International Strategy for Disaster Reduction

ITC International Training Centre

UNDP

# Local Governments and Disaster Risk Reduction

## *Good Practices and Lessons Learned*

*A contribution to the "Making Cities Resilient" Campaign*

2010

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# Acknowledgements

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The idea of publishing this compilation of good practices emerged from a series of consultative meetings held with local governments throughout 2007-2009 in collaboration with the International Training Centre of the ILO and the UNDP Special Unit for South-South Cooperation. The publication was seen as a contribution to the "Making Cities Resilient" Campaign 2010-2011.

Special thanks are also extended to the Local Government Alliance for Disaster Risk Reduction (LGA/DRR) and the Asia Regional Task Force on Urban Risk Reduction, which supported the identification of case studies during the initial stage.

# Foreword

As we begin the second decade of a new century, more than half of the world's population lives in cities and urban centres. Urban settlements are the lifelines of today's society. They serve as nations' economic engines, centres of technology and innovation, and as living examples of our cultural heritage. But inherent in the important roles they play in society are the consequences of their success: cities can also generate new risks. These include the increasing number of informal settlements, social inequality and environmental degradation.

The International Strategy for Disaster Reduction is a broad based coalition of organizations that work together to implement the *Hyogo Framework for Action 2010-2015: Building the Resilience of Communities and Nations to Disasters*. UNISDR is the secretariat of the Strategy, working with partners to raise awareness, increase commitment to sustainable development practices that can reduce disaster risk and increase the safety of citizens – to invest today for a safer tomorrow. ISDR partners are launching a new campaign in 2010 – Making Cities Resilient – to enhance awareness about the benefits of focusing on sustainable urbanization to reduce disaster risks.

This publication is the result of such a partnership. UNISDR, together with the International Training Centre of the ILO and the UNDP South-South Cooperation Unit collaborated in collecting these illustrative examples of how local governments and cities have gained experience in reducing disaster risk. In the coming months UNISDR and its partners will continue to collect, document and share good practice on how to make our cities more resilient.

We will continue to serve local governments and citizens through contributing to innovative ways to learn and develop sustainable urban communities, safe from disasters.

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# Executive summary

## Background

Urban risk, city planning and the role of local governments in dealing with risk reduction have been recognized as key factors to build resilient communities and nations since the beginning of the International Strategy for Disaster Reduction. The Hyogo Framework for Action 2005-2015 considers that both communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions. Poor urban governance, informal settlements on unsafe land, declining ecosystems and vulnerable rural livelihoods are main underlying risk drivers, which need to be addressed to build safer cities.

In response to the evident lack of a systemic approach to these issues, UNISDR has worked with partners in the ISDR system to build alliances with local government to promote disaster risk reduction at different levels. In 2005 the ISDR Inter-Agency Task Force recommended the 2010-2011 global awareness campaign to focus on urban risk issues and 'Making Cities Resilient'. This campaign builds on previous years' campaigns on disaster reduction education and safe schools and hospitals, which are also important themes for city resilience. In August 2009, an international Conference on "Building a Local Government Alliance for Disaster Risk Reduction" was held and hosted by the Metropolitan City of Incheon, Korea, from which the main purpose and content of the 2010-2011 Campaign has emerged. The full text of the "Incheon Declaration", adopted by the conference participants on 13th August 2009, is available as an annex to this publication.

## The case studies

As part of this initiative, the idea of publishing a compilation of good practices and lessons learned by local governments in disaster risk reduction emerged from a consultative meeting held in Barcelona in May 2008 between UNIDSDR, UNDP, the ILO International Training Centre and the Advisory Group of the Local Government Alliance for Disaster Risk Reduction. The compilation showcases the essential roles played by local and regional authorities in locaddressing disaster risks at sub-national and local levels, but also the challenges and constraints to sustain or scale-up these efforts. It makes the case for increased local-level risk reduction action, and is aimed to stimulate more interest and commitment in this area from governments, practitioners, policy and decision makers.

