be about preventing the on-going suffering of those who are tragically affected by disaster. In Africa over 10 million and in Asia over 100 million people a year¹.

It is my belief that the number of people being affected by disasters is on the increase, not because there are any more floods and droughts today than there were, say a decade ago, but because there are more people vulnerable to the effects of floods and drought.

- ♦ Vulnerable because they are forced to live on marginal land,
- ♦ vulnerable because of poverty,
- ♦ vulnerable because of marginalisation and exclusion from welfare and education services, or the political process of a country.

If increasing vulnerability was the only significant trend in disasters, then response agencies would have a challenge in maintaining the quality of their programming, but along with this increase in vulnerability and hence disaster effects, has come a more disturbing trend.

In many of the industrialised countries, the concept of an all embracing welfare state is being trimmed down. Governments are contracting out the country welfare load to the private and voluntary sector. In the former centralist economies, the welfare state has almost completely collapsed. In many Southern states, governments were never equipped with the resources to exercise what is a central part of the duties of sovereignty -- caring for those who are least well off.

In all these countries, as governments retreat, it is the humanitarian agencies -- local and international -- who are left to work with the poor and the marginalised and to combat the effects of natural disasters. Indeed they are often contracted to do so by government. Many NGOs now find themselves being actively sought out to accept funds to provide welfare and aid services.

But this new found popularity brings its own risks. Accepting cash to attack the symptoms without taking a hard look at the causes of disaster is ultimately self defeating. It's the thin end of the wedge and may end up with the humanitarian agencies loosing their independence. This is why it is so important to focus upon the causes of vulnerability, not just the natural hazards people face.

Today I would like to home-in on one aspect of understanding and combating vulnerability; the role of local knowledge and local organisation. just as all international aid only accounts for one percent of the GNP of developing countries, and can only work by building upon local economies, so in disaster reduction, external assistance is supplementary to, and must be based upon, local knowledge. Knowledge which has been built up over generations by families and

¹ The Federation (Ed). *The World Disasters Report 1993*. Martinus Nijhoff, Dordrecht, the Netherlands. 1993

communities who regularly have to face the consequences of disaster, because the reality of natural disasters is that they are repetitive. Floods occur regularly in Bangladesh, drought is an ever present threat in the Horn of Africa and earthquakes seem to hit Iran every other year. Gearing our disaster preparedness and mitigation assistance so that it builds upon local knowledge and organisation is a strategy much more likely to achieve success than is creating technically beautiful programmes in glorious isolation.

What is local knowledge?

What distinguishes local knowledge from conventional or scientific knowledge?

First, it is local. It has emerged to suit the needs of a specific group of people at a specific location. It is knowledge which is relevant to their problems and is framed in the concepts and beliefs of the people. Thus an insight into local knowledge leads to a better understanding of people's problems and how they perceive those problems.

Secondly, local knowledge is knowledge controlled by the people who hold it. This is important. It is not a open-access resource to be mined by the scientific community and then abandoned. It is a key possession of people who are often at the bottom of the economic pile; the pastoralist, the peasant farmer, the shanty town dweller. The control and development of local knowledge is a key issue in the struggle for empowerment, democracy and a decent standard of living².

I am not trying to romanticise local knowledge or fall into the trap of assuming that all that is local is good and proper. Local knowledge is not all empowering. If it was, traditional communities would not be in the threatened state we find them today. But what I am trying to do is suggest that we should seek to understand this knowledge before dismissing it out of hand. We should also understand that local knowledge is not just ancient knowledge. It evolves as communities evolve, changing to suit their needs and problems.

If local knowledge is not all empowering, neither is it all pervasive. Not everyone in a community will have access to all knowledge. In Ethiopia for instance it is the women who know most about the medicinal properties of plants, not the men. Local knowledge cannot solve every problem. It cannot help with problems it does not perceive. Traditional Honduran farmers have an impressive knowledge of the growth stages of maize - their subsistence crop - and have terms to identify many different diseases the crops suffer from, but have a poor and often incorrect knowledge of the insects and pathogens associated with these diseases. Thus they are not in a position to correctly use modern pesticides which are becoming available in the area³.

There are however, many fields where local knowledge can work with conventional scientific wisdom to prevent disasters and address their consequences.

Local Knowledge in disaster prevention

² Walker, P.J.C. 1993: *Local knowledge; the forgotten resource*. In Environmental Challenges. Ed Nazim, M. Polunin, N. Pub: Foundation for Environmental Conservation. Geneva.

