

Views From The Frontline: India



National Alliance for Disaster Risk Reduction (NADRR)
National Coordinating Organization
For Implementing Views From The Frontline Project in India

Preface

The “Views from the Frontline” report is part of the global effort led by Global Network for Disaster Reduction (GNDR) compiled with the aim of carrying out a “reality check” on the status of implementation of the Hyogo Framework for Action, 2005-2015.

The National Alliance for Disaster Risk Reduction (NADRR) is proud to be part of this important initiative. Over the past few months, eight NADRR member organizations carried out extensive surveys at the grassroots interacting with local government officials, community leaders and civil society organizations. The result is more than the sum of their activities as it reinforces several common issues. The report strongly endorses the commonly held view that disaster risk reduction and prevention has still to percolate to the grassroots, and become part of our daily lives. We need to experience a disaster to realize the importance of DRR, or do we? As the findings reflect, there are wide variations that exist with the country between areas that experienced disasters and those that did not!

The NADRR is grateful to all the members of the National Advisory Committee, the Participating organizations, the Swiss Corporation for Development Cooperation for their support, and to Dr. R. Kuberan and Sumeet Agarwal, SEEDS for their painstaking efforts in putting together the results of the survey and in the preparation of this report. We are also grateful to Swayam Shikshan Prayog, CCD and ROSE Tamil Nadu for conducting the survey from women’s perspective for Huairou Commission, a summary of which is also included in this report. This is the first time this kind of effort was taken up in the country. The survey was carried in thirteen districts spread across the country. In future, we do hope it becomes a bi-annual effort and gradually enhances its resolution and results with greater participation from civil society organizations in the country.

The NADRR Core Group

10 April 2009

Executive Summary

National Alliance for Disaster Risk Reduction (NADRR) was given the responsibility of the National Coordinating Organization for implementing Views From The Frontline Project in India. Sustainable Environment and Ecological Development Society (SEEDS), on behalf of NADRR, coordinated the implementation of the View From The Frontline Project in India and prepared this report. Guided by an eleven-member National Advisory Committee, 10 civil society organisations were identified for administering the questionnaires to government officials, voluntary organisations and community representatives to assess the implementation of Hyogo Framework for Action 2005-2015.

Country Vulnerability Profile: India has been traditionally vulnerable to disasters due to its unique geo climatic conditions. Floods, droughts, earthquakes and cyclones have been recurrent phenomena in the country. About 60% of the landmass is prone to earthquakes of various intensities, about 40 million hectares is prone to floods, about 8 % of the total area is prone to cyclones and 68% of the area is susceptible to drought. The vulnerability of the region has made it imperative for the country to have a disaster management strategy. It is in this context that the objectives of HFA assume significance for the country. The super cyclone of Orissa, 1999, the Bhuj earthquake, 2001, and the Indian Ocean Tsunami, 2004 underscored the need for an effective strategy to cope with disaster impacts and instruments like the HFA provided guidelines for framing of the strategy. Realizing the need for the strategy, government brought about a paradigm shift in its approach to Disaster Management. The new approach stemmed from the conviction that development cannot be sustainable unless disaster mitigation measures are built into it.

DRR Status in India: The Government of India carried out a review of the disaster management mechanism after the Bhuj earthquake. It was noted that there was need for building up holistic capabilities for disaster management – so as to be able to handle both natural and man-made disasters. Accordingly, in 2002, the subject of Disaster Management was transferred from the Ministry of Agriculture to the Ministry of Home Affairs (excluding drought and epidemics and those emergencies/disasters which were specifically allotted to other Ministries) after amending the necessary rules. Though DRR initiatives in the country have begun, they are still in the nascent stage in many parts of the country. These initiatives were taken up mainly after major disasters in the country, which led to huge losses in life and property. India, along with 167 other countries, also signed the Hyogo Framework for Action and thus committed itself to its goals for the decade ending in 2015. The Indian Parliament passed a Disaster Management Act in 2005, paving the way for institutionalising disaster management and mainstreaming disaster risk reduction in development. The Disaster Management Act provided for establishing the National Disaster Management Authority at the national level and State Disaster Management Authority in each state. United Nations Development Programme (UNDP) supported Disaster Risk Management Program implemented by the Government of India in most of the multi-hazard prone districts in 17 states from 2002 to 2008 gave an impetus to the disaster management initiatives in the country. A large number of civil society led initiatives on community based disaster risk reduction have also been implemented in the last decade. Allocations for disaster management have been made in the tenth Five Year Plan (2002-07).

Survey Findings: Surveys under Views from the Frontline Project, conducted in 13 locations covering selected parts of the country shows that the government of India has taken earnest interest in implementing the Hyogo Framework for Action. The survey highlighted the achievements and shortcomings, amongst all stakeholder groups, in the process of implementation of HFA objectives.

Local Government: Local government initiatives on DRR were found to be at an initial stage with limited capacities for implementation. Though the approach of governments to DRR is mainly

response oriented, a distinct difference is seen in states that have experienced major disasters. Experience of disasters has resulted in establishment of dedicated institutions, appropriate legislations and better preparedness initiatives. These states were also found to be performing better in terms of early warning and risk assessment systems. Despite the commencement of DRR initiatives, availability of information to communities and civil society continues to be a major issue. Greater efforts and initiatives are required from governments to improve and develop information sources. However, inclusion of information on disasters in the educational system has been an achievement of the government. Greater efforts by local government are also required to remove underlying risks. Weak enforcement mechanisms and lack of regular risk assessments are largely responsible for this situation. Preparedness measures of the government have also been ineffective due to lack of community involvement and inability to reduce underlying risks.

Civil Society Organisations: A number of civil society organizations are working on DRR in the country. Limitations of technical knowledge and financial resources were found to be the main barriers for greater involvement of these organizations. Such organizations were found to be more active and existed in greater numbers in disaster experienced states, because they took up DRR initiatives as a continuation of their post disaster recovery activities. . The influence of these organizations was also found to be restricted to limited areas due to limitations of finance and manpower. However, they were found to have better penetration at community level due to their access to the remotest communities. Though the organizations have played a significant role in awareness generation and capacity building of communities and relief distribution, they have not succeeded in sustaining the developed capacities or in installing early warning systems in the community. An admirable initiative of the civil society organizations has been to address climate change adaptation issues, whereas government interventions in this field have been slow.

Community: Local government and civil society initiatives have not had a significant impact on the community due to factors like poverty, inaccessibility, limited awareness, lack of government-civil society partnerships, rapid urbanization and social barriers. Dependence on governments and lack of sensitivity to risk reduction concerns was found to be a major barrier to development of preparedness, response and recovery capacities in the community. Though formal early warning systems are lacking, spread of mobile communication network has had the unintended impact of providing a communication tool for early warning. Sources to obtain information and enhancement of knowledge of the communities were found to be virtually non-existent leading to a dilution of impact of initiatives taken by other stakeholders. However, educational initiatives of the government did have an impact on the younger members of the community. Limited capacities to reduce underlying risks were found in the community due to lack of requisite skills and low perception of issues like climate change. However, rural communities were found to have stronger social bonds ensuring better care for the most vulnerable groups. A major area of concern was found to be lack of significant community involvement in making of development decisions. Limited involvement of women, for various reasons, is also a cause for concern.

The abovementioned observations of the study have focused on the need for enhanced efforts of the stakeholders for improved achievements on HFA implementation in the country. The following aspects need to be addressed: (a) Capacity building of stakeholders, (b) Consideration for local needs in DRR implementation, (c) Strengthening of IEC initiatives, (d) Change in emphasis from response to preparedness, (e) Linking of risk reduction and development policies, (f) Strengthening food security, (g) Incorporating traditional knowledge into DRR practice, (h) Facilitating inclusion of socially marginalized and other vulnerable groups, (i) Reorienting conventional approaches, and (j) Ensuring uniform coverage of DRR programs.

Conclusions and Way Forward:

Ten battalions of National Disaster Response Force (NDRF) have been formed and kept at different locations of India based on the vulnerability profile to cut down the response time for their deployment. Each battalion provides 18 self-contained specialist search and rescue teams of 45 personnel each, including engineers, technicians, electricians, dog squads, medical and paramedics. NDMA has been developing guidelines for mitigation and preparedness measures in respect of various hazards.

Implementation of HFA in India is widely varied across the country. Sampling survey has been carried out in 13 districts in the country (total number of districts - 626). Due to limitations of the survey methodology and due to limitation of time and resources available, it had been difficult to make accurate assessment of the status of HFA implementation in the country. However, based on the survey findings as well as the knowledge gathered from secondary information, it is felt that the following issues need to be pursued for enhanced implementation of HFA in India.