To this end, partners in the Alliance provided close to 40 case studies. The contributions were provided using a questionnaire. The current compilation contains 14 case studies out of the 40, which were selected by UNISDR based on geographic representation and thematic coverage. Six cases[1] were contributed directly by the local governments and the other eight cases[2] were by partners such as national governments and NGOs, who worked with the local governments. In both cases, the roles that the local governments played are highlighted and analysed.

The selected case studies in this compilation cover a wide array of policy areas, from risk assessment to recovery and from building structures to water resource management. Each one illustrates the important roles that local governments should play for various aspects of disaster risk reduction. The cases that address specific policy areas include:

- Province-wide hazard identification and risk assessment programme (Ontario, Canada)
- Community risk assessment as a part of the country's comprehensive disaster risk reduction programme (Bangladesh)
- Improvement of a flood early warning system in the capital region (Jakarta, Indonesia)
- Water resource management for drought risk reduction (Overstrand Municipality, South Africa)
- Agricultural livelihood protection through flood mitigation and drought preparedness (Chitwan district, Nepal)
- Promotion of cyclone-resistant buildings and community awareness raising (Thua Thien Hue Province, Viet Nam)
- Locally-led recovery process from an earthquake (Peru)

1 The Philippines, Canada, South Africa, Indonesia/Flood, Japan and France.

2 Viet Nam, Peru, Pakistan, El Salvador, Nepal, Fiji, Bangladesh and Indonesia/Volcano.

Other cases highlight broader issues of institutional strengthening and local capacity building on different hazard types and with different stakeholders, such as:

- Establishment of a permanent disaster risk reduction office in a provincial government (Albay, the Philippines)
- Disaster risk reduction mainstreaming in local governments in an earthquake-affected area (Muzaffarabad district, Pakistan)
- Disaster risk reduction mainstreaming in local development planning in a flood-prone area (Serua and Namosi, Fiji)
- Establishment of a multi-stakeholder forum against a volcanic hazard (Merapi city, Indonesia)
- Strengthening connections between local communities and local governments (El Salvador)
- Risk-awareness programme for schoolchildren and communities (Saijo city, Japan)
- Awareness-raising initiative against flood risk with local students (France)

## *The roles of local governments*

Throughout the cases, four major roles of local governments in implementing disaster risk reduction are particularly highlighted.

### *1) To play a central role in coordinating and sustaining a multi-level, multi-stakeholder platform to promote disaster risk reduction in the region or for a specific hazard*

The active commitment and leadership of a local government is important for the implementation of any local disaster risk reduction measures to deal with different stakeholders and multiple layers of government. In many cases, a comprehensive disaster risk reduction measure takes long time to fully implement, and the leadership of the local government is particularly crucial to ensure the political momentum and support among external stakeholders throughout the process.

In Peru, with the support from the UNDP office, municipal governments in the affected area of a recent earthquake coordinated and led a development-focused recovery process alongside national and local actors. They also initiated updating of their own development plans for promoting disaster risk reduction. It was emphasized in the case study that the crucial role of local government should be recognized in the disaster recovery process, who will sustain development once external supporters leave.

The provincial government in Jakarta in Indonesia, in partnership with the national, local and technical partners, implemented a process to improve the flood early warning system. As the main owner of the early warning system, the province provided significant political and technical support and publicity. It was highlighted that, in the context of megacities, the collaboration between provincial and city governments is very important in order to coordinate overlapping resources and responsibilities.

Local governments surrounding the Merapi volcano, also in Indonesia, formed a multi-stakeholder forum against volcanic hazard. The project was initiated by the local governments who also assumed a significant coordination role. It is concluded that a multi-stakeholder forum is effective for pooling resources and expertise, especially in encouraging cross-border and cross-sectoral risk management.