³ Bentley, J.W. 1990: *What Farmers Don't know can't help them: The strengths and weaknesses of indigenous technical knowledge in Honduras*. Agriculture and Human Values. Vol. 6, No 3, P 25 - 31.

In the field of disaster prevention, the critical role of local knowledge is eloquently demonstrated in one of the most often quoted rural development successes in the Sahel, namely the soil and water conservation project in the Yatanga region of Burkina Faso. This project started in the late 1970's when aid workers "introduced" micro-catchment soil conservation techniques from the Negev desert. The techniques were community based and required very low technological and financial inputs. The transplanted methodology was demonstrated in a number of villages as a way of improving tree production in a heavily deforested and degraded area. For the first few years the project stagnated. In retrospect it is easy to see now that it did not initially address the priority of the community, which was to produce food, but as importantly it had assumed that the key to success was the introduction of technology (all be it appropriate) from outside.

The Yatanga was formally the heart-land of the Mossi empire. Rain-fed agriculture had been practised there for hundreds of years. A technique of building small stone ridges, or just laying lines of stones across the hill side, had been developed as a soil and water conservation strategy. But as the rainfall in the area has decreased over the past few decades the effectiveness of these lines diminished, since levelling techniques available locally did not allow the lines to be laid accurately enough to take advantage of the dwindling rainfall⁴.

The aid project provided the needed levelling technique, in the form of a water filled plastic hose, and it was the coming together of this outside technology with the near forgotten traditional stone line techniques which pushed the project from stagnation to success. Farmers experimented with adapting micro-catchment techniques to incorporate their traditional stone lines. Food crops were grown instead of trees and the traditional "Naam" method of communal labour was used to carry out the work.

Today the idea has spread across the entire region. Crop yields are up and variability down. Soil erosion rates have decreased and people have a renewed faith in their ability to tackle and solve their own problems. What started out as a soil conservation project is now a programme addressing issues of self respect and organisation as well as food production and soil conservation.

The value of incorporating local knowledge into disaster prevention has also been well demonstrated in Ecuador, where many builders have started to re-evaluate old traditional styles of building following the 1987 earthquake. Before the 1987 earthquake the traditional "rammed earth" walls were going out of fashion in favour of more modern building techniques. But now builders realise their worth and are starting to re-introduce the technique.⁵

Local knowledge in disaster response

When sustainable livelihoods cannot be achieved and disaster prevention fails, famine often results. For many communities famine has now become a regular occurrence, appearing maybe once or twice each generation. Because of this and because of the annual food shortages that many communities face just before the harvest is gathered in, local mechanisms have evolved to cope with the resultant stress.

⁴ Harrison, P. 1987: *The Greening of Africa: Breaking through in the battle for land and food*. (P 165-170). Pub: Paladin, London. U.K.

⁵ Dudley, E. 1992: *Disaster aid: Equity first*. in: *Disasters and the small dwelling*. Ed: Aysan, Y. Davis, I. Pub: James & James. London. U.K.

Peasant strategies for dealing with famine in the Indian sub-continent have not attracted as much attention in recent years as those in Africa, perhaps because of the more developed State methodologies for coping with food scarcity on the sub-continent. They do however, effectively demonstrate the point that "local" knowledge does not mean stagnant knowledge.

Farmers in drought prone areas of Rajasthan manage their economy in such a way as to offset the impact of drought years by the use of assets gained during good years.

The seasonal migration or sale of assets (accumulated in good years) during a drought year are part of the adjustment mechanism evolved by farmers. Thus the occurrence of these strategies should be viewed as "normal". However, when faced with the prospect of famine, farmers resort to increasingly irreversible coping strategies. Five classes of strategies can be distinguished⁶.

- ♦ Maximising farm production,
- ♦ Minimising of current commitments,
- ♦ Disposal of home produced and purchased goods held in stock for future use such as marriage dowries,
- ♦ Sale or mortgage of assets,
- ♦ and migration.

These strategies should be seen as sequential. Strategies at the beginning of the series are largely reversible and do not eat into the subsistence base of the household.

A study of the 1978/79 drought in Bangladesh has shown how farmers reacted to the loss of their normal crops by planting irrigated wheat, or considerably expanding the area under "famine-millet". In other words, they adjusted their farming activities to maximise effective availability of products.

Understanding local reactions to drought threat not only highlights mechanisms used, but also how these have changed to take account of the evolving role of the state. In discussing the relative importance of traditional coping strategies in India today, the anthropologist William Torry points out that they no longer prevail throughout the country. The very real advances that the state famine mitigation services have made have renders the strategies inoperative. Thus "local" coping mechanisms in India today have evolved to take account of the state provided service, a service which ironically has its roots in the observation of peasant reaction to famine.