- **HFA implementation should be consciously done at local level.** The government has set up an elaborate institutional framework for disaster risk management at National Level. At sub-national level, many state governments have also established a corresponding institutional framework. Disaster Management Plans at various levels have been prepared. However, institutionalization at local level is still response oriented. DRR interventions at local level are limited. There is a need to implement HFA at the local level. Vulnerability assessment, capacity building, developing disaster management plan, etc., should be made with a focus on local conditions.
- **Efforts are needed to ensure greater community participation.** The government efforts have been effective in making more people aware of disasters. Community involvement in DRR is found to vary across the country. For people in many vulnerable regions of the country, meeting the day-to-day necessities has overriding priority often at the cost of ignoring underlying risk factors. The communities that have experienced disasters recently do exhibit keen interest in disaster preparedness activities. In this context, transmission of knowledge on DRR for fulfilling the grassroots needs requires urgent attention.
- **Ensure last mile connectivity for early warning communication.** Technologies for early warning have been set up in the country. In some coastal villages, when the communication system for early warning failed, local Civil Society Organisations had performed the task of carrying the warning communication to the vulnerable communities. Appropriate systems self-managed by local communities and using technology and manpower should be developed in order to ensure the last mile connectivity.
- **Tacit knowledge of the communities should be tapped while planning out DRR interventions.** Communities have traditional knowledge and capacities for coping with disasters. Any DRR intervention planned should first assess existing capacities and build on them. Existing community capacities should be strengthened and further developed to make them resilient in order to prepare for and respond to disasters.
- **Socially and geographically excluded communities should be integrated into the development process for comprehensive risk reduction.** It is seen that some communities are excluded from receiving the benefit of development. The exclusion may be due to caste or other social factors. Communities located in remote areas are deprived of even the normal development activities that benefit other parts of the country.
- **Mechanisms should be developed for increased involvement of women in DRR.** Gender issues have been neglected in DRR activities. Specific issues should be identified and addressed. Many lives of women have been lost since they did not want to be rescued from water by men. In such a social setting, there is a need to have women master trainers for search and rescue operations. Many women task forces need to be trained in communities

who can perform rescue operations. Village committees involved in DRR should include representation of women.

- **Partnership between government and civil society should be enhanced.** Civil Society Organisations play an effective role in reaching the communities and building awareness and capacities. Governments need to make use of this opportunity effectively.
- **Development initiatives and risk reduction should be linked.** Risk reduction considerations are often found to be ignored by some governments while taking up development projects. Occasionally safety standards were also found to have been relaxed for commercial considerations. Hence capacities of key government personnel, entrusted with the responsibility of implementing major development projects, should be built to help them integrate DRR with development. Such integration should be made mandatory by governments.
- **Resource allocations need to be increased in order to integrate DRR into government policies and practices.** Adequate financial and manpower resources should be allocated for the implementation of DRR policies and practices in all relevant sectors of local administration; with proper monitoring. Corporate funding possibilities can also be explored.
- **A database of local risk information needs to be built at sub national levels.** At sub national levels a database needs to be developed to collate local level risk maps.

Acknowledgements

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Participating Organizations

*Gorakhpur Environmental Action Group (GEAG),
Udyama,
Kanchan Seva Ashram,
Covenant Centre for Development (CCD),
Development of Humane Action (DHAN) Foundation,
ROSE,
Saritsa Foundation,
Swayam Shikshan Prayog
Saurashtra Voluntary Actions, and
Sustainable Environment and Ecological Development Society (SEEDS)*

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Acronyms

BMTPC	Building Materials & Technology Promotion Council
CCD	Covenant Centre for Development
CSO	Civil Society Organization
DHAN	Development of Humane Action
DMP	Disaster Management Plan
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
GEAG	Gorakhpur Environmental Action Group
GoI	Government of India
GSDMA	Gujarat State Disaster Management Authority
HFA	Hyogo Framework for Action 2005-2015
ISDR	International Strategy for Disaster Reduction
MIC	Methyl Isocyanate
MSK	Medvedev-Sponheuer-Karnik Seismic Intensity Scale
NADRR	National Alliance for Disaster Risk Reduction
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
OSDMA	Orissa State Disaster Mitigation Authority
PRI	Panchayat Raj Institution
SARISTA	Security Awareness and Readiness by Information Training and Social Awakening
SEEDS	Sustainable Environment and Ecological Development Society
SSP	Swayam Shikshan Prayog
UN	United Nations
UNDP	United Nations Development Programme

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Introduction

Hyogo Framework for Action

The Hyogo Framework for Action was adopted by 168 member states of United Nations in January 2005. It aims to achieve a substantial reduction in disaster losses by 2015. The HFA five priorities for action are as under:

1. Ensure that Disaster Risk Reduction is a national and local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

Views from the frontline

'Views from the frontline' is an action-research project undertaken by civil society stakeholders with government bodies. It aims to measure progress towards HFA across developing countries and regions. Analysis of the data from the project will focus attention on key challenges and issues, which impact on the effective implementation of HFA. These findings will guide the second session of Global Platform for Disaster Risk Reduction 2009 in framing the UN- ISDR system priorities. The main goal of views from the frontline project is to support the effective implementation of HFA to build the resilience of vulnerable people and communities at risk of disasters.

The project has two main elements, Research and Learning. The Research element focuses on the assessment of local government officials, civil society organizations and community representatives on the implementation of the five HFA objectives. The Learning element aims to use research findings to develop a consensus on policy positions and frame recommendations to take forward at National, Regional and International levels. Specific outcomes expected from the project are as under:

1. Improved understanding of the level of disaster resilience at the local level in participating countries and regions.
2. Improved dialogue between public, civil society and community stakeholders responsible for disaster risk reduction.
3. Improved understanding on progress towards implementation of HFA within governmental and civil society bodies.
4. Increased research, analytical and advocacy capabilities among project participants.

Implementation of Views From The Frontline Project in India

To implement views from the frontline project in India, the National Alliance for Disaster Risk Reduction (NADRR) was given the responsibility of the National Coordinating Organization. Sustainable Environment and Ecological Development Society (SEEDS), currently serving as the national Secretariat for NADRR, coordinated the implementation of the View From The Frontline Project in India. A National Advisory Committee guided the National Coordinating Organisation. A number of Civil Society Organisations were identified as Participating Organisations for administering the questionnaires to government officials, voluntary organisations and community representatives to assess the implementation of Hyogo Framework for Action 2005-2015. These Participating Organisations held community consultations to share the findings of the survey and consolidating the views of assessment and discuss the ways to improve the future implementation of HFA.

National Advisory Committee

A National Advisory Committee, Consisting of representatives from civil society organizations, government, academics and media, has also been constituted. The members of National Advisory Committee are listed in the following Table.

Table 1. National Advisory Committee

S. No.	Name of Organization/ member	
1.	Shiraz Wajih, GEAG	Civil Society
2.	Harjeet Singh, Action Aid	Civil Society
3.	Prema Gopalan, SSP	Civil Society
4.	Nisheeth Kumar, Knowledge Links	Civil Society
5.	Manu Gupta, SEEDS	Civil Society
6.	Suranjana Gupta, GROOTS International	Civil Society
7.	G. Padmanabhan, UNDP	International Organisation
8.	M.P. Sajnani, Director (Retd.), Ministry of Home Affairs.	Government
9.	R. K. Sood, Jt. Member Secretary, Department of Science and Technology, Himachal Pradesh	Government
10.	Prof. R. R. Krishnamurthy, Madras University	Academic
11.	Prof. V. K. Sharma, Indian Institute of Public Administration	Academic
12.	Sajan Venniyoor, Independent Media Consultant	Media

Overview of Disaster Risk Reduction in India

Country Risk Profile

India has been traditionally vulnerable to disasters due to its unique geo climatic conditions. Floods, droughts, earthquakes and cyclones have been recurrent phenomena in the country. About 60% of the landmass is prone to earthquakes of various intensities, about 40 million hectares is prone to floods, about 8% of the total area is prone to cyclones and 68% of the area is susceptible to drought. The vulnerability of the country has made it imperative for the country to have a disaster management strategy. It is in this context that the objectives of HFA assume significance for the country.

Some of the major disasters which hit India during the last 15 years include cyclone in Andhra Pradesh in May, 1990 (962 lives lost) and December, 1996 (971 lives lost), Uttarkashi earthquake in October, 1991 (about 2000 lives lost), Latur earthquake in September 1993 (9475 lives lost), Cyclone in Gujarat in June, 1998 (3500 lives lost), Orissa super cyclone in October, 1999 (over 10000 lives lost), Bhuj earthquake in January, 2001 (over 13,800 lives lost), Tsunami in December, 2004 in five states/ union territories (over 12000 lives lost) and Jammu and Kashmir earthquake in October, 2005 (over 1200 lives lost). Besides, Floods in North Bihar and Assam are almost an annual feature. Droughts in Rajasthan are recurrent phenomena. In addition, there are several instances of landslides, heat and cold waves, pest attacks, flash floods and fire incidents.

DRR Initiatives in India

The super cyclone of Orissa, 1999, the Bhuj earthquake, 2001, and the Indian Ocean Tsunami, 2004 underscored the need for an effective strategy to cope with disaster impacts and instruments like the HFA provided guidelines for framing of the strategy. Realizing the need for the strategy, government brought about a paradigm shift in its approach to Disaster Management. The new approach

stemmed from the conviction that development cannot be sustainable unless disaster mitigation measures are built into it.

In relative terms, DRR initiatives in the country have begun fairly recently and are still in the nascent stage in many parts of the country. These initiatives were taken up mainly after major disasters in the country, which led to huge losses in life and property. The experience of these disasters made it imperative for the government to adopt DRR initiatives in the country. India, along with 167 other countries, also signed the Hyogo Framework for Action and thus committed itself to Disaster Risk Reduction in the Country by the decade ending in 2015. The UNDP Disaster Risk Management Program, which was implemented in the country from 2002 to 2008, gave an impetus to the disaster management initiatives in the country.

