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Vulnerability Article 1: Vulnerability and Criticality By Hans-Georg Bohle, South Asia Institute, University of Heidelberg, Germany; <u>apoeltl@ix.urz.uni-heidelberg.de</u>

The 1997 Human Development Report emphasises dramatic economic and environmental changes during the last decades of the 20th century. These changes have certainly opened new opportunities for some people. However, they have also resulted in new risks and vulnerabilities, which might reverse the success which has been made in economic development and poverty reduction during the past decades: "The world is rapidly changing, with the globalisation and liberalisation of the world economy, with the rise of new conflicts, with the spread of HIV/AIDS, with the steady deterioration of environmental resources, with demographic changes, with the failures of economic growth in Sub-Saharan Africa, Latin America and the Caribbean and the Arab States, and with the transition to free market economic systems and democratic government. All these changes put added stress on the lives of people. And the people who already suffer deprivation in many aspects of their lives suffer most" (HDR 1997, p.65).



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These findings are especially relevant for those people who live on marginal lands and

are affected by an increasing degradation of their natural resources. Even the most conservative estimates of the Human Development Report show that almost half of the world's poorest people, more than 500 million, live on marginal lands such as drought-prone regions and upland areas of the Himalayas and Andes. Under current policies and conditions, that number will probably rise to 800 million by the year 2020. The ecosystems of these areas are extremely fragile. Soils are susceptible to erosion, rainfall is highly unstable, with considerable seasonal and annual fluctuations. Recent environmental stresses, such as deforestation, prolonged droughts, erosion and dwindling surface and ground water, all increase the risks for the poor and vulnerable (HDR 1997, p. 69).

In the light of these changing risk environments, a closer examination of resilience to withstand heightened vulnerability is certainly a most urgent priority, as Roger Kasperson states in his contribution to this newsletter. This article will highlight some original empirical work on vulnerable people in critical environments. Most of these studies were initiated by the former IGU Commission on "Vulnerable Food Systems" (chaired by Hans-Georg Bohle from 1988-1996). The present contribution will then draw some basic conclusions on the diverse patterns of vulnerability in different ecological contexts, with the main objective to contribute to conceptual and theoretical progress in vulnerability analysis and to address the causal structures of vulnerability.

This discussion on concepts and theories of vulnerability will be based on the following case studies: 1) Beate Lohnert on Mali (1995): a study on survival strategies of most vulnerable groups at the periphery of Mopti under the impact of national food policies and food trade; 2) Armin Haas on Mali (1995): an investigation into the importance of logistics for food security, with special emphasis on the role of river transportation of food to most critical regions; 3) Jörg Gertel on Egypt (1995): a diagnostic study on the oligopolistic structure of the food system of the Cairo urban agglomeration and its adverse implications for the vulnerability of poor urban populations; 4) Christoph Dittrich on Pakistan (1995): a study on the impact of highland-lowland interactions for food security in peripheral high mountain areas of the Karakorum; 5) Fred Krüger on Botswana (1997): an empirical work on livelihood security and vulnerability of urban populations in Gaborone; 6) Veronika Ulbert on the Dominican Republic (1999): an empirical investigation into environmental problems and resource management in the dry region of the Dominican Republic, with special emphasis on gender aspects; 7) Hans-Georg Bohle on Nepal (1999): a study on the complexity and desperate state of survival strategies applied by extremely poor mountain farmers in peripheral, ecologically degraded and food-deficit mountain regions of Nepal; 8) Susanne van Dillen on India (2001): a thesis on the complex patterns of survival strategies in a drought-prone village of Tamil Nadu, with special emphasis on the potential and impact of everyday mobility; 9) Hannah Büttner on India (2001): an investigation into the institutional arrangements regarding surface water management in drought-prone regions of West Bengal and their implications for vulnerable populations; 10) Markus Mayer on Sri Lanka (2001): a study of the conflict potential of unemployed youth in resource-poor, drought-ridden regions of Sri Lanka; 11) Sabine Tröger on Tanzania (2001): an actor-orientated analysis of structuration processes and everyday-life survival strategies in a situation of dramatic political, economic, social and cultural change, with

special emphasis on the erosion of traditional security systems.

As one initial general conclusion of all these empirical studies, we can state that the general distinction between an "external" and an "internal" side of vulnerability as proposed by Chambers (1989) proved to be quite useful, where the "external" perspective refers mainly to the structural dimensions of vulnerability and risk, while the "internal" dimension of vulnerability focuses on coping and action to overcome or at least mitigate the negative effects of economic and ecological change (see Fig. 1). While the "external" side of vulnerability exposure has been discussed elsewhere (Watts and Bohle 1993), the "internal" side of coping has so far been widely neglected, especially in conceptual and theoretical terms. As the findings of the above mentioned studies indicate, coping is a highly complex, contextual and dynamic issue, especially in times of acute crisis, but also in coping with everyday or seasonal risks. Three main strands of conceptual and theoretical discussions seem to be most relevant to grasp the whole range of coping strategies (Fig. 1). Naturally, all three approaches overlap in multiple ways, and they are also closely linked to the external/structural context in which they are embedded.

A first strand of research focuses on action-oriented approaches, especially on the interaction and dialectic relationship between the external and internal side of vulnerability or, to speak in Giddens' (1996) terms, "structure" and "agency." It is still an open question and certainly highly contextual to what extent food-insecure people have a bundle of options to cope with food crisis or to what extent their coping strategies are determined by structural constraints.

A second approach which is closely linked to action theory is the concept of access, especially to coping resources or "assets." The concept of assets distinguishes between economic, socio-political, infrastructural, ecological and personal assets. The starting point of this strand of discussion is the observation that assets which people control contribute to mitigate their vulnerability and strengthen their resilience towards economic and ecological risks. The more assets they control, the less vulnerable they are and the greater are their capacities to successfully cope with risks, stress and shocks. As our studies have clearly shown, the so-called "social assets" play a most important role for the most vulnerable populations who, as a rule, control very few economic, political, infrastructural, ecological and personal assets. For them, the last resort are social assets in the sense of being integrated into social networks of mutual trust, shared norms and reciprocity. The whole question of access to control over assets is closely linked with the political economy of the region under consideration and in which way various groups of people are embedded in the basic structures and dynamics of society, economy, and polity.

This leads, finally, to the third basic conceptual approach, namely conflict and crisis theory. Issues of access to control over resources, assets and coping capacities are, as a rule, highly contested in an arena of risk and criticality, and the capacities to successfully manage crisis situations and solve conflicts will be a basic determinant for successful or less successful coping with change and the accompanied risk.



Figure 1: A Conceptual Model for Vulnerability Ananlysis Source: H.-G. Bohle, 04/2001.

Fig. 1 seeks to integrate these concepts into a comprehensive, but simplistic model on the causal structure of vulnerability. This model can not only serve as a framework for vulnerability analysis, but may also provide some insights into the causal structures of vulnerability. When Roger Kasperson states in this newsletter that significant future scientific progress in the field of vulnerability analysis under conditions of global environmental change is unlikely in the absence of greater conceptual progress, our work can hopefully be seen as at least a first step in that direction.



Herders in the Highlands of Pakistan Photo by Maarit Thiem

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