The 17th Biennial General Conference of
Association of Asian Social Science Research Councils (AASSREC)
27-30 September 2007
Nagoya University, Japan

DISASTER STUDIES IN PAKISTAN: A SOCIAL SCIENCE PERSPECTIVE

By

Pervez Tahir

Member, Executive Committee, Council of Social Sciences (COSS), Pakistan

Presently Mahbub ul Haq Professor of Economics at GC University, Dr Tahir has been the Chief Economist of Pakistan, an Advisor to Ministry of Finance and Managing Director of the National Energy Conservation Centre. He studied at University of Cambridge, University of Colorado at Boulder, Kennedy School of Government at Harvard University and GC University, Lahore. In 1990, he held the Joan Robinson Memorial Lectureship at the Faculty of Economics and Politics, University of Cambridge. He is a member of the Statistical Advisory Panel of the United Nations Human Development Report. Author of numerous articles in national and international publications and two books, he was co-editor of the book, Social Sciences in Pakistan: A Profile (2005) and contributed to Associations of Social Scientists: An Analytical Study (2006), both published by COSS.

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Pakistan's increasingly severe tribulations have not entirely been due to the nature of the problems confronting it; they have also been due, and perhaps to a greater degree, to the way these problems have been handled.

…take the case of the hundreds of thousands of people who have been uprooted from their homes by rains and floods (many, as in Karachi, by killer winds). To say that all of them have wholly been victims of nature's ferociousness and caprice will be adding insult to injury. The disaster that has overtaken them is as much man-made as it can be attributed to uncontrollable elements.

They have paid, and are still paying, for putting up with a system that has placed human life at the heaviest discount ever, that has brutalized the ruler and the ruled both, that has conquered all power and all resources in the hands of a few at the central command and has reduced the provincial and local functionaries to

liveried errand boys who must beg for small mercies such as helicopters to drop food for the marooned skeletons.

I.A. Rehman, Director, Human Rights Commission of Pakistan,
writing in *The DAWN*, July 26, 2007

Introductory Remarks

Out of the six major natural hazards *i.e.*, floods, cyclones, droughts, landslides, earthquake and volcanoes, Pakistan has experienced all but volcanoes, of course with varying degrees of intensity and at different points in time. The study of preventing these disasters has also varied in proportion to the frequency, scale and human and economic costs. Located in the monsoon region and being home to one of the largest irrigation networks in the world, the country is historically flood-prune and, therefore, somewhat prepared for this disaster. She is not as well prepared for droughts, as became clear during a prolonged period of drought in 1998-2001. While the country was learning to deal with drought emergency, it was shocked by a devastating earthquake on October 8, 2005 in the northern regions. She was completely unprepared for this disaster. The scale of this cataclysmic tragedy brought home the need to take a holistic view of disaster prevention and management. Before this thinking could crystallise into actionable strategy and a functioning institutional structure, the country's Frontier Province and the coastal regions were hit by flash floods. In the coastal regions of Balochistan and Sindh provinces, storms and cyclones in June-July 2007 affected around 3 million people. While these natural disasters exposed the state of preparedness of the state and society, a major road bridge in the largest city, Karachi, collapsed on September 1, 2007 within less than a month of its inauguration. The authorities were clueless even about immediate rescue and relief in the case of this man-made disaster.

Disasters so far have been viewed as unforeseen emergencies occurring occasionally. Some financial and physical assets have to be set aside to face them. It was a rescue and relief approach in most cases. Even in the case of floods, a familiar disaster because of recurrence over time, partial rehabilitation is the only additional item. The studies are dominated by official reports, engineering and other technical investigations, but very little work has been done by the social scientists. This is not surprising as the development of social sciences in general has been less than satisfactory even in areas of standard macro-social research (Inayatullah, Saigol and Tahir 2005). Hazards and disasters have been the themes of important works of fiction as well as some graphic portrayals of post-disaster human condition (Bhutto 2006), but these micro-social issues have not been viewed systematically from a social science perspective..

A social science perspective is essential to grasp the parameters of sustainable development. A strong linkage between disaster management and development is "the promotion of sustainable livelihoods and their protection and recovery during disasters and emergencies. Where this goal is achieved, people have a greater capacity to deal with disasters and their recovery is more rapid and long lasting" (Seth 2006, 18).. Disaggregated social-scientific analysis helps to bring out the true dimensions of vulnerability. The most seriously affected are the poor in general and women, children and the minorities in particular. If disasters keep taking their toll on the poor, then the goalpost of inclusive development keeps moving further and further.

This paper is divided into six parts. The first five parts deal with each of the five disasters experienced in Pakistan in order of the extent of preparedness in that area.
Part VI takes a holistic view of managing these disasters. At the end are presented a set of conclusions and suggested lines of future action and research.