Institutional Mechanism

With the objective of ensuring sustainable development, government of India decided to adopt a strategy of creating awareness and a deeper understanding of disaster risk reduction and management as one of the strategies for economic development. One of the major components of this strategy was to have an institutional mechanism to promote training and education on disaster management, backed by research efforts and dissemination of knowledge, experience and expertise about the management of natural disasters. For the purpose a National Centre for Disaster Management was established in the Indian Institute of Public Administration in 1995. The Administrative Training Institutes and State Institutes of Rural Development were also extended financial support to create Disaster Management Cells for carrying out training programs at the state level. In 1999 the government constituted a high-powered committee to review existing arrangements on disaster management and make recommendations for strengthening the same. The committee made various recommendations for strengthening of organizational setup at all levels, capacity building of key personnel and setting up of a National Institute of Disaster Management. After two major disasters in the country, cyclone in Orissa in 1999 and Earthquake in Gujarat in 2001, Disaster Management Authorities were created in Orissa and Gujarat. After the occurrence of Indian Ocean Tsunami in 2004, the government of India decided to enact a central legislation covering all aspects of disaster management – mitigation, preparedness, response, relief, rehabilitation and reconstruction – and constitute disaster management authorities at national, state and district levels. With this background the Disaster Management Act was enacted in 2005. The Act laid down the roles and responsibilities of government departments at various levels in times of disasters. The Act made provisions for establishment of National Disaster Management Authority, National Disaster Response Force and National Disaster Response and Mitigation Fund.

The Government of India carried out a review of the disaster management mechanism after the Bhuj earthquake. It was noted that there was need for building up holistic capabilities for disaster management – so as to be able to handle both natural and man-made disasters. It was accordingly decided that the subject of Disaster Management be transferred from the Ministry of Agriculture to the Ministry of Home Affairs (excluding drought and epidemics and those emergencies/disasters which were specifically allotted to other Ministries). The Government (Allocation of Business) Rules 1961 were accordingly amended in February 2002 and the actual transfer of work took place in June 2002.

Survey Results

The following study areas were selected within India for conducting the survey. These study areas cover the entire country. They cover a variety of vulnerable communities. Brief profile of the study areas, survey findings and recommendations emerged from community consultations have been presented here.

Table 2. Study Areas and Participating Organisations

S. No.	Study Area	Participating Organization
1.	Shimla District, Himachal Pradesh State, India	Sustainable Environment and Ecological Development Society (SEEDS)
2.	Gorakhpur District, Uttar Pradesh State, India	Gorakhpur Environmental Action Group (GEAG)
3.	Orissa State, India	UDYAMA
4.	Darbhanga District, Bihar State, India	Kanchan Seva Ashram
5.	Nagapattinam District, Tamil Nadu State, India	Covenant Centre for Development (CCD)
6.	Cuddalore District, Tamil Nadu State, India.	Development of Humane Action (DHAN) Foundation
7.	Mumbai District, Maharashtra State, India	Saritsa Foundation
8.	Ratnagiri District, Maharashtra State, India	Saritsa Foundation
9.	Bhopal District, Madhya Pradesh State, India.	Saritsa Foundation.
10.	Ujjain District, Madhya Pradesh State, India	Saritsa Foundation
11.	Guwahati District, Assam State, India.	Saritsa Foundation
12.	Meghalaya State, India	Saritsa Foundation
13	Jamnagar District, Gujarat State, India	Saurashtra Voluntary Actions



Figure 1. Study Areas

Study Area 1: Shimla District, Himachal Pradesh State, India

Risk Profile: Shimla, one of the hill stations of Northern India, enjoys the status of being the capital city of the state of Himachal Pradesh and an important tourist destination of India. The topography, climate and continuous shifting of the Indian Plate have made it highly vulnerable to natural disasters. As per the vulnerability atlas of India the entire state of Himachal Pradesh is highly vulnerable to earthquakes as it lies in seismic zone IV and V. Shimla is located in zone IV and has witnessed a major earthquake in 1904 measuring 7.8 on the Richter scale. In addition to the natural vulnerability due to earthquake hazard, various anthropogenic activities have compounded on the already existing vulnerabilities in the region. Over the years the city has undergone rapid urbanization and population growth leading to unsafe constructions. The narrow width of the streets and absence of earthquake resistant features raises concerns about the safety of the residents. In addition to earthquakes the city is also vulnerable to various other natural disasters such as landslides, avalanches, flash floods, forest fires, etc.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 3. Study Area 1: Shimla District, Himachal Pradesh State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	1.7	2.4	2.4
2. Risk Assessment, Monitoring and Warning	1.5	2.2	2.5
3. Knowledge and Education	2.2	2.3	1.8
4. Underlying Risk Factors	1.8	2.2	2.5
5. Disaster Preparedness and Response	2.2	2.5	1.6
6. Cross cutting issues	1.7	2.8	2.8

All stakeholders have scored below 3 for all components indicating that very limited DRR activities are being carried out. The local government has scored the lowest for most of the components. Through the survey it was found that the government efforts at implementing DRR measures in the state have been inadequate. The DRR activities in the state have been few and far between although the risk in the state has been rising due to factors such as rapid urbanization and impacts of climate change. The population of the city is 142,161, which is spread over an area of 19.55 sq. km. The high population density coupled with haphazard growth precipitated by rapid urbanization has raised the level of risk in the city substantially. Majority of the Civil Society Organisations have not included DRR in their area of work. The organisations interviewed also lacked the technical expertise and financial resources for doing DRR activities. However, some of the CSOs were found to be involved in relief distribution.

At the community level, it was found that DRR is not a priority. Though the community has some awareness of hazards and risks, it is not considered important enough to make provisions for the same. Detailed information on risk reduction is also lacking at the community level. The risk has been further exacerbated due to the absence of major risk reduction initiatives by the local governments, civil society organizations and the community.

Recommendations: During the local community consultation, the following recommendations emerged:

- Mapping of risks in the state.

- Setting up of information centres throughout the state for information on disasters and disaster resistant construction.
- Training of building professionals on disaster resistant construction practices.
- Sustained awareness campaigns.
- Change in approach from relief oriented to preparedness oriented through legislative and institutional measures.
- Better enforcement of disaster resistant codes.
- Restructuring of school syllabus to include comprehensive information on disaster management.
- Introduction of a mechanism for sharing of information between various stakeholders.
- Strengthening of lifeline buildings.
- Assessment of climate change impacts and measures to mitigate the same.
- Incorporation of risk reduction considerations into land use and development practices.

Study Area 2: Gorakhpur District, Uttar Pradesh State, India

Risk Profile: Gorakhpur is located in the Northern Indian state of Uttar Pradesh. Uttar Pradesh is the most populous state in India with a population of 176 million. Population density in the state is 473 persons per square kilometre, which is higher than the national density of 274 persons per square kilometre. It is also one of the most economically and socially backward states in India. On every index of social development Uttar Pradesh ranks among the lowest in India; the situation is compounded by the fact that figures for females are much lower than for males on every parameter. Gorakhpur is located in the Eastern part of the state and forms one of its 23 districts. 85% of the population in the state depends on Agriculture as a source of livelihood. The entire region is crisscrossed by embankments and drainage structures. The entire area is prone to flooding from rivers. Rapti, Saryu, Ghagra, Gandak, Rohini and Budhi Ganga Rivers cross the area. As per the Vulnerability Atlas of India developed by the Building Materials & Technology Promotion Council (BMTPC) the area is vulnerable to earthquakes, floods and windstorms. Since the area lies in seismic zone IV it faces the threat of high intensity earthquakes with a potential to cause major loss of life and property in the densely populated areas of the city. Floods are almost an annual phenomenon and result in loss of lives and crops. The area witnessed major floods as recently as 2008, which affected 2.5 million people.

This is one of the districts in which Government of India-UNDP Disaster Risk Management Programme has been implemented.

Survey Findings: The survey was carried out in urban and rural areas of Gorakhpur. The following table summarises the findings.

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	2.9	2.17	2.2
2. Risk Assessment, Monitoring and Warning	2.4	2.33	2.1
3. Knowledge and Education	2.5	2.6	2.2
4. Underlying Risk Factors	2.8	2.43	2.3
5. Disaster Preparedness and Response	2.72	2.4	2.35
6. Cross cutting issues	2.79	2.5	2.4

The overall scores for all stakeholders are seen to be below 3 indicating that there has been very limited activity for disaster risk reduction in the area, which is surprising since GOI-DRM program (2002-2008) was implemented in this area. The program ended in 2008. However, local government respondents have scored the highest indicating that some attempts have been made by the government for risk reduction. The government has been engaged in construction of embankments in the flood prone areas of the district. In some areas, it has also helped to relocate the village communities from vulnerable areas. However, government's DRR initiatives are sporadic and primarily geared towards response rather than preparedness. The initiatives have also not been well received in the community since it is felt that the initiatives have exacerbated the problem.