### *2) To effectively engage local communities and citizens with disaster risk reduction activities and link their concerns with government priorities*

As the most immediate public service provider and interface with citizens, local governments are naturally situated in the best position to raise citizens' awareness of disaster risks and to listen to their concerns. Even the most sophisticated national disaster risk reduction measures (such as early warning systems) may fail, if communities are not properly informed and engaged. Likewise, community preparedness measures are sometimes as effective as costly public investments in reducing casualties from disasters, and local governments should play a central role in community education and training.

A consortium of NGOs and donors in El Salvador supported municipalities in strengthening community disaster preparedness and community connections with local governments to promote disaster risk reduction. In the project, linking local communities to local governments was considered the key element for making disaster risk reduction programmes sustainable.

An NGO in Nepal helped the Chitwan district and village authorities to promote agricultural livelihood protection and disaster risk reduction, through animal protection, drought mitigation and flood preparedness measures. Both district and village authorities played key coordination roles in implementing these projects at the community level.

### *3) To strengthen their own institutional capacities and implement practical disaster risk reduction actions by themselves*

As the governmental body responsible for the long-term development and viability of its area, a local government is required to consider and institutionalize disaster risk reduction in its day-to-day operations, including development planning, land use control and the provision of public facilities and services.

The Earthquake Rehabilitation and Reconstruction Authority (ERRA) in Pakistan helped provincial and community-level governments in the area affected by the 2005 earthquake to promote disaster risk reduction mainstreaming and community-based disaster risk management. As the result of this intervention, community-level governments started to organize disaster management committees and emergency response teams.

In Fiji, with the support from UNDP, the provincial administration of Serua and Namosi mainstreamed disaster risk reduction in local development planning in a flood-prone area. The provincial government incorporated disaster risk reduction and development priorities identified by communities into the provincial development plan.

### *4) To devise and implement innovative tools and techniques for disaster risk redcution, which can be replicated elsewhere or scaled up nationwide*

Because of its smaller scale and flexibility, a local government is better positioned than a national government to develop and experiment with various new tools and techniques, applying them to unique settings and policy priorities.

The city of Saijo in a rural region of Japan conducted a risk-awareness programme for schoolchildren and communities, which involved field trips to different areas of the city. The very direct and participatory methods (called 'mountain-watching' and 'town-watching) that involved schoolchildren, attracted participants' interest and motivated learning about disaster prevention.

In France, the Loire River management agency, in cooperation with local governments in the river basin, implemented an awareness-raising initiative against flood risk in the region, through carrying out a community survey by local students. Somewhat similar to the above case from Japan, the innovative nature of the survey and engagement of young people were excellent ways to draw attention to the issue.

## *Challenges and opportunities to consider when attempting replication*

Each case contains its particular set of lessons learnt. However, the following general observations can be drawn from many of the cases as the key challenges and opportunities for scaling-up those efforts or replicating them in other local government jurisdictions.

### *1) Lack of interest and capacities*

An initial challenge is often the lack of interest and capacities for disaster risk reduction by local governments. This is oftentimes a reflection of weak local governance capacities. Support from partners, such as national government, NGOs and UN agencies, can play catalytic roles to fill the initial gaps. The challenge is to build up a planning process where people participate, decide and plan their city together with the local government authorities, based on their capacities and resources.

In Viet Nam, an international NGO worked with local governments to promote cyclone-resistant buildings and related awareness-raising for local communities. Initially supported by the NGO, as the project progressed the local governments took over many roles that the NGO originally fulfilled. They also formed a network of local governments to share experience with other governments facing similar conditions and risks.

In Bangladesh, a national government Ministry has been conducting community risk assessment and disaster risk reduction action planning with municipal governments across the country, as a part of the country's Comprehensive Disaster Management Programme. Local governments were encouraged to participate and assume the responsibility through a 'learn through doing' approach. However, the contribution from local governments varied from one to the other, with the partner NGOs filling gaps in capacity. Moreover, the availability of a funding mechanism (the Local DRR Fund) to implement identified priority projects ensured local governments and communities could see a clear path from risk assessment to funded action.