Part I. FLOODS

Pakistan lies in temperate zone and the Indus Basin. The upper catchments of the mighty Indus river situates some of the highest peaks and largest glaciers of the world. Out of the six rivers, Pakistan controls the three Western rivers and India has the right to upstream discharges of the three Eastern rivers. This arrangement was agreed under the Indus Basin Treaty of 1960. The country has historically been flood-prune due to concentrated rains in catchments during monsoon and snowmelt flows. However, various types of environmental interference have made them more frequent and of longer duration. There have, therefore, been relatively better systems in place to deal with them. It also involves cooperation with India under the Treaty of 1960. Federal Flood Commission, Pakistan Meteorological Department, Cabinet Division's Emergency Relief Cell, Civil Defence and the Armed Forces have been the principal agencies involved in resue and relief. The preparedness can be described as somewhat sustainable. Response in terms of immediate relief is also insitutionalised, although institutional quality has deteriorated over time. But the preparedness in terms of improved livelihoods is inadequate. Prioritisation in terms of who is affected and how to get there and deliver food, have been seen to be problematic and the estimation of costs has not been very scientific. Information exists to improve emergency preparedness, response and required assistance, but it has not been analysed in terms of a consistent model.

A case study of resource depletion and floods vulnerability in the Hazara region in the lower catchment area of the Indus shows that due to deforestation overtime, the floods damage is much more extensive than in the past. The resulting soil erosion causes landslides and the heavy logs parked on the riverside move with the speed of floods, destroying everything coming in their way. The poor are affected much more than the better-off as they lose the means of their livelihoods. Natural disasters for them "turn out to be social disasters. One disaster makes them more vulnerable to the next and converts a disaster into a disaster process." Another case study showed that public sector infrastructure intervention may increase rather than reduce flood vulnerability. In the semi-arid Kaachho region in the Southern province of Sindh, a concrete wall built to divert flash floods collapsed in the severe floods of 1995. Its reconstruction tender was officially given three months after the water receded. Work did not start for a long time and the population was asked to move. This is how the infrastructure intervention by the public sector made the people more vulnerable (Samee 1996).

These case studies reflect some aspects of the perspective that disasters are social phenomenon. Gender, an important dimension of social structure, was explored in a study by Bari (2000). The strategic site is the relief work after the super-floods of 1992 by an NGO named Pattan set up to work with river-basin communities in selected villages of affected districts. Three findings became apparent. First, disasters are not gender-neutral in their effects. Secondly, marginalization resulting from low socioeconomic status becomes worse as women are asked to perform roles as nurses and mothers in an environment of stress an scarcity. Third, wife-beating is a common occurrence during rehabilitation. Relief and rehabilitation programme of the organization was then structured in the light of these findings. As women could not join the village organizations established for flood relief, their separate organizations were set up. For this institution-building exercise, Pattan itself had to change; it recruited more women and went for gender training. As women feed the family, they were directly involved in distribution of relief by registering the affected households in the name of women rather than men. Most important, relief was transformed into development by implementing a housing project designed around women's practice in building mud houses and their strategic interests. Women empowerment objectives were achieved by stipulating joint ownership of houses so constructed. It reduced their vulnerability and served a blow to the tendency to view them as an economic burden.

In July 2003, the low-lying areas of the coastal districts of the southern Sindh province suffered extensive damage due to unprecedented high intensity rains, which was aggravated by the silting up of drainages during a prolonged drought and the impact of seawater pushing back the floodwater. A Participatory Rural Appraisal (PRA) carried out in the distict of Badin (Pattan 2005) showed how

politics of relief can reproduce Amartya Sen's famous insight from the Bengal famine – poor distribution system causing famine despite enough food supply. Relief supplies in this case were not massive, but they were reasonable. However, the struggle for control among the politicians from three levels of government – federal, provincial and local – proved that all politics is local. The recently created devolved system of local governance to bring government to grassroots levels, and specifically mandated to deal with flood relief, failed to pass its first test, with local politicians only competing with other politicians to secure a share in political allocation of relief, while their constituents suffered.

Part II. CYCLONES

In the last week of June, 2007 the Coastal areas of Pakistan in the provinces of Balochistan and Sindh were hit by Cyclone Yemyin. It was also the first hazard after the construction of Mirani Dam on Dasht river in Balochistan. Its construction was opposed by Balochi politicians and local communites. The flash flood in Dasht river resulting from Yemyin and unprecedented rains could not drain naturally due to the structure of Mirani Dam and reverse flow destroyed nearly all houses in 3 union councils. The flood level reached 271 feet above mean sea level. The official assumption was that a level of 244 had one chance in 200 years. At the time of construction, communities had argued, unsuccessfully, to fix this limit at 264 and make resettlement plans accordingly. No EIA was carried out, as required under the Pakistan Environmental Protection Act 1997. The official attitude has been one of satisfaction that the Dam withstood such heavy flood, not the destruction this flood caused (Memon 2007). But "Most people hold technical flaws in the Mirani Dam's design responsible for the devastation of the area' (Haider 2007). Another major project, Makran Coastal Highway, was also completed with similar unrealistic assumptions about climate. Soon after inauguration in 2004, it was seriously damaged by floods in 2005.