The involvement of civil society organizations has been limited due to lack of technical expertise and financial resources to take up DRR. Though civil society – government partnerships have been formed in the past, they have not succeeded in establishing a long-term working relationship. Such partnerships were formed for specific projects and were dissolved thereafter. As a result there is no convergence between the government's efforts and that of the civil society. However, local civil society organisations have made notable contributions in raising disaster awareness and in securing livelihoods of rural population through innovative farming techniques. Civil Society Organisations are also helping the community in adapting to climate change whereas government efforts in this are lacking.

Community initiatives have been limited on all fronts. Limited community initiatives indicate that local government and civil society initiatives have not had the desired impact on the community. One of the reasons for low impact of the initiatives could be that efforts at government and civil society are concentrated primarily on relief rather than preparedness. The emphasis of the community also seemed to be towards protecting livelihoods.

Recommendations: During the local community consultation, the following recommendations emerged:

- The local government needs to change its approach from relief oriented to preparedness oriented.
- Greater involvement of community and civil society organizations is required in development decisions.
- A system of developing partnerships with civil society organizations is to be developed.
- Awareness initiatives are required.
- Impact of development activities on the communities needs to be assessed and corrective measures need to be taken.
- Communities need to be trained to prepare for and respond to disasters.
- Underlying risk factors in communities need to be identified and community should be provided assistance in reducing these.
- There is a need for better planning of recovery programs to reduce the risk from future disasters.

Study Area 3: Orissa State, India

Risk Profile: The State of Orissa is located on the eastern coast of India. The state occupies a total area of 155,707 square kilometres and is bound on the east by 450 km long coastline of the Bay of Bengal. Orissa is the hub of disasters recurrently victimized by climate chaos (floods, droughts, flash flood, cyclone, heat wave, high risk zone for earth quake, lightning, communal riot, extremist and conflict,) causing people more vulnerable and pushing state development more backward. Magnitude of fear deprivation, powerlessness, poverty, hunger, trafficking, feticides, distress migration and distress sale followed by social exclusion has widened the development gap many fold, despite rich resource base. The disaster history of the past 100 years shows the state experienced floods 55 times, drought 39 times and cyclone 11 times. Most parts of the state are vulnerable to natural disaster. Every year people experience at least one disaster. During some years more than

one disaster were also experienced by the state. This state is the most disaster prone state in the country. The state formed Orissa State Disaster Mitigation Authority (OSDMA) in December 1999, just after the Super Cyclone.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 5. Study Area 3: Orissa State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	2.4	2.79	2.11
2. Risk Assessment, Monitoring and Warning	2.19	2.86	1.91
3. Knowledge and Education	2.06	2.76	2.27
4. Underlying Risk Factors	2.35	2.74	1.86
5. Disaster Preparedness and Response	2.39	2.87	1.83
6. Cross cutting issues	2.15	3.46	2.36

It is noticed from the analysis of overall scores mentioned above that civil society has scored highest on all priorities for action. There are a number of civil society organizations in the state working on DRR. However, due to limitations of resources the impact on the community is low. However, despite having scored highest, civil society has scored less than 3 indicating that their activities are limited.

Despite the vulnerability of the state to multiple hazards, initiatives of the local government are seen to be limited. Although the Government of India – UNDP DRM program was implemented in the state since 2002, preparedness and response capacities of the communities is limited due to lack of follow-up by the government on the capacities imparted to the communities. The state has set up state level disaster mitigation authority, but the authority has implemented limited risk reduction programs at the community level.

The community has scored lowest amongst all three respondents. It has scored less than 2 for some of the priorities for action indicating low level of preparedness to respond to disasters. Since the initiatives, to prepare or educate the community about disasters, are limited the community has become highly vulnerable to prevalent hazards. Poor infrastructure and high poverty levels has also been a barrier to capacity building.

Recommendations: During the local community consultation, the following recommendations emerged:

- Approach of the government should change from response oriented to preparedness oriented.
- The gaps between policy and implementation should be removed.
- Climate change impacts on communities need to be taken into account while planning DRR initiatives in the state.
- Greater involvement of rural communities and village level officials (PRI members) is required for implementing HFA objectives.
- Indigenous knowledge of communities and their coping capacities need to be taken into account while planning out DRR initiatives.
- Vulnerability of private and public assets needs to be factored into DRR planning.

Study Area 4: Darbhanga District, Bihar State, India

Risk Profile: Darbhanga District of Bihar State in Eastern India is highly vulnerable to floods. Darbhanga District has a total geographical area of 2279 sq. km. and population of 3,295,789 according to 2001 census. Major rivers that flow through the district are Kamala, Bagmati-1 & Bagmati-2, Kareh, Adhwara Samuh (It is a combination of 6 rivulets, which have small embankments), Koshi & Jiwachh. During monsoon these rivers swell rapidly either by rain in the region or rain in the bordering areas of Nepal. Further, the situation deteriorates when water from Nepal Barrage is released for the safety of the dam; then being a low lying area, Darbhanga District in all the 18 blocks partially or fully gets flooded. The flood often brings havoc as well as boon to the people because it carries a lot of fertile soil and deposits onto the agrarian fields, almost doubling the crop yield in the next season.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 6. Study Area 4: Darbhanga District, Bihar State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	3.5	2.87	2.42
2. Risk Assessment, Monitoring and Warning	3.5	3.23	2.34
3. Knowledge and Education	3.05	2.73	2.50
4. Underlying Risk Factors	3.36	3.36	2.56
5. Disaster Preparedness and Response	3.39	3.25	2.31
6. Cross cutting issues	3.20	3.55	2.85

Local government has scored highest on all factors except cross cutting issues according to the results of the survey. Traditional government efforts have been to construct embankments in flood prone areas and distribution of relief to flood victims. These efforts have proved to be inadequate due to increased intensity of floods and increase in population living in vulnerable areas. The embankments have also created additional problems such as delays in draining the floodwaters. Government efforts to secure livelihoods have also had limited impact on the community. The government initiative of distributing flood resistant seeds has also been rejected by the community due to low quality of the yield. Thus the government efforts have been largely response oriented. The government respondents also informed that they do relief distribution regularly after disasters. The above information indicates that the approach of the local government is directed towards response measures. Efforts for preparedness, early warning and information dissemination were found to be limited.

Although civil society organizations have scored more than 3 in the survey, most organizations were found to be involved mainly in relief distribution. A majority of civil society organizations did not have knowledge of DRR issues. Due to the ignorance of DRR issues the organizations were found to be mixing up preparedness and response measures. Thus the high scores obtained by the civil society organizations only indicate that the civil society organizations have been proactive in providing relief and information in the aftermath of disasters.

The community has scored less than 3 on all factors indicating that there has been very limited action at community level to address risk reduction issues. High levels of poverty, strong social barriers and lack of initiatives by government and civil society have left the community vulnerable.

Recommendations: During the local community consultation, the following recommendations emerged:

- The local government needs to incorporate considerations to help reduce future risks in its development policies.
- Capacity building of communities up to the village level needs to be given due priority.
- Physical vulnerabilities of the communities need to be addressed.
- Food security needs to be strengthened.
- Alternative livelihood strategies need to be devised to compensate for loss of livelihoods during disasters.
- Partnerships between local government and civil society organizations are to be developed for implementation of risk reduction measures.

Study Area 5: Nagapattinam District, Tamil Nadu State, India

Risk Profile: Nagapattinam is a coastal District located in the eastern coast of India on the shores of Bay of Bengal covering an area of 2715.83 Sq. km. It stretches to 120 km along the Bay of Bengal. The total population of the district is 14,88,839, including 7,39,064 males and 7,49,765 females. The climate of Nagapattinam is tropical in nature. The summer season starts in the end of March and remains till the advent of monsoons in early June. The average maximum temperature during the summers remains around 35°C. The relative humidity of Nagapattinam hovers around 60 to 65%. The rainy season starts with the pre-monsoon showers in May last. Southwest and Northeast monsoons arrive in June. It rains very heavily during monsoons. The average annual rainfall is around 1000 millimeters. The city of Nagapattinam experiences a number of cyclones and counter cyclones during the monsoon. The winters are relatively very pleasant when average minimum temperature remains around 20°C. The season also witnesses some minor Tsunamis. A major one hit Nagapattinam on 26 December 2004 at 09.12 a.m. In Nagapattinam, Akkaraipeetai is the worst affected area and then Kallaar and Keechankuppam and other areas. The people did not expect first tidal wave and they didn't realize that tsunami struck the areas. Before they stabilized, in another 45 minutes gap, the second wave struck again and damaged the human lives, boats, houses and belongings.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 7. Study Area 5: Nagapattinam District, Tamil Nadu State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	2.8	2.9	1.77
2. Risk Assessment, Monitoring and Warning	3.07	3.1	2.97
3. Knowledge and Education	3.08	3.1	1.82
4. Underlying Risk Factors	3.04	3.7	2.24
5. Disaster Preparedness and Response	2.92	3.4	1.93
6. Cross cutting issues	3.18	3.72	2.54

The overall scores of the local government bodies (maximum score being 3.08 and minimum being 2.8) are very similar to those of the civil society organization (maximum score being 3.7 and minimum score being 2.9), while the scores varied greatly for the community representatives. A comparison of scores within the five priorities of action reveals that Governance as a priority of action has scored the least at all three levels. This suggests that there have been some disaster risk

reduction activities but with significant scope for improvements both at the local government and CSO level and their reach to the community has been extremely limited.