### *2) Understanding local risks and vulnerabilities*

Local governments often lack sufficient knowledge about disaster risks and vulnerabilities of their communities as well as appropriate disaster risk reduction measures. Partners can help local governments understand them, in order to better plan and manage local disaster risks.

The provincial government of Ontario, Canada implemented a province-wide hazard identification and risk assessment programme. It was a comprehensive process involving all the provincial ministries and more than 400 municipalities, who identified high-risk hazards and helped developing effective disaster risk reduction measures. A standardized methodology for risk assessment provided a clear baseline for the ministries and municipalities to assess their risks.

In Bangladesh, as the result of the community risk assessment, local authorities got practical experience in assessing their risk environment, determining the vulnerabilities of their local communities, and taking the appropriate actions to mitigate them.

### *3) Maintaining and upgrading critical infrastructure*

While local governments are responsible for a variety of critical infrastructure (such as water, drainage, sewage, schools, hospitals), investments to make them resilient to disaster risks are not very visible and sometimes neglected or deterred. Capital investment planning should properly address disaster risks, based on sound risk assessment.

The Overstrand Municipality in South Africa implemented a long-term strategy to develop and manage water resources in order to reduce drought risk. In anticipation of rapid urban growth and future shortage of water, the water demand was reduced through a comprehensive water demand management strategy that included clearing of invasive alien plants, a public awareness campaign, and leak detection and repair. At the same time, new local water sources were explored and developed by drilling for groundwater.

### *4) Managing long-term processes*

Being a long-term process, a disaster risk reduction initiative often suffers from staff changes and uneven interest among. Long-term political commitment is crucial for successfully implementing disaster risk reduction programmes over time.

The provincial government of Albay in the Philippines established and managed an independent and institutionalized disaster risk reduction office with permanent staff. Through the office, the government decentralized and mainstreamed disaster risk reduction into local governments' plans and programmes. The fact that the project gained consistent support for its policies and funding from the provincial governors since its inception contributed to the success of the office.

In South Africa, the Overstrand municipal government has been managing the process of water resource management and development since 2001. Due to the long processes involved and staff turnover, it was a challenge to retain project momentum and continuity. Fortunately, a stable situation in recent years has contributed to the project's progress.

### *5) Learning from disasters*

After the onset of a disaster, people are tempted to focus on short-term, visible recovery works. However, building on the momentum created by a disaster is often a very effective way to engage local governments and communities with long-term disaster risk reduction efforts.

In Pakistan, the programme was implemented in the area affected by the massive earthquake in 2005. It was the most devastating disaster to have ever affected the nation. The destruction caused by the earthquake elicited strong commitment to disaster risk reduction programmes by various stakeholders. It was identified as a challenge to combine short-term activities during the recovery phase with strategic longer-term initiatives to reduce risk, using political interests as an opportunity for gaining real commitments to risk-sensitive development.

The city of Saijo in Japan was hit by record typhoons in 2004 that led to flooding and landslides in the various parts of the city. In conducting 'mountain-watching' and 'town-watching', the group of schoolchildren and the citizens visited the area affected and damaged by 2004 typhoons, and heard stories from eye-witnesses. This way, the experience of the 2004 catastrophe was used as a new starting point for disaster education and preparation.

## *Conclusion*

As many of the cases show, it is imperative to promote a culture of participatory planning and implementation of disaster risk reduction initiatives. When successful, this builds on local and national government and civil society partnerships and cooperation in support of local initiatives to dramatically reduce the costs of risk reduction, ensure local acceptance and build social capital.

There are limitations to what household and community action can do to reduce disaster risk without government support, or without a broader infrastructure and service framework into which community provision can integrate, as some of the examples demonstrate from a positive point of view.