Describing the various mega projects started by the Federal Government in Balochistan as "Disastrous Development", one analyst states in the context of the Coastal Highway: 'The raising of highways above natural ground level without conducting hydrological studies only transforms them into damming structures as far as the passage of rainwater is concerned in an area notorious for flash floods, resulting in the submergence of numerous human settlements , all of which had remained unaffected by the rains during the recorded past."

It was noted earlier that there is political mileage to be made out of relief. According to a newspaper report, even this was not true in the case of a poor province like Balochistan. Cyclones are predictable but prevention does not bring political mileage. However, people waited for relief for a long time and the Federal Government was reluctant to make an appeal for international assistance

for quite sometime (Special Report 2007). Relief itself can be prevented by a mix of political and strategic considerations. Interestingly, an independent relief audit later indicated that weather advisory was issued with a very short response time, but it was not followed up by the authorities (Bhatti and Somro 2007). As one commentator observed: “While the rains have quite literally dampened the rockets and missiles used with such frequency in Balochistan…, the churning waters have also triggered a deeper sense of outrage” (Hyat 2007).

With a literacy rate of 54 per cent, many people in the country continue to live with the notion that natural disasters are natural and not much can be done about them. Added to it is the pervasive influence of religious superstition held dear even by some of the educated and wielders of power. For instance, gale-force winds brought down huge billboards and took many innocent lives in the largest metropolis, Karachi. The chief executive of the province described it as the wrath of God that the sinners brought upon themselves by putting up these obscene billboards. It did not occur to him that many of these billboards were unauthorized, that those killed were mostly the poor, who had nothing to with this obscenity. “It was not the winds but their poverty that killed them. Even more than that it was the poverty of our policies for the poor that killed them” (Najam 2007).

Cyclones bring misery to the people by adversely impacting upon their livelihoods, economic activity in general and physical and social infrastructure. Physical and social data can be used for hazard and vulnerability analyses. Regionally disaggregated data is more useful than the global data. Given the limitations of data, vulnerability analysis is not as precise as the hazard analysis.

Part III. DROUGHTS

Among the various natural disasters, drought is the worst offender in terms the impact on human livelihoods. Considering the scale of some of these disasters and their devastating impact on life and livelihoods, this is particularly disturbing. An international report (IFRC&RCS 2002) estimated that as much as 2 per cent of her population was affected by disasters in 1999-2001. This was the period of a serious drought mostly in the least developed regions. Droughts appear due to the climatic hazards of rainfall/snowfall deficits and social vulnerability of the affected population. According to a study done for the World Bank (Barlow, *et. al.* 2006), “The climate drought estimate, based on 12-month WASP, identifies all reported drought disasters for Israel, Afghanistan, Syria, Pakistan, Armenia, and Malaysia (seven matches total) while also generating 10 nonmatches (identified

climatic drought without a corresponding disaster report)." WASP refers to Weighted Anomaly of Standardized Precipitation.

Pakistan suffered a prolonged drought in 1998-2001. It adversely affected the economy, rain-fed agriculture, livelihoods of rural population and the poverty reduction efforts. A Drought Emergency Relief Assistance Programme (DERA) was launched in November 2001 with the objectives of poverty alleviation in the drought affected areas, revival of agrarian economy and promotion of a more sustainable use of water resources, improvement of the productive capacity, livelihood and income of affected population and employment generation. The scope of the project included irrigation capacity and supply, water management, rural water supply, roads, agriculture, livestock, health care and community welfare. The total cost was US$ 360 million, with financing of US$ 230 million to be provided by the World Bank and the ADB and the balance by the Government of Pakistan.

The project, now called DERA I, was completed in 2005. Unlike the normal, slow pace of implementation of aided projects, 98 per cent of the money was released and 95 per cent of the money released was utilized. As Sainath (1996) would have said, everyone loved this good drought, and for the same reasons. The project was initiated to provide relief to the province of Balochistan, the poorest and the least developed, and of course most seriously affected by drought. Its average rainfall is the lowest in the country and has minimal irrigation. In DERA I, its share in the financial outlay was 30 per cent. A number of districts were affected in the province of Sindh, which has a rich irrigation system. Sindh also got 30 per cent of the funds. Punjab, the richest province managed to claim another 25 per cent and the rest went to the North Western Frontier Province and the Federally Administered Tribal Area.