Recommendations: During the local community consultation, the following recommendations emerged:

- The government needs to change its focus from post disaster response to preparation and mitigation
- There is a need to change one's approach from need based to right based.
- Local coping mechanism and knowledge should be taken into consideration while formulating the contingency plans
- Information dissemination techniques need to be strengthened
- Panchayats (local self governments) should be given a bigger role to play in the disaster mitigation and management process
- After a disaster the government should not only assess the impact of the disaster on human beings but the impact on the animals and specifically the cattle as well, since they form an important part of the property
- Many a time media has exaggerated or misreported information causing panic among the people and leading to media-made disasters. Hence more stringent rules and guidelines are needed that would define a media's role during disasters, leading to better and improved information dissemination.

Study Area 6: Cuddalore District, Tamil Nadu State, India

Risk Profile: Cuddalore is a coastal District of Tamil Nadu State located on the eastern coast, having coastal length of about 59.5 km and is highly prone to floods and cyclones. Whenever there is a depression, cyclonic formation occurs in Bay of Bengal and it has its effect in Cuddalore District, which may range from light rains in the coastal area to wide spread heavy rains and flood throughout the district and devastating effect of major cyclonic storm. Cuddalore District has the land slope from west to east and from north to south. Since the district is situated at the seacoast, it drains rainwater not only of rainfall in the district alone but also from the catchments of the rivers. Relatively mild land slopes make the drainage difficult. Low lying areas and coastal areas have floods during the period of heavy rains particularly during the North East monsoon period. There are seven major rivers and five reservoirs in the district. Heavy rains during the months of October, November and December inundate low-lying areas, coastal areas and the areas near major irrigation sources. Cyclones are also part of the North East monsoon season. Due to floods, sudden outbreak of several water borne diseases is also experienced. This is one of the districts in which Government of India-UNDP Disaster Risk Management Programme has been implemented.

Survey Findings: Views from the Frontline survey in Cuddalore District is summarised as follows:

Table 8. Study Area 6: Cuddalore District, Tamil Nadu State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	.29	.52	.66
2. Risk Assessment, Monitoring and Warning	.66	.50	.60
3. Knowledge and Education	.15	.00	.42
4. Underlying Risk Factors	.33	.13	.98
5. Disaster Preparedness and Response	.01	.25	.87

6. Cross cutting issues	.11	.92	.42
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The local government respondents have scored high on all factors under consideration. The scores of local government respondents for all factors are more than 3 indicating that government has taken action on DRR issues, but there is further scope for improvement. The efforts of the local government have helped to cut down loss of lives. This was evident from the fact that there was no loss of lives in the aftermath of cyclone Nisha that affected the Indian coast in 2008. The government has also carried out a number of training and awareness programs in the area, which has helped to sensitise the community on DRR issues. The local government has also included DRR considerations in its development programs. Food security has also been ramped up by the local government through storage and efficient public distribution system.

The civil society has also scored high on all the factors. In case of governance they have scored higher than the government, indicating strong capacities to take up DRR initiatives. The civil society organizations in the area are helped in their efforts by strong financial backing from aid agencies. However, civil society interventions were found to be predominantly response based. Civil society organizations have played a vital role in early warning, wherever the government systems failed and have also helped to spread knowledge and awareness through village information centres. Civil society organizations have also helped to strengthen livelihoods through training of the community on sustainable farming and integrated farming techniques. The civil society organizations have been involved in community based disaster risk reduction efforts and introduction of micro finance schemes. Women's training has also been carried out extensively by civil society organizations.

The efforts of the local government and civil society have helped to build strong capacities in the community. The awareness of the community was found to be high due to regular awareness programmes conducted by government and civil society organizations. Community trainings are also conducted regularly by the government before the monsoons, which helps to reinforce their knowledge. Community leaders also help in activities, such as distribution of food, after disasters. Community based disaster management committees also exist in the community and community members were found to be attending community-training programmes in large numbers. The community was also found to be actively involved in preparation of contingency plans.

Recommendations: During the local community consultation, the following recommendations emerged:

- Disaster management schemes should be implemented with out any exclusion.
- Gender related requirements should be carefully incorporated.
- Government plans of risk reduction and emergency management should be disseminated to the general public. Village information centre should be promoted for effective information dissemination.
- The government should hear voices of the community in order to understand the specific local issues so that appropriate solutions could be implemented.
- Giving relief to people should not be ad hoc and routine. Proper assessment of needs should be carried out and that right kind of relief should be provided to the needy.

Study Area 7: Mumbai District, Maharashtra State, India

Risk Profile: Mumbai is the capital city of Maharashtra, one of the states of Western India. It covers an area of 603 sq. km and is home to about 14 million people. Fire and industrial accidents have been part of the landscape of the city. The worst event recorded is the Victoria dock explosion in 1944, which killed up to 6,000 and devastated 1.2 sq km in the heart of the city. This can be exacerbated with the presence of at least 1,000 hazardous old industrial units in the city. Mumbai DMP identifies 10 sections along the Central Railway and 12 along the Western Railway prone to serious flooding, along 235 other flooding points within the city. But the flooding event of July 26, 2005 (994 mm in 24 hours) maybe the worst that the city has faced in long time, an exceptional series of rainstorm

seriously disrupted the lives of many millions – basic amenities, telecommunications, banking services, civic and political organizations were paralyzed in a situation that has not been seen before. Chemical (transport, handling), biological, and nuclear hazards are other hazards. Mumbai is, maybe one of the few big urban centres or megacities to count on a nuclear facility within the city limits. Mumbai lies in the Seismic Zone III of earthquake risk map. Cyclones, landslides, bomb blasts, terrorism, riots and tidal surge are additional hazards. The GoI-UNDP DRM programme was also implemented in a number of districts of Maharashtra including Mumbai.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 9. Study Area 7: Mumbai District, Maharashtra State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	2.4	3.25	1.84
2. Risk Assessment, Monitoring and Warning	2.21	2.83	1.40
3. Knowledge and Education	2.33	4.0	2.09
4. Underlying Risk Factors	3.17	3.33	1.70
5. Disaster Preparedness and Response	2.32	2.83	1.42
6. Cross cutting issues	2.87	3.8	1.78

The analysis of data from Mumbai shows that the civil society organizations have scored the highest on all factors. On most of the factors the civil society organizations have scored more than 3 indicating that civil society has taken a number of steps with further scope for improvement. Community respondents have obtained the lowest scores on all factors. The scores less than 2 indicate that there has been very limited activity at community level for disaster risk reduction. The local government respondents have scored less than 3 on all factors indicating that limited actions have been taken at the government level.

During the survey it has been observed that the civil society and the local governments are carrying out risk reduction efforts independently. It was observed that there is a lack of trust between local government and civil society, because of which effective partnerships have not been developed between the government and civil society. Due to absence of such partnerships the impact on community has been minimal and, as indicated by the scores, it has not been possible to build capacities in the community effectively. The government respondents were also found to be indifferent towards building capacities in the community. Responses of the government respondents indicate that DRR is seen primarily as a government concern with limited or no role of community or civil society. This approach fails to consider the fact that people are the first responders in any disasters and lack of capacities amongst the people leads to an increase in vulnerability of the community. The community has limited information or understanding on DRR issues. Though efforts have been made by civil society organizations in this regard the coverage has been limited due to limitation of resources.

Recommendations: Though community consultation could not be held in this study area, the following recommendations can be derived from observations:

- A sustained awareness campaign is required to be carried out to raise the awareness of the community.
- The government needs to build partnerships with the civil society for effective DRR implementation.

- The civil society needs to build capacities within the community to help them respond to disasters.
- Community members need to be fully involved in risk reduction initiatives of the government.
- Initiatives by the government need to be disseminated to the community.
- Roles and responsibilities of the government, civil society and the community need to be defined.

Study Area 8: Ratnagiri District, Maharashtra State, India

Risk Profile: Ratnagiri District is located in the south-western part of Maharashtra State on the Arabian Sea coast. Ratnagiri District has 237 km long coastline. The surrounding area is bordered by the Sahyadri Hills on the East and Arabian Sea on the West. It forms a part of the greater tract known as Konkan. The area witnesses heavy rainfall. Ratnagiri is located at 16.98 degree North and 73.3 degrees East. It has an average elevation of 11 meters. The city is vulnerable to earthquakes, floods and cyclones. Ratnagiri District lies in Zone IV of earthquake risk map, where the maximum probable earthquake intensity is VIII (MSK).

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 10. Study Area 8: Ratnagiri District, Maharashtra State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	1.68	-	1.15
2. Risk Assessment, Monitoring and Warning	1.48	-	1.11
3. Knowledge and Education	1.92	-	1.28
4. Underlying Risk Factors	1.86	-	1.54
5. Disaster Preparedness and Response	1.54	-	1.13
6. Cross cutting issues	1.75	-	1.78

While carrying out the survey in Ratnagiri responses from civil society respondents were not received. It is understood that local civil society organizations are not very familiar with DRR concepts. An analysis of the responses of the local government and community respondents indicates that the local government respondents have scored higher than civil society respondents, indicating a strong top down approach. However the scores of local government are below 2 indicating that the local government has taken very limited initiatives. It has been indicated in the survey that the local government respondents have limited capacities or resources to implement DRR initiatives. Due to these limitations it has not been possible for the local government to either develop capacities in the community or include DRR in their development programs. The community is, therefore, largely ignorant of DRR issues and lacks capacities to respond to or recover from the disasters.