Innovative approaches and tools exist and are being applied creatively in urban and local governance and in community based approaches, as demonstrated by many of the examples. However, they need scaling up with

support from national governments. Many cities have applied innovative methods to provide access to secure land tenure, infrastructure and services for the poor.

Improved urban and local governance is usually built on partnership between competent and accountable local government and an active civil society that can articulate needs and priorities; plus decentralization of authority and resources from central levels, as demonstrated in the examples from Bangladesh, Vietnam, Philippines, El Salvador and Canada.

Capacity of urban and local government to plan and regulate urban development, enable access to safe housing and well-sited land, and provide hazard mitigating infrastructure are necessary conditions for urban risk reduction.

# *The Case Studies*

# Bangladesh

*Ministry of Food and Disaster Management Government of Bangladesh*

## *The Comprehensive Disaster Management Programme: Empowering local governments*


## *Abstract*

The Comprehensive Disaster Management Programme (CDMP) is a whole-of-government strategy led by the Bangladesh Government's Ministry of Food and Disaster Management, and implemented by a range of government and private organizations. The community intervention part of the programme aims to increase community resilience and strengthen local government capacity to manage risk reduction as part of their development responsibilities. The programme has developed and implemented a standardized community risk assessment, and helped develop local action plans for mainstreaming disaster risk reduction into the work of government authorities. Most importantly, the programme provides a local funding structure to implement priority actions, motivating local authorities and communities to take part. The CDMP has been successfully piloted and designed for national roll-out.

## The initiative

The Comprehensive Disaster Management Programme (CDMP) is a national strategy led by the Bangladesh Government's Ministry of Food and Disaster Management, and implemented by a range of government and private organizations. The programme builds the capacity of local authorities and their communities to understand disaster management and assess risk. It then provides local funding for them to implement priority disaster risk reduction measures.

The project aims to:

- Engage local authorities and encourage them to take ownership of disaster risk reduction issues and activities.
- Increase community participation in disaster risk reduction activities.
- Create a standardised risk assessment process that can be readily replicated across all risk environments.
- Facilitate mainstreaming of disaster risk reduction at a local level, nationwide.

The CDMP provides local authorities known as Union Parishads with introductory training on disaster management. It also helps set up Union Disaster Management Committees, which are mandated by the current Standing Orders on Disaster Management issued by the Government of Bangladesh. Union Parishads are autonomous and elected local government authorities that cover several villages, with average populations of about 27,000 people. There are six to ten Unions in each sub-district (Upazila) of Bangladesh. The chair and members of the Union Parishads are elected every five years.

The CDMP has developed a standard community risk assessment (CRA) guideline and is helping Union Disaster Management Committees to build their capacity for conducting the assessments.

Initially this process was piloted in seven districts particularly vulnerable to a range of different hazards, and was then expanded to nine further districts that were particularly affected by Cyclone Sidr and the 2007 floods. 400 NGO staff, in partnership with the CDMP, have been trained to carry out standardized community risk assessments. These are participatory processes that identify, analyze and evaluate of hazards, risks and vulnerabilities. They combine scientific data and predictions with discussion of local knowledge. The assessments are done from an all-hazards, all-risks and all-sectors perspective.

Based on the risk assessments, the communities formulate risk reduction action plans with lists of prioritized disaster risk reduction interventions. The action plans are owned by the Union Disaster Management Committees, and are used to guide further development projects.

To finance the priorities identified, the CDMP makes funding available through the Local Disaster Risk Reduction Fund. To ensure transparency and accountability, oversight is carried out by a Project Implementation Committee, whose membership is made up of Union Disaster Management Committee members, school teachers, civic leaders and representatives from vulnerable groups.

Entire populations of Unions are targeted, although vulnerable groups are of primary concern, such as women, the elderly and people with disabilities.

The Directorate of Relief and Rehabilitation of the Ministry of Food and Disaster Management developed the community risk assessment tool, under the auspices of the CDMP. The CDMP is a Nationally Executed Programme under the Ministry, funded by the UK Department for International Development (DFID), the European Commission and UNDP. It contracts partner NGOs to assist the Union Disaster Management Committees in running risk assessments.