Did the money that actually reached the most seriously affected districts reach the most affected people, the poorest? Analysts emphasize that "At-risk communities must participate in devising and implementing effective strategies to reduce vulnerability, identifying site-specific solutions and assessing the productiveness of proposed measures" (Bhatti 2000). The approval and disbursement mechanism leaves no doubt that this was not the case.. Schemes were supposed to be identified by the communities in the meetings of District Drought Assistance Committees chaired by the District Coordination Officers, vetted by the Province-level committees and approved by the Federal Steering Committee. With no social mobilization mechanism in place to articulate the needs of the communities, the system in effect was a top-down arrangement for political allocation of patronage.

In the words of Sainath, "*teesra fasl* (the third crop) thrived. Contractors supplying rigs, building roads and irrigation works also thrived. Thus the highest

number of schemes related to rural water supply (41 per cent), followed by roads (29 per cent) and irrigation (21 per cent). Water management got only 4 per cent, agriculture 3 per cent and health 2 per cent.

Everybody loved the drought so much that the task of formulating DERA II was taken up in right earnest. With a financial size three times DERA I, its coverage was stated to be the areas left over by DERA I and the priorities included, among others, livestock and dairy development and appropriate technologies for agriculture. Before the project could be finalized, however, the drought-affected regions of Balochistan and Sindh were hit by Cyclone Yemyin and flash floods. There is now the talk about converting DERA II into a flood relief project. So drought has spread love to floods as well! .

Part IV. LANDSLIDES

An average of 8, 000 hectors of forest disappears annually. Fragile mountains and a relatively young geology and rapid deforestation has increased the incidence of isolated landslides manifold in Azad Kashmir, Northern Areas and the NWFP province. The vulnerable areas are cut off from the mainland for long periods of time, causing hardship to a population already suffering from abject poverty, hunger and malnutrition.

Part V. EARTHQUAKES

On October 8, 2005 northern Pakistan was struck by an earthquake measured 7.6 on the Richter scale. It caused 80, 000 deaths and made 4 million people homeless. The country had experienced a massive earthquake in 1930s destroying Quetta, the capital city of the southwestern province of Balochistan. Another earthquake of serious magnitude hit Bisham in the Hazara region of the North West Frontier Province in the seventies. The October 8 earthquake devastated Azad Kashmir and the adjoining parts of Hazara region in the Frontier Province.

Khan (2005) did not find any reliable evidence that the earthquake itself was caused by environmental mismanagement. However, environmental factors did appear prominent in the scale of the damage. It was evident that well-forested slopes provided better protection against landslides than the denuded slopes. The author also raises the question whether nuclear testing causes earthquakes.

Not much learning had taken place from the experience of two major earthquakes in the past. With a comprehensive disaster management strategy not in place, the country was completely unprepared in terms of warning systems and

immediate rescue and relief. Indeed the governmental structures as well as the military establishments in the affected areas, which would normally be expected to attempt to become active in an emergency, were also destroyed. No cranes or bulldozers were available on the site. The Federal and Provincial Government structures though intact took time to realize the scale of the tragedy. But they had no road map to follow. The “horrifying picture”of unpreparedness was likened to the experience of Hurricane Katrina in the United States (Mustafa 2005). One author saw the rollback of the state and the neoliberal economic policies taking their toll. A state “which has been progressively relinquishing its responsibilities in all spheres of public life, is in no shape to protect the people from small economic shocks, let alone big ones” (Munir 2005). Extending this vulnerability argument, Ghazanfar (2007) maintained that the determinant of the status of an earthquake is not its magnitude, but the extent of destruction. Using the Oxfam formula of risk being equal to magnitude multiplied by vulnerability, he asserted that attention to vulnerability, preparedness and inexpensive building designs would maximize risk aversion.

Another study (CRPRID 2006) went beyond vulnerability analysis and employed the more recent sustainable livelihood approach. Still evolving, vulnerability in this approach provides the context that shapes livelihoods over time. Its diagnostic framework identifies factors impacting on livelihoods, weights them for relative significance and brings out their interrelationships to locate the best entry point for mobilizing communities. Five impoverishment risks are identified: landlessness and food insecurity, homelessness and loss of access to common property, joblessness and loss of current earnings, marginalization and social disarticulation and poor health. A rapid appraisal household survey was conducted to provide “stylized empirical support” to find the state of household well-being before and after the earthquake. Among the major findings, landlessness was the most serious risk to impoverishment. Again, headcount poverty jumped up from 17-19 per cent to a massive 53-75 per cent.