Recommendations: Though community consultation could not be held in this study area, the following recommendations can be derived from observations:

- A sustained awareness campaign is required to be carried out to raise the awareness of the community and civil society.
- Capacity building of civil society organisations is highly needed.
- The government needs to build partnerships with the civil society for effective DRR implementation.
- Community members need to be fully involved in risk reduction initiatives of the government.
- Initiatives by the government need to be disseminated to the community.
- Roles and responsibilities of the government, civil society and the community need to be defined.

Study Area 9: Bhopal District, Madhya Pradesh State, India

Risk Profile: The state of Madhya Pradesh is located in central India. It covers an area of 3,08,252 sq. km. The state is vulnerable to droughts, floods, earthquakes and chemical disasters. Bhopal is the capital of the state. The state was found to be in the worst condition when the state hunger index was calculated. The state has suffered the effects of Bhopal gas tragedy. On the night of December 23, 1984, a dangerous chemical reaction occurred in the Union Carbide factory when a large amount of water got into the Methyl Isocyanate (MIC) storage tank. About 40 tons of Methyl Isocyanate poured out of the tank for nearly two hours and escaped into the air, spreading within eight kilometers downwind, over the city of nearly 900,000. Thousands of people were killed (estimates ranging as high as 4,000) in their sleep or as they fled in terror, and hundreds of thousands remain injured or affected (estimates range as high as 400,000). The Bhopal disaster was the result of a combination of legal, technological, organizational, and human errors.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 11. Study Area 9: Bhopal District, Madhya Pradesh State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	2.0	-	1.89
2. Risk Assessment, Monitoring and Warning	1.66	-	1.75
3. Knowledge and Education	1.99	-	2.0
4. Underlying Risk Factors	2.57	-	1.95
5. Disaster Preparedness and Response	2.0	-	1.78
6. Cross cutting issues	1.75	-	2.16

The local government has scored slightly higher than community on all priorities for action. This indicates that community is not involved in DRR initiatives with the government. The government respondents have scored 2.0 or less on all factors indicating the limited interventions of the government. Since response from civil society respondents has not been received it is assumed that civil society is not involved to a significant extent in DRR. Due to limited initiatives by civil society and local government the community is largely ignorant of DRR issues.

Recommendations: Community consultations could not be held in the area. However, the recommendations that can be derived are as under:

- Government needs to give greater priority to DRR in the state.
- Training and awareness initiatives for community and civil society should be taken.
- Risks in the state should be identified and informed to the people.
- Disaster management planning should be taken up with full involvement of the community.

Study Area 10: Ujjain District, Madhya Pradesh State, India

Risk Profile: Ujjain is located in Madhya Pradesh on the banks of Kshipra River. The city is an important place of pilgrimage. The city has a population of 4,29, 933. The main hazards prevalent in the town are droughts, floods, earthquakes and chemical hazards. Ujjain is currently experiencing a major drought.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 12. Study Area 10: Ujjain District, Madhya Pradesh State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	1.2	1	1.5
2. Risk Assessment, Monitoring and Warning	1.4	1	1.59
3. Knowledge and Education	1.75	1	1.65
4. Underlying Risk Factors	1.75	1	1.69
5. Disaster Preparedness and Response	1.81	1	1.63
6. Cross cutting issues	1.6	1	1.80

The analysis shows that the government and community are almost at par on the scores obtained. The civil society has scored low on all priorities of action. The scores obtained by local government as well as the community are less than 2 indicating the limited initiatives taken by both stakeholders. It was also found during the survey that the local government lacks capacities and resources for DRR. The people are also clueless about DRR issues and are unable to cope even with the current drought conditions. The civil society has scored 1 on all priorities for action indicating that the local civil society organizations are not involved in DRR. They also lack capacities, technical and financial resources to work on DRR issues.

Recommendations: Community consultations could not be held in the area but the following recommendations emerge from the observations:

- The government should take up proper DRR initiatives to insulate the community from possible disaster impacts.
- Skills of civil society organizations need to be developed to take up DRR initiatives.
- Awareness campaigns need to be launched to sensitize the community and civil society on DRR issues.

Study Area 11: Guwahati District, Assam State, India

Risk Profile: The state of Assam is located in North- Eastern India. Assam comprises Bramhaputra and Barak River valleys and North Cachar hills with an area of 30,285 sq. miles. The state experiences perennial floods and is also prone to earthquakes since it is located in zone V seismic zone. Guwahati is the capital of the state and is located on the Southern bank of Bramhaputra River and the foothills of Shillong Plateau. It is one of the fastest growing cities of India. It has a population of 8,08, 021.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 13. Study Area 11: Guwahati District, Assam State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	1.3	1.75	1.41
2. Risk Assessment, Monitoring and Warning	1.0	1.62	1.26
3. Knowledge and Education	1.48	1.52	1.57
4. Underlying Risk Factors	1.45	1.95	1.54
5. Disaster Preparedness and Response	1.4	1.73	1.31
6. Cross cutting issues	1.35	2.71	1.73

The analysis of data shows that civil society has scored the highest and local government has scored the lowest in the survey. The scores obtained by local government are less than 2 on all priorities for action indicating little or no action on DRR. The civil society scores range from 1.52 to 2.71 indicating that actions of civil society have been very limited on DRR issues. It was informed by government officers in the state that disaster management was in its nascent form in the state. Capacity building of government officials has just commenced in the state.

The initiatives of the local civil society organizations are mainly relief based. These organizations have limited financial and technical resources to take up risk reduction initiatives. The number of civil society organizations involved in DRR activities is very less. In addition to relief, the civil society organizations have been involved mainly in awareness raising. They have also helped communities develop livelihood alternatives.

The community scores are less than 2 showing a lack of capacities in the community. Lack of awareness and assistance from the government has led to the communities being increasingly vulnerable to disasters. Assistance from the government is received only in the form of relief. Information on preparedness measures is also not commonly available.

Recommendations: Community consultations could not be held but the recommendations emerging from the observations are as under:

- The government needs to take measures for preparedness.
- There should be partnerships between government and civil society.
- A stronger thrust on awareness generation from the government is required.
- Community needs to be involved in development initiatives of the government.

Study Area 12: Meghalaya State, India

Risk Profile: Meghalaya is a hill state in North East India covering an area of 22,720 sq. km. It is one of the smallest states of India. Shillong, the capital of the state is located at an altitude of 1496 m. Shillong has a population of 2,60, 000. The entire state is located in seismic zone V and hence is highly vulnerable to earthquakes. In addition to earthquakes the state is vulnerable to landslides and flash floods.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 14. Study Area 12: Meghalaya State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	1.86	1.5	1.23
2. Risk Assessment, Monitoring and Warning	1.27	2.0	1.21
3. Knowledge and Education	1.45	1.67	1.71
4. Underlying Risk Factors	1.53	2.33	1.42
5. Disaster Preparedness and Response	1.89	2.0	1.28
6. Cross cutting issues	1.40	1.75	1.59

The analysis shows higher average scores being obtained by civil society organizations as compared to local government respondents. The community has obtained lowest scores. The community scores are close to 1 pointing to the fact that virtually no capacities have been developed in the community for disaster risk reduction. The efforts of the government for disaster risk reduction are at an initial stage. The government has prepared the state disaster management plan and developed a system of training its officers in disaster management issues through administrative training institutes.

There are very few civil society organizations in the area working on DRR issues. However, the church was found to be quite active in spreading awareness on DRR issues. The efforts of civil society are also restricted due to limitations of resources. Due to the difficult terrain the resource requirement in the region is quite high. The community capacities for disaster management are quite low. It is expected that capacities will be developed in the community after intensification of government efforts at risk reduction.

Recommendations: Community consultations could not be held but the recommendations emerging from the observations are as under:

- A mapping of risks is required to be done by the government.
- Vulnerable communities and vulnerable areas also need to be identified by the government and corrective action needs to be taken to address the vulnerabilities.
- Involvement of community in disaster reduction efforts is required.

Study Area 13: Jamnagar District, Gujarat State, India

Risk Profile: The study was carried out in the rural areas of Jamnagar District of Saurashtra region of Gujarat. Data proves that disasters have occurred repeatedly and serious damage did cause to lives and properties in these districts. Severe cyclones occurred in 1974, 1998 & 1999. On 9th June 1998, a 200 km/h velocity cyclone with 25 feet high tidal waves struck the coastal regions of Gujarat. 2,400 villages in the districts of Jamnagar, Porbandar, Rajkot and Kutch were affected. 1280 people died and thousands of people were left homeless. Property damage was reported to be worth more than

Rs.25 billion. An earthquake on 26th January 2001 with epicentre at Bhuj in Gujarat with a moment magnitude (Mw) between 7.6 and 8.1 occurred and killed over 20,000 people and injured another 167,000 and destroyed near a million homes throughout Gujarat and parts of eastern Pakistan. The Ghed (low lying water logged) area of Porbandar covering 30-40 villages was affected by the floods in 2005, 2006, and 2007. There is also a potential risk of tsunami. The peninsula of Saurashtra comprises of rocky uplands, which faces chronic scarcity of water due to high runoff, low rainfall, poor aquifer and over drafting of ground water. Frequent monsoon failures and reduction in rainy days leads to mild to severe drought conditions in the area. The most severe drought of the 20th century had occurred in 1987. 13390 out of 18114 villages of the state were affected by drought. 11000 villages suffered from shortage of drinking water. Special water tanker trains were sent to the affected areas of Saurashtra from a distance of 250 km. Depletion of ground water level due to very scanty and erratic rainfall and salinity ingress are also problem in the region. Air, water and land pollution and industrial hazards due to presence of big plants of cement, fertilizer, soda ash, salt, thermal electricity and oil refineries should also be considered.