Consequences of denial of local knowledge

What are the consequences of not listening to local people and not sharing information with them? First, aid programmes can inadvertently cause future suffering whilst they are trying to alleviate present suffering.

For example, in a recent famine relief programme in Africa a major donor supplied Sorghum grain for free distribution as food-aid. Sorghum was the preferred grain for the famine affected people and they were used to having to grind it themselves. Some of the grain they saved from the cooking pot to act as seed for the next season. When planted it germinated and started to grow well, but the imported grain was of a short stemmed variety. The people would normally

⁶ Jodha, N. 1990: *The Economic and Political Weekly*. 11 October 1990, pp. 1609-18.

have planted a long stemmed variety because the stems, as well as the grain, are a critical part of the harvest, being used as building material for houses and fodder for cattle. The imported food-aid Sorghum matured and provided food for the next season, but no building material and no fodder for the cattle. Poorer families had to sell some of their livestock and expend precious cash on buying building materials for their houses. The external assistance ended up further impoverishing this particular community; helping in the short term it is true, but increasing their disaster vulnerability in the long term.

Research in Bangladesh looking at housing reconstruction after the 1988-89 flood has also highlighted the consequences of ignoring local knowledge. Few of the agencies involved in reconstruction bothered to fully consult with local people before starting their programmes. When researchers questioned people about what would have been the best use of aid money, local people almost universally opted for low cost housing linked to income generation schemes rather than the higher cost "flood resistant" housing which the agencies provided.⁷

Openings for learning and collaboration

How can this understanding of the critical role of local knowledge and community organisations be applied to disaster prevention by all those involved in field programmes, be they local NGOs, local authorities, home and regional offices of international donors or international agencies?

Well, here are five suggestions, many of specific relevance to the scientific community⁸.

- We could shift some resources now devoted to development and disaster research - applied and theoretical - to grassroots-based and international NGOs. Training centres, developed within community based organisations and community-based NGOs could offer courses on indigenous knowledge, community problem-solving and disaster-planning and mitigation actions and give participants practical exposure to the daily activities of communities.
- One method to enhance research, oversight and training would be experiential exchanges between community groups, government workers and service providers - a quick, effective way to share information and stimulate new thinking. Pilot projects can begin applying research findings and training to existing and new disaster prevention and mitigation programmes; those experiences will inform other projects, including those of donors.
- Supporting international networking, communication and advocacy NGOs provides another link between research and practice. The mandate for such NGOs would be to work with governments, programme NGOs and international agencies to ensure community involvement is integral to policy and programme design and implementation.

⁷ Borton, J. *et al.* 1992. *Choice of technique. Housing provision by NGOs following the 1988 floods in Bangladesh.* in: Disasters and the small dwelling. Ed: Aysan, Y. Davis, I. Pub: James & James. London. U.K.

⁸ For a full discussion of this topic see, *Building response on indigenous knowledge*, in: The World Disasters Report 1994. Ed: The Federation. Pub: Martinus Nijhoff, Dordrecht, the Netherlands. 1994.

Where might this process start? On many fronts it has already begun. Communities have been working to reduce the potential for disasters and respond to disasters in ways that reflect their needs and resources. Whether on India's streets, Eritrea's mountain slopes, Peru's shanty towns or Mozambique's refugee camps, a wealth of knowledge and practical skills exists which can stimulate new perspectives on prevention and mitigation.

Ironically, disaster prevention's most valuable resource - community-based groups - are only infrequently involved in concept, planning and response activities. The costs to disaster or development agencies of involving communities in planning are minimal. The biggest item is time; slowing the pace of planning to allow communities to identify priorities and processes.

- ♦ In disaster-preparedness planning and response, agencies can incorporate anthropologists, community development, local economic specialists, and NGO policy analysts. At limited cost and with few further logistical requirements, disaster organisations can gain extensive and valuable insight into the strengths of communities within disasters.
- ♦ Disaster and development agencies can initiate pilot activities and document experiences with communities to disseminate results and lessons learned. Such examples can be a basis for indigenous workshops to which national and international NGOs and donors are invited. Changing the terrain of learning can break down the isolation of many hotel and conference centre meetings.

Conclusion

In conclusion, let us remember that disasters are about partnerships. It is a partnership of natural hazards and human vulnerability which triggers disasters and it is through partnerships that we can best reduce the suffering caused by disaster. Partnerships of local organisations with external agencies and finance, partnerships of governments with NGOs and at the foundation of our efforts, partnerships of local knowledge with scientific endeavour.

Thank you.