The role of the recently installed local government before and after the earthquake was the subject of a dialogue with community and local government representatives documented by Nazeer and Masood (2006). Coordination between the three-tiers of government – federal, provincial and local – was lacking. As a matter of fact, there was a stand-off between the provincial and local governments. Being closer to the community, the expectations from the local governments were high. However, they did no better than the other levels of government. While prediction may not be possible, the fact is that the Himalayan tectonic drift towards north had been analysed by local and foreign experts and the knowledge was available in the country, but no level of government considered any investment in reducing vulnerability. Stories of corruption were reported. Assessment of compensation was not very methodical. It was made by a team

consisting of a union councilor, village revenue officer and an army officer. “Normally the military man had the final word.” Thus the ascendancy of the military in the economic and political life of the country was felt here also.

Nazeer and Masood (2006) also highlight the concerns and responses of women. Despite the fact that women have 33 per cent representation in local government, they were not involved in relief and rehabilitation. Widowed and single women affectees could not themselves claim compensation for cultural reasons. Obscenity and un-Islamic ways of women were mentioned among the causes of earthquake by the ruling clergy. Haque (2005) looked at the public discourse generated around women affectees. The nature of this discourse converted female body into a space reinforcing gender subjugation.

Part VI. DISASTER MANAGEMENT

Disaster management is a fairly recent phenomenon in Pakistan. After the October 2000
Earthquake, there was general agreement that disaster management was much more than controlling floods in an engineering sense and providing rescue and relief through an ad hoc mobilization of civil and military departments and their assets. A donor-driven consultation had taken place earlier and a set of proposals was formulated as a result (UNDP 2003). It found a brief mention in the official poverty reduction paper which noted that “the poor are particularly vulnerable to environmental disasters” identified mainly as “increasing incidence of environmental shocks such as floods and droughts.” “Special attention” was, therefore, to be given to “disaster management” (GOP 2003). But even this limited concept was not properly funded. Against the traditional budgetary head of “natural calamities,” a very small sum of Rs 265 was budgeted for 2003-04, which was less than the actual expenditure of Rs 410 million in the year before.

A somewhat holistic view was reflected for the first time in a planning document in May 2005. A five year multisectoral and multidisciplinary programme of disaster risk reduction was mentioned as part of the poverty reduction strategy, along with focal disaster management agencies at the three levels of government. Its cost was given as US$ 15.5 million (GOP 2005a). No allocations were indicated and threre was no follow up in the operational annual plan and the budget presented to the parliament (GOP 2005b, c).

The shock of October 8 earthquake changed everything. An Earthquake Relief and Rehabilitation Authority (ERRA) was raised quickly and the work on setting up the overarching National Disaster Management Authority (NDMA) started. For the past 5 years, the economy has witnessed sustained high growth. A transition is

taking place from a rural to an urban-based economy with manufacturing and services sectors increasing their share in GDP. There is realization that natural disasters pose a serious challenge to this process. The October 2005 earthquake inflicted a loss of US$ 5.2 billion which is higher than the entire amount that the country spends on social sector development. The 14 major floods since 1947 drained another US$ 6 billion. Apart from economic losses, droughts like that of 1998-2001 have serious social and political implications. They pose an enormous challenge to sustainable development in the poorest regions like whole of the Balochistan province, Tharparkar in Sindh, D.I.Khan in NWFP and the southern districts of Punjab (GOP 2007). These regions form the poverty spine of the country.

Poverty reduction and maintenance of the growth momentum requires a systematic and systemic response to disaster risks. These include avalanches, cyclones/storms, droughts, earthquakes, epidemics, floods, glacial lake outbursts, landslides, pest attacks, river erosion and tsunami. There are also many human induced hazards that threaten the country. The most important include transport and industrial hazards, oil spills, urban and forest fires, civil conflicts and internal displacements of communities. According to NDMA, high priority hazards in terms of their frequency and scale are earthquakes, droughts, flooding, wind storms and landslides (GOP 2007).

The vulnerability analysis carried out by NDMA points to construction practices, poor livestock and agricultural management, and fragile natural environment, weak early warning systems, lack of awareness, low literacy and poverty. Poor communication infrastructure and lack of critical facilities aggravate vulnerabilities of communities. In mountainous regions the non-availability of safer land for construction, scattered settlement patterns and harsh climatic conditions further intensify vulnerabilities. The size and growth of human and animal population, environmental degradation resulting from poorly managed urban and industrial development processes, and climate change and variability are major dynamic pressures that increase vulnerabilities of Pakistani society.

The NDMA forecasts that in the coming decades, frequency, severity and impact of certain hazards may increase which might lead to greater social, economic and environmental losses.