The community risk assessment tool was developed during 2005-2006 through field-testing. Implementation of the process began in the initial pilot districts during 2006. Although risk assessments have been largely completed in the initial pilot districts, as well as districts affected by Cyclone Sidr and the 2007 floods, the project is ongoing. The process will be further modified and expanded to some 40 districts as part of CDMP Phase II, beginning in early 2010.

## The standardized Community Risk Assessment process

**1. Scoping the Community**
Facilitators are familiarized with the local risk environment and people's livelihoods through methods such as taking a walking tour of the physical area, resource mapping, organizing focus group discussions, and interviewing key informants. Stakeholders who will participate in the risk assessment are identified. Secondary information from the community is collected, analysed and validated.

**2. Identification of Hazards, Vulnerable Sectors, Elements & Locations**
Participants are divided into separate stakeholder groups to identify the hazards they face in their communities and the associated vulnerable sectors, elements and locations.

**3. Risk Analysis and Evaluation**
The risk statements are then analysed and evaluated to ensure an accurate picture of each hazard and their respective risks. This allows the facilitators to prioritise or rank them according to the impact they may have on different parts of the community.

**4. Specific Risk Reduction Options and Action Planning**
The most effective and appropriate risk reduction options for the elimination, reduction and management of risk are determined.

**5. Consensus on Options**
Primary and secondary stakeholders then jointly review the compiled coping strategies recommended by separate primary stakeholder groups and agree on potential options.

The end product is a consensually agreed document, endorsed by the respective Union Parishad, which describes the community risk profile and a set of risk reduction actions to mitigate vulnerabilities. The Union Disaster Management Committee can then submit proposals to the Local Disaster Risk Reduction Fund to finance the priority actions identified in the plan. The implementation of those actions is overseen by a Project Implementation Committee, whose membership is made up of Union Disaster Management Committee members, school teachers, civic leaders and representatives of vulnerable groups.

More comprehensive details on the risk assessment process can be found here: http://www.cdmp.org.bd/publications/CRA_Guidelines_English.pdf

***Results***
The community risk assessment process has been completed in 622 unions of 16 districts (see map of CDMP working area). The Local Disaster Risk Reduction Fund has funded some 550 community risk reduction projects prioritized in the risk reduction action plans. The World Bank's Local Government Support Programme has also begun to use risk reduction action plans developed under the CDMP to guide its development funding.

**Case Study: Sreeula Union**

Sreeula is located in the district of Satkhira in the southwest corner of Bangladesh. Home to approximately 24,890 people, Sreeula is a coastal flood plain area with newly sedimented and generally saline soil.

The Sreeula Union Disaster Management Committee undertook the risk assessment process, with assistance from the Area Development Organisation (ADO), a

local NGO. Led by their Chairman Abu Hena Shakil, the Committee held stakeholder meetings with separate groups, including those representing women, the elderly, villagers living on marginal land, fishermen, people with disabilities, and landless villagers. Information gained was combined with secondary scientific data, and used by the Committee to develop a risk reduction action plan. The assessment and planning process cost approximately 85,000 taka (US$1200). The completed action plan is a comprehensive document of some 80 pages, including detailed demographic, hazard, and risk maps. The key findings are summarised as follows:

The most prominent hazards were determined to be flood, waterlogging, river bank erosion, cyclone, and the rapidly growing level of salinity. Due to these hazards, 90 per cent of the households in the Union were at risk of facing drastic shortages in safe drinking water, and about 121 hectares of crops were at risk of severe damage (which would lead to a 50 per cent loss in productivity). Dozens of potential disaster risk reduction options to undertake over the short, medium and long term were listed, but the most urgent were:

- Build community awareness of different hazard resistant, saline tolerant agricultural methods and livelihood options.
- Develop a new crop calendar incorporating seasonal hazards.
- Establish rainwater harvesters and pond sand filters.
- Improve community warning systems for high tides and cyclones.
- Construct new cyclone shelters and improve maintenance of existing ones.