Survey Findings: Views from the Frontline survey in this study area is summarised as follows:

Table 15. Study Area 13: Jamnagar District, Gujarat State, India

Priority for Action under HFA	Average Score		
	Local Government	Civil Society	Community
1. Governance	3.2	3.04	1.6
2. Risk Assessment, Monitoring and Warning	2.96	2.51	1.87
3. Knowledge and Education	3.42	2.48	2.0
4. Underlying Risk Factors	2.88	2.84	1.87
5. Disaster Preparedness and Response	3.74	2.62	1.35
6. Cross cutting issues	2.56	3.26	2.27

The local government respondents have scored the highest and the community has scored the lowest. These scores show that the community is unprepared for preparedness or response to disasters. The local government respondents have scored close to 3 on all priorities of action except cross cutting issues. The score shows that there have been substantial government initiatives for DRR but there is a scope for improvement.

The civil society has scored less than 3 on all priorities for action, except cross cutting issues. The low scores obtained by civil society respondents show that civil society has not been very active in DRR initiatives. They have been working on certain aspects of DRR, which covered under cross cutting issues. Thus civil society, which is a vital link between community and civil society, is found to be weak.

The community has obtained the lowest scores. The scores at community level are less than 2, indicating that community capacities are virtually absent. The lack of capacities in the community indicates that efforts of community and civil society have not trickled down to the community.

Recommendations: During the local community consultation, the following recommendations emerged:

- Regular training of the community is required.
- Steps should be taken to encourage women's participation in DRR initiatives.
- Traditional knowledge of communities should be used in training programs.
- DRR concerns should be incorporated into development decisions.

- Separate financial resources should be allocated for DRR.
- There should be better dissemination of village disaster management plans.

Analysis of Data and Findings

The scores obtained from all study areas have been considered to get the average values for India. The average values obtained are given in the following table.

Table 16. India: Average Scores			
Priority for Action under HFA	Local Govt.	Civil Society Organisation	Community
1. Governance	2.32	2.47	1.86
2. Risk Assessment, Monitoring and Warning	2.17	2.47	1.97
3. Knowledge and Education	2.34	2.47	2.02
4. Underlying Risk Factors	2.45	2.64	2.01
5. Disaster Preparedness and Response	2.41	2.53	1.75
6. Cross cutting issues	2.34	2.95	2.27

The average scores have been presented in graphical form below:

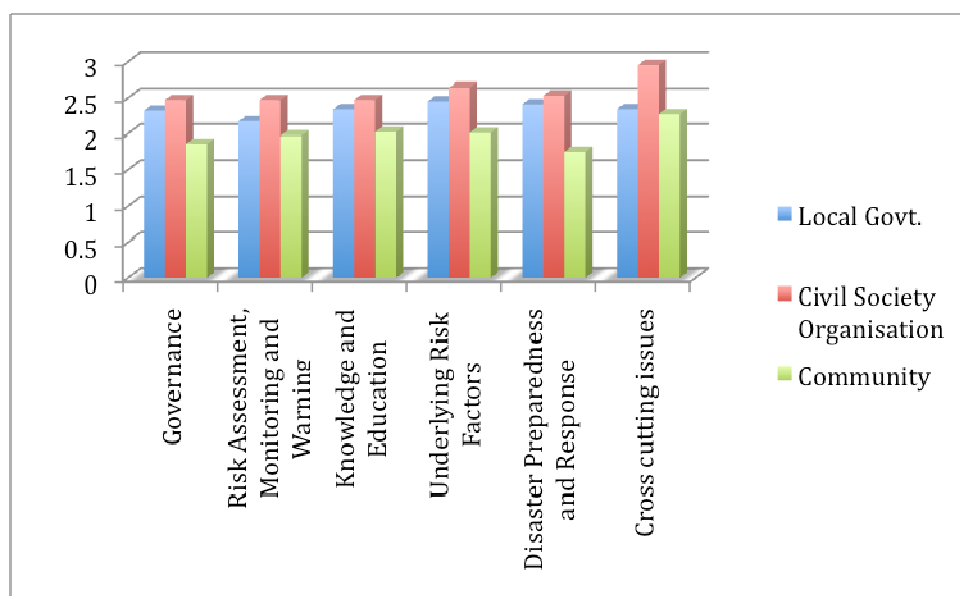


Figure 2. Average Comparative Scores Of Priorities For Action in India

Average scores for India obtained from the survey are found to be below 3. Civil society organization respondents have scored the highest and the community respondents have scored the lowest. Broadly, a score of less than 3 indicates that limited steps/initiatives have been taken for disaster risk reduction in the country. A score of less than two (obtained by community respondents) indicates low levels of capacity for risk reduction at the community level. It also shows that the initiatives at government and civil society level have not percolated to the community and have not been successful in raising the capacities of the community. There have been various inherent deficiencies in the initiatives and barriers in engaging the community, which need to be overcome for effective implementation of HFA objectives in the country.

Local Government

The local government respondents have obtained a score of less than 2.5 on implementation of all HFA priorities. The survey has revealed a deficiency of capacities amongst local governments for risk reduction. Though national initiatives like promulgation of Disaster Management Act 2005 and establishment of NDMA, and programmes like the GoI-UNDP DRM programme have helped to generate some activity on DRR in local governments but such activities are at an early stage.

Governance: The approach of local governments was still found to be largely reactive leaving substantial scope for improvements in its preparedness and recovery efforts. A difference is also seen in the approach of government in states that have experienced disasters in the recent past and those that have not. The states that have experienced major disasters were found to have robust institutions, such as the OSDMA and GSDMA, to develop and implement DRR initiatives in the state. Such states were also found to have taken some admirable initiatives for public awareness and installation of early warning systems. On the other hand, states that had not experienced major disasters in the past were found to be largely relying on their revenue departments for risk reduction. Revenue departments in States have traditionally been response oriented. Though State Disaster Management Authorities and District Disaster Management Authorities have been constituted in a number of states they are yet to have a major influence on policies in the states. In such states disaster management plans were also found to be in various stages of preparation. However, despite the difference in initiatives taken by various local government representatives, a general need for training and orientation of local government personnel was perceived for much-needed capacity building.

Risk Assessment: Effective risk assessment, monitoring and early warning systems are yet to be set up. There have been initiatives for monitoring of risks and early warning through Emergency Operations Centres, but these are limited to a only a few disaster- experienced states in the country. Lack of technical expertise to man such facilities, geographical spread of the states and difficult terrains have been a limiting factor for the development of such systems.

Knowledge and Education: Attempts have been made by the governments to spread awareness through knowledge and education. As per directives of the government, State Boards of Education have introduced information on disasters in school curriculum, but the quality of information varies from one state to another and needs substantial improvement. In some states the content is limited to mode of occurrence of disasters. Also capacity building of schoolteachers is needed. Use of electronic and print media for awareness generation has been made by a very limited number of states. The state administrative institutes are responsible for imparting training to senior state government officials and state institutes for rural development need to impart training to rural development officials. Though disaster management has been included in the training curriculum of these institutions, proper training has not been possible due to shortage of trained staff.

Underlying Risk: Governments need to take action on reduction of underlying risks. Rapid urbanization has led to unplanned growth of cities resulting in inadequate social infrastructure and a greater percentage of population living in unsafe areas. A few local governments have taken action to secure critical facility buildings, but none of them have integrated DRR concerns in ongoing development programmes and practices.

Preparedness: Local governments in most states do not have trained task forces to prepare for or respond to disasters. A multi-stakeholder approach, necessary for effective preparedness and response for disasters, has also not been developed by the government. Physical vulnerabilities have been addressed in most of the states, through the traditional approach of constructing protective structures like embankments, but a holistic approach to vulnerability reduction is missing. Due to weak enforcement mechanisms it has also not been possible by the government to enforce codes and practices required to secure the built environment. Since disaster concerns have not been

incorporated into development practices, most of the development projects lack disaster safety features.

Crosscutting Issues: The capacity building initiatives have reached communities in rural areas also, largely due to GoI-UNDP DRM programme, but a lot needs to be done to inclusion of socially backward communities, handicapped and women.

Civil Society Organisations

Civil society respondents have scored higher than government respondents on all priorities of action. However, the scores are below 3 indicating that they have been able to take up limited initiatives. Though the civil society organizations all over the country have carried out various capacity building, response and recovery initiatives but their response footprint has been limited. They have influenced only a limited number of communities in their work areas due to constraints of manpower and finance. Government – civil society partnerships are not common. Wherever such partnerships exist, they are usually on project basis. The civil society organizations were found to be more active in states that have experienced disasters in the past decade as compared to those that had not. This difference can be attributed to the fact that a number of these organizations took up DRR after a major disaster occurred.