In the past, a reactive emergency response approach has remained the predominant way of dealing with disasters in Pakistan. The Calamity Act of 1958 was mainly concerned with organizing emergency response. A system of relief commissionerates at provincial level was established. An Emergency Relief Cell (ERC) in the Cabinet Secretariat was responsible for organizing disaster response by the federal government. The awareness of policy makers, media, civil society,

NGOs, UN agencies and other stakeholders remains low about disaster risk management. The situation is relatively better with regards to flood and drought mitigation. A number of government agencies and NGOs have been implementing mitigation measures for these hazards. However, until recently, the country lacked a systematic approach towards disaster risk management.

Realizing the importance of disaster risk reduction for sustainable social, economic and environmental development, the GOP has embarked upon establishing appropriate policy, legal and institutional arrangements, and implementing strategies and programmes to minimize risks and vulnerabilities. In this regard, National Disaster Management Ordinance 2006 has been passed, the implementation of which would be ensured by the National Disaster Management Commission (Annex I).

The NDMA will be the focal point for coordinating and facilitating the implementation of strategies and programmes on disaster risk reduction, response and recovery (Annex II). Similarly, Disaster Management Authorities will be established at provincial (PDMAs), regional, district (DDMAs) and municipal levels (Annex III). The NDMA would provide technical guidance to national and provincial stakeholders about formulation of plans, strategies and programmes for disaster risk management. It would also work towards capacity development of national, provincial and local stakeholders in collaboration with PDMAs and DDMAs.

A National Disaster Risk Management Framework (GOP 2007) has been formulated to guide the work of entire system in the area of disaster risk management. It has been developed through wide consultation with stakeholders from local, provincial and national levels. The mission is stated thus: "To achieve sustainable social, economic and environmental development in Pakistan through reducing risks and vulnerabilities, particularly those of the poor and marginalized groups, and by effectively responding to and recovering from disaster impact".

Nine priority areas have been identified within this framework to establish and strengthen policies, institutions and capacities over the next five years: These include: (i) Institutional and legal arrangements for disaster risk management; (ii) Hazard and vulnerability assessment; (iii) Training, education and awareness; (iv) Disaster risk management planning; (v) Community and local level programming; (vi) Multi-hazard early warning system; (vii) Mainstreaming disaster risk reduction into development; (viii) Emergency response system; and (ix) Capacity development for post disaster recovery.

Roles and responsibilities of key national, provincial and local stakeholders have been

defined in the Framework. Broadly speaking, all stakeholders are expected to undertake following actions to promote disaster risk management: (i) Integrate risk assessment in the planning and design stages of all new infrastructure/projects; (ii) Assess vulnerability of people, infrastructure, assets and services related to their sector; (iii) Develop disaster risk management plans; (iv) Integrate vulnerability reduction measures in their programmes; (v) Develop technical capacities of their departments/sectors to implement; (vi) Disaster risk management strategies; and (vii) Allocate funds for disaster risk management in annual development budgets. Some other responsibilities of the stakeholders include: (i) Conduct post disaster damage and loss assessments; (ii) Organize emergency response as per the mandate of the department; and (iii) Organize recovery and rehabilitation as per the mandate.

The principles established in the Framework are: (i) Promoting multi-stakeholder, multi-sectoral and multi-disciplinary approaches; (ii) Reducing vulnerability of most vulnerable social groups; (iii) Strengthening community and local level risk reduction capacities; (iv) Combining scientific and people's knowledge; (v) Developing culturally, socially, economically and environmentally relevant technologies; (vi) Strengthening sustainable livelihood practices; (vii) Acquiring specific capacities in view of the hazard-risk profile of the area and the country; and (viii) Working with other countries, and the international community to promote disaster risk reduction.

Concluding Remarks

Disasters happen in society. This makes their study more complex than a functionalist investigation of their physical aspects. Thus pre-disaster is not just a process of identification, assessment and management of disaster risks. It is also a process of understanding people, their interaction with each other, power structures and conflicts, possibilities of cooperation. Prevention and mitigation need to be understood as social phenomenon. During disaster, what is important is not just resource management, evacuation, shelter and health interventions, but also human behaviour, stresses and strains and vulnerability. Post-disaster is not just a mega project of reconstruction and rehabilitation. The whole effort can be disastrous if communities are not allowed to participate. The study of social organization, change and institutional development becomes important. Building resilience is a socio-economic category. It has its poverty and gender dimensions. It has its regional and ethnic contexts. Political domination, religious obscurantism and marginalization are in a sharper focus during and after a disaster.