The Sreeula Union Disaster Management Committee then submitted a funding proposal to the Local Disaster Risk Reduction Fund for the following interventions:

- The installation of 50 rainwater harvesters around the Union. Cost per harvester: US$250.
- Livelihood and agricultural technical experts to spend 20 days (on separate occasions) in community meeting places to advise locals and answer questions. Cost of each expert per day: US$50.
- The production and dissemination of information, education and communication materials to raise awareness of disaster risk reduction in the community. Total cost: US$150.

In Sreeula the risk assessment process was carried out from February to April 2007. Their proposals to the Local Fund were accepted on July 2008. Implementation is expected to be complete by June 2009.

## *The good practice*

- A standardised risk assessment is applied to all risk environments and delivers consistent outcomes. This enables separate community risk assessments to be readily compared or consolidated, and has facilitated replication of the project across Bangladesh.
- The presence of the Local Disaster Risk Reduction Fund provides a practical, concrete demonstration to local authorities of the viability of a comprehensive disaster risk reduction approach. Funding the implementation of priority disaster risk reduction interventions gives local authorities a concrete reason to engage in the process.
- All stakeholders, especially the local authorities and marginalised groups, are involved in the policy planning and decision making process. This encourages local authorities to take ownership of disaster risk reduction issues and activities, and increases community participation.
- Local authorities get practical experience in assessing their risk environment, determining the vulnerabilities of their local communities, and taking the appropriate actions to mitigate them.
- In considering all hazards and all sectors, the methodology can readily be adapted to an extremely wide variety of socio-cultural and disaster risk environments, with minor adjustment. The World Bank's Local Government Support Programme for example is training local officials to use this risk assessment guideline to assess vulnerabilities across all sectors, devise strategies to mitigate risk, and facilitate local mainstreaming of disaster risk reduction.
- The action plans developed as an outcome of the risk assessment process can be readily used to guide development in the region as a whole.

***Role of local government***

The local government contribution has varied from Union to Union, with the partner NGOs filling gaps in capacity. Ideally the Union Parishad and the Union Disaster Management Committee would very much drive the process, with the partner NGO providing technical assistance in a secondary role. This is because local governments play the greatest role in sustaining ongoing, participatory disaster risk reduction at local community level.

In the case of Sreeula Union, the Union Parishad has been the key instigator and driver of the process. Although the partner NGO, ADO, acted as the facilitator in meetings with stakeholder groups, and obtained the secondary scientific data, the Union Disaster Management Committee participated in each stage of the process, validated all inputs, and consolidated the wealth of data and information themselves into a coherent action plan with minimal support.

Sreeula's Committee then took the lead role in writing proposals to the Local Fund to finance the most-needed interventions, and formed the committee to oversee implementation. In implementation, ADO provided only minimal technical support: for example to ensure that engineering projects were correctly measured during construction, and that financial details were recorded correctly.

## *Lessons learned*

The key lesson learned is that the decentralisation of authority to local governments is vital to ensure local ownership of disaster risk reduction and the local implementation of the Hyogo Framework for Action. Local authorities should have the responsibility of implementing disaster risk reduction, and be accountable to the community they represent in doing so. Although it is important that support be readily given to assist authorities in this task, it is imperative that the local government assumes responsibility and 'learns through doing'.

The community risk assessment process has been continually refined and improved over time. For example, children have a far more prominent place as stakeholders in more recently conducted risk assessments than initially was written in the guidelines. They now have a separate session with facilitators where they can voice their concerns away from other stakeholders should they choose. The community risk assessment process also needs further refinement to ensure alignment with existing national development funds.