Governance: The civil society organizations in most of the states were found to be lacking technical expertise required to take up DRR as their main area of work. The civil society organizations were found to be involved largely in relief distribution work. Finding financial resources to take up DRR initiatives was also cited as a barrier by most civil society organizations. In the absence of established sources of knowledge and education on DRR, the organizations also find it difficult to upgrade their knowledge and skills.

Risk Assessment: The work of most of the civil society organizations was found to be short term and project based. Most civil society organizations were also unable to develop community capacities on a long-term sustainable basis due to lack of follow up by the organizations. However, the organizations have had a major role in reaching out to communities in remote areas, which do not have convenient access to government aid initiatives. Although civil society organizations are known to have played a major role in conveying early warning to communities on an ad hoc basis, there is a need for training the communities on early warning systems.

Knowledge and Education: In some areas, the need for DRR at village level has been partially met by civil society organizations to a large extent. These organizations have been involved in training of task forces and preparation of village disaster management plans and have helped to spread awareness while implementing these projects.

Underlying Risk: Civil society organizations are playing an important role in helping communities adapt to climate change. The initiatives vary from innovative livelihood practices to water management techniques. However, these initiatives are restricted mainly to rural areas. Efforts of civil society organizations assume further importance in view of the fact that the government interventions for climate change adaptation are virtually non-existent.

Preparedness: Since most of the civil society organizations are engaged in relief they were found to be lacking skills such as first aid and search and rescue. Most organizations were found to be lacking an emergency action plan.

Crosscutting Issues: Civil society organization initiatives were found to be inclusive of all vulnerable groups within the community. Community members also play an active role in planning and decision making at the community level.

Community

Community respondents have scored the lowest in the survey. They have scored less than 2 on most of the priorities for action. The scores are indicative of limited capacities in the community for DRR. A number of factors have influenced the capacity building of communities in the country such as poor physical and social infrastructure, high poverty levels, rapid urbanization, social norms and taboos, limited access to information on DRR and limited access to government representatives.

Governance: Organized groups or task forces, required to decide on appropriate interventions for disasters, were found to be lacking in the community. The communities were found to have a high level of dependence on the government for assistance. Limited information available in the community on prevalent hazards and possible impacts was also found to be a barrier to constitution of such committees and task forces. Assistance required for setting up of such committees and task forces has been lacking from the government. Civil society initiatives tend to disintegrate for want of follow up. Community awareness on issues, such as features required to secure hospital and school buildings, was also found to be low.

Risk Assessment: Since information on prevalent hazards is limited it has not been possible for the communities to set up a system of regular monitoring and assessment of hazards. Evidence of early warning systems was also not found in the communities. However, improvement in communication technology has had a major impact on the lives of the community, including early warning. Remote rural communities reported receiving early warning through television news bulletins and mobile phones.

Knowledge and Education: There was a strong need for developing sources of knowledge in the community to raise awareness on DRR. Although certain aspects of disaster management have been included in the school curriculum, they are yet to make any impact on level of understanding in the community. Awareness initiatives are required to disseminate information on prevalent hazards, preparedness measures, mitigation measures and possible response and recovery initiatives. One of the primary causes of non-adherence to building bylaws and disaster resistant construction techniques was found to be lack of awareness and sensitivity to these issues. There are instances of use of innovative methods, like street plays, puppet shows and folk songs, for disseminating DRR information. These methods need to be replicated.

Underlying Risk: Perception of climate change as a cause for disasters was found to be low in the communities. Most of the communities ascribed changes in weather conditions to local environmental degradation. Although the inference of these communities may be true to some extent, it has proved to be a barrier to adaptation efforts. Impact of climate change were found to be more severe on rural communities, engaged in primary occupations and with limited access to planned physical and social infrastructure, as compared to urban communities. However, the social bonding in rural communities was found to be stronger as compared to urban communities, ensuring better care for vulnerable groups in times of disaster.

Preparedness: Community awareness in responding to an emergency is limited to some communities where emergency response plans have been developed and communities have been trained. However, refresher trainings are needed, as such skills, when imparted to the community, were found to have been lost over long periods of non-occurrence of disasters.

Crosscutting Issues: A system of communication between the community and the government exists, but is found to work effectively only in case of emergencies. It was not found to be very effective in pre-disaster times or in non-disaster times. Generally local development decisions are also taken by the government without significant involvement of the community. Involvement of women in decision-making has also been limited, primarily due to social barriers and priority on livelihoods and domestic responsibilities of women.

Conclusions and Way Forward

The Government of India has made a beginning of DRR in India after experiencing a few major calamities. In 2002, the responsibility of nodal ministry was changed from the Ministry of Agriculture to the Ministry of Home Affairs. The Indian Parliament passed a Disaster Management Act in 2005, paving the way for institutionalising disaster management and mainstreaming disaster risk reduction in development. The Disaster Management Act provided for establishing the National Disaster Management Authority (NDMA) at the national level and State Disaster Management Authority in each state. Ten battalions of National Disaster Response Force (NDRF) have been formed and kept at different locations of India based on the vulnerability profile to cut down the response time for their deployment. Each battalion provides 18 self-contained specialist search and rescue teams of 45 personnel each, including engineers, technicians, electricians, dog squads, medical and paramedics. NDMA has been developing guidelines for mitigation and preparedness measures in respect of various hazards. United Nations Development Programme (UNDP) supported Disaster Risk Management Program implemented by the Government of India in most of the multi-hazard prone districts in 17 states from 2002 to 2008 gave an impetus to the disaster management initiatives in the country. Allocations for disaster management have been made in the tenth Five Year Plan (2002-07).

Implementation of HFA in India is widely varied across the country. In the View from the Front Line project, sampling survey has been carried out in 13 districts in the country (Total number of districts-626). Due to limitations of the survey methodology and due to limitation of time and resources available, it had been difficult to make accurate assessment of the status of HFA implementation in the country. However, based on the survey findings as well as the knowledge gathered from secondary information, it is felt that the following issues need to be pursued for enhanced implementation of HFA in India.

- **HFA implementation should be consciously done at local level.** The government has set up an elaborate institutional framework for disaster risk management at National Level. At sub-national level, many state governments have also established a corresponding institutional framework. Disaster Management Plans at various levels have been prepared. However, institutionalization at local level is still response oriented. DRR interventions at local level are limited. There is a need to implement HFA at the local level. Vulnerability assessment, capacity building, developing disaster management plan, etc., should be made with a focus on local conditions.
- **Efforts are needed to ensure greater community participation.** The government efforts have been effective in making more people aware of disasters. Community involvement in DRR is found to vary across the country. For people in many vulnerable regions of the country, meeting the day-to-day necessities has overriding priority often at the cost of ignoring underlying risk factors. The communities that have experienced disasters recently do exhibit keen interest in disaster preparedness activities. In this context, transmission of knowledge on DRR for fulfilling the grassroots needs requires urgent attention.
- **Ensure last mile connectivity for early warning communication.** Technologies for early warning have been set up in the country. In some coastal villages, when the communication system for early warning failed, local Civil Society Organisations had performed the task of carrying the warning communication to the vulnerable communities. Appropriate systems self-managed by local communities and using technology and manpower should be developed in order to ensure the last mile connectivity.
- **Tacit knowledge of the communities should be tapped while planning out DRR interventions.** Communities have traditional knowledge and capacities for coping with disasters. Any DRR intervention planned should first assess existing capacities and build on them. Existing community capacities should be strengthened and further developed to make them resilient in order to prepare for and respond to disasters.

- **Socially and geographically excluded communities should be integrated into the development process for comprehensive risk reduction.** It is seen that some communities are excluded from receiving the benefit of development. The exclusion may be due to caste or other social factors. Communities located in remote areas are deprived of even the normal development activities that benefit other parts of the country.
- **Mechanisms should be developed for increased involvement of women in DRR.** Gender issues have been neglected in DRR activities. Specific issues should be identified and addressed. Many lives of women have been lost since they did not want to be rescued from water by men. In such a social setting, there is a need to have women master trainers for search and rescue operations. Many women task forces need to be trained in communities who can perform rescue operations. Village committees involved in DRR should include representation of women.
- **Partnership between government and civil society should be enhanced.** Civil Society Organisations play an effective role in reaching the communities and building awareness and capacities. Governments need to make use of this opportunity effectively.
- **Development initiatives and risk reduction should be linked.** Risk reduction considerations are often found to be ignored by some governments while taking up development projects. Occasionally safety standards were also found to have been relaxed for commercial considerations. Hence capacities of key government personnel, entrusted with the responsibility of implementing major development projects, should be built to help them integrate DRR with development. Such integration should be made mandatory by governments.
- **Resource allocations need to be increased in order to integrate DRR into government policies and practices.** Adequate financial and manpower resources should be allocated for the implementation of DRR policies and practices in all relevant sectors of local administration; with proper monitoring. Corporate funding possibilities can also be explored.
- **A database of local risk information needs to be built at sub national levels.** At sub national levels a database needs to be developed to collate local level risk maps.

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