This paper shows that Pakistan is slowly emerging from a rescue-relief regime to a comprehensive disaster management strategy. Such an important development

would not have waited until the shock of the October 8 earthquake, had there been a keen interest of social scientists in the subject of disaster leading to a rich tradition of research and a large body of literature. The limited literature surveyed in this paper indicates that the discourse on disaster and development, however, is developing. The discourse does not treat environmental change as a mere scientific-technological issue. It is contextualized in sustainable development.

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ANNEX I

National Disaster Management Commission

Government of Pakistan has established the National Disaster Management Commission(NDMC) as the highest policy and decision making body for disaster risk management.The NDMC is responsible to ensure coordination in its broadest sense; to oversee the integration of disaster risk management issues into sectoral development plans, and to oversee the implementation of this policy through the NDMA. The Commission consists of:

Prime Minister, who is the chairperson, ex officio;
Leader of the Opposition in the Senate,
Leader of the Opposition in the National Assembly,
Minister for Communications,
Minister for Defence,
Minister for Finance,
Minister for Foreign Affairs,
Minister for Health,
Minister for Interior,
Minister for Social Welfare and Special Education,
Governor NWFP (for FATA),
Chief Ministers of all provinces,
Prime Minister AJ&K,
Chief Executive Northern Areas,
Chairman JCSC or his nominee,
Representative (s) of Civil Society,
Any other person appointed or co-opted by the Chairperson

Chairman of NDMA will be the secretary to the Commission
The National Commission would perform following functions.

Lay down policies on disaster risk management,
Approve the National DRM Framework and Emergency Response Plan,
Arrange for, and oversee, the provision of funds for risk reduction, preparedness and response and recovery measures, and
Provide support to other countries affected by major disasters as may be determined by
the federal government.
Take such other measures for risk reduction, preparedness and capacity building as it may
consider necessary,

In addition, NDMC may constitute an advisory committee or committees of experts in
disaster risk management,
Meetings: NDMC will meet twice a year (before the start of monsoon and winter seasons, during which seasonal hazards may occur), when early warning thresholds indicate need,
and when a disaster strikes.
Source: GOP (2007)

ANNEX II

National Disaster Management Authority

Disaster Risk Management is a multisectoral, multi-discipline and timely response undertaking. National Disaster Management Authority (NDMA) has been established to serve as the focal point and coordinating body to facilitate implementation of disaster risk management strategies. This necessitates NDMA to directly interact/ communicate with all stakeholders, including Ministries, Divisions, and Departments in relaxation to normal communication channel. All ministries , divisions and agencies which are likely to participate in disaster risk management shall procure all relevant items, stock them if necessary and supply them as directed by the NDMA for meeting any calamity or disaster. Being an intricate and time sensitive activity disaster risk management requires to be conducted as a one window operation through the NDMA. For this purpose, to institutionalize the operations, all stake-holders including government departments / agencies and armed forces will work through and form part of NDMA in all stages of Disaster Risk Management. NDMA aims to develop sustainable operational capacity and professional competence to undertake the following tasks:

Coordinate complete spectrum of disaster risk management at national level,
Act as Secretariat of the NDMC to facilitate implementation of DRM strategies,
Map all hazards in the country and conduct risk analyses on a regular basis,
Develop guidelines and standards for national and provincial stakeholders
regarding their role in disaster risk management,
Ensure establishment of DM Authorities and Emergency Operations Centres at provincial, district, and municipal levels in hazard-prone areas,
Provide technical assistance to federal ministries, departments and provincial DM authorities for disaster risk management initiatives,
Ensure appropriate regulations are framed to develop disaster response volunteer teams,
Create requisite environment for participation of media in DRM activities,
Serve as the lead agency for NGOs to ensure their performance matches accepted international standards, e.g the SPHERE standards.
Serve as the lead agency for international cooperation in disaster risk management

This will particularly include, information sharing, early warning, surveillance, joint training, and common standards and protocols required for regional and international cooperation,
Coordinate emergency response of federal government in the event of a national level disaster through the National Emergency Operations Centre (NEOC),
Require any government department or agency to make available such men or resources as are available for the purpose of emergency response, rescue and relief,
Declare a National Disaster Awareness Day (to commemorate 08 October Earthquake) and conduct awareness raising activities at the occasion,
Establish a National Disaster Management Fund.
Source: GOP (2007)

ANNEX III

Provincial (Regional) Disaster Management Authorities

The Provincial/Regional Authority will be headed by a Provincial/Regional Director General with the status and powers of a Secretary. The DG will be appointed by the Provincial government. The Authority will serve as secretariat of the Provincial/Regional Commission. It will work upon development, implementation and monitoring and evaluation of disaster risk management activities in vulnerable areas and sectors in the province. The provincial/regional authority will have responsibilities for the following.

Coordinate complete spectrum of disasters in the province/region,
Formulate provincial/regional disaster risk management plan,
Continuously monitor hazards, risks and vulnerable conditions within the province/region,
Develop guidelines and standards for provincial/regional and local stakeholders regarding their role in disaster risk management,
Ensure preparation of disaster risk management plans by all districts,
Coordinate implementation of provincial disaster risk management plan in accordance with the National Framework,
Promote education, awareness and training on disaster risk reduction and response,
Provide necessary technical assistance and advice to local authorities for carrying out their functions effectively,
Coordinate emergency response in the event of a disaster, through the Provincial/Regional Emergency Operations Centre (PEOC),
Develop specific capabilities to manage threats that exist in the province/region,
Perform such other functions as may be assigned by the Provincial/Regional Commission,

District & Municipal Disaster Management Authorities

District Disaster Management Authorities shall be established by the provincial government in hazard prone areas on a priority basis. The District Authority will comprise of the Nazim, District Coordination Officer (DCO), Police Officer, ex-officio, EDO health and Tehsil Nazims. The local government can nominate other officers as members of the DDMA or MDMA. They may include EDOs for education and agriculture, Red Crescent, NGOs, media, private sector, fire services, or any other local stakeholders. Municipal Disaster Management Authorities (MDMA) will be established in urban areas and cities on similar lines.

The DDMA and MDMA will:

Formulate district disaster risk management plan, based upon local risk assessment,and coordinate its implementation,
Review development plans of government departments and provide guidance on mainstreaming disaster risk reduction measures in these plans,
Continuously monitor hazards, risks and vulnerable conditions within the district, municipality, or cantonment areas,
Prepare guidelines and standards for local stakeholders on disaster risk reduction,
Conduct education, training and public awareness programmes for local officials, stakeholders and communities,
Encourage involvement of community groups in disaster risk reduction and response by providing them necessary financial and technical assistance for implementing community level initiatives,
Examine construction in the area and if hazard safety standards have not been followed, direct the relevant entities to secure compliance of such standards,
Invest in specific capabilities according the requirement to manage all types of threats peculiar to local area,
Undertake appropriate preparedness measures at district level; e.g. maintain an early warning system, identify buildings to be used as evacuation sites, stockpile relief and rescue materials and identify alternative means for emergency communications,
In the event of a disaster, organize emergency response through the District Emergency Operations Centre (DEOC), Maintain linkages with the Provincial Disaster Management Authority and the Relief Department, and Perform such other functions as the Provincial Authority may assign to it

Tehsil and Town Authorities

Institutions at this level are the frontline of disaster risk reduction and response. For many departments this is the lowest level of administration where they interface directly with communities; agriculture, education, health, police, revenue and others. Extension workers of above departments could play a significant role in promoting risk reduction. For example agriculture extension workers could

promote awareness of drought, flood or cyclone resistant crops. Health workers could raise people's awareness about potential diseases that may occur after a flood or drought and how to prepare for them. Education officials could work on school disaster preparedness. Similarly Tehsil Authorities have an important role in organizing emergency response and relief; e.g. damage and loss assessment, and recovery needs assessment. Tehsil and town Nazims will lead the risk reduction and response operations with the help of Tehsil or Town Municipal Officer in consultation with the DDMA. Other key players include; extension workers, police, fire services, community organizations (COs), traditional leaders and NGOs. Appropriate local structures would be established for risk reduction and preparedness.

Union Councils

Union Councils are the lowest tier in the governance structure. Elected representatives from village and ward levels form these bodies. These bodies have an important role in allocation of resources for local development works. Union Councils can play an important role in advocating demands of communities to the District Councils and DM Authorities. Community demands may include requests for allocation of resources from local budgets for hazard mitigation and vulnerability reduction activities; e.g. spurs for flood control, rainwater harvesting structures for drought mitigation, vocational training for livelihoods to reduce vulnerability etc. Therefore, it will be important to develop orientation and knowledge of local political leadership at this level. More capable Union Councils may develop local policies and guidelines for vulnerability reduction.

Community Based Organizations

In order to promote community level disaster risk management activities, the capacity of existing community organizations will be developed and enhanced by district and tehsil authorities. In the absence of community organizations, new groups would be established to work on disaster risk management. CBOs will be trained about local early warning system, evacuation, first aid, search and rescue, fire fighting etc. Linkages would be developed between CBOs and relevant local agencies; e.g. agriculture, banks, health and veterinary services to promote disaster preparedness. Skills and knowledge of CBO leadership will also be developed in financial management, people management, resource mobilization, interpersonal communication and presentation and negotiation skills. The provision of Citizen Community Boards (CCBs) in Local Government Ordinance (LGO 2001) provides a good opportunity to organize communities and mobilize resources for local level disaster risk management.

Source: GOP (2007)