The Union action plans, aside from benefiting the local community, are an excellent resource for national level disaster risk reduction plans. By bringing multiple action plans together it is possible to gain a comprehensive understanding of vulnerabilities at the regional and national level.

***Challenges***

Maintaining the interest of local authorities was initially a challenge in some cases. Disaster risk reduction issues are not necessarily always viewed as a priority among the many challenges facing local government, and in some areas there was a strong sense of mainstreaming fatigue.

Local communities were also occasionally sceptical of participating as stakeholders in the planning process. Convincing communities that the risk assessment process was the necessary precursor to concrete interventions was sometimes a challenge, particularly in those communities that had previously participated in risk assessment activities with minimal or inconsistent follow-through.

A key tool to overcome these challenges was the establishment of the Local Disaster Risk Reduction Fund to which Union Disaster Management Committees could immediately make funding proposals, following the development of an action plan. Ensuring that authorities and communities could see a clear path from risk assessment to funded action was an important step in securing confidence in the process.

Another challenge was ensuring transparency of the process and accountability of local authorities to the communities they represent. The establishment of Project Implementation Committees to implement the action plans has gone a long way in addressing these concerns, as its members are drawn from a diverse section of the community (including vulnerable groups).

A further challenge is that local governments have not always felt a need to pay particular attention to vulnerable and marginalised groups. There is a view in some local governments that this is a job for NGOs, as doing this themselves hampers their ability to govern the Union as a whole. Prioritising the needs of vulnerable groups in the community risk assessment process has gone some way towards rectifying this, but understanding of this needs improvement.

To improve similar projects in the future, the community risk assessment process should be ideally almost totally led by the Union Parishads themselves, with the partner NGO simply operating in an advisory capacity. At this stage however, the capacity for this does not yet exist within all Union Parishads.

## *Potential for replication*

The community risk assessment process has been designed from the ground up to be readily replicated across all risk environments. The pilot process has been deemed largely successful by both government and development partner reviews. Accordingly, it will be expanded across the country to 40 districts as part of CDMP Phase Two.

The possibility for replicating this process outside Bangladesh would be largely dependent on local government mechanisms.

In Bangladesh the community risk assessment process is about to be rolled out nationwide. It should be noted however that although the process gives a comprehensive view of the local risk environment, it is a somewhat laborious process to undertake, requiring significant resources. It is very much dependent on the availability of trained personnel, community stakeholders, and secondary scientific information. To conduct an assessment and develop an action plan in one Union costs approximately 100,000 taka (approximately US$1500).

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# Canada

*Government of Ontario*

## *The Ontario Provincial Hazard Identification and Risk Assessment*


## *Abstract*

The Ontario Provincial Hazard Identification and Risk Assessment (HIRA) process provides a ranked risk assessment of the frequency and potential impact of different hazards on the province, including natural, technological and man-made hazards. The 2003 assessment provided a baseline for Ministry-level assessments to be conducted throughout the provincial government, and meant that preparedness planning could be improved. The initial Provincial HIRA is being revised with an updated assessment, including a methodology for prioritizing hazards, due for completion at the end of 2009. The process has been led by Emergency Management Ontario, part of the Ministry of Community Safety and Correctional Services.

## The initiative

Ontario passed its provincial Emergency Management and Civil Protection Act in 2003. The Act required all provincial Ministries and municipal governments to identify and rank all known and suspected emerging hazards and risks to community safety. This included carrying out a Hazard Identification and Risk Assessment (HIRA) process to assess risk, identify vulnerabilities and to plan for comprehensive disaster risk reduction. The Ontario provincial government tasked Emergency Management Ontario with the implementation of the province-wide HIRA report and methodology, on which the Ministry and municipal assessments would be based.

Emergency Management Ontario produced an initial Provincial HIRA in 2003 that identified 37 main risks for the province. All provincial government Ministries are now working on assessments based on this. A specialist officer within Emergency Management Ontario is currently reviewing the 37 hazards, identifying emerging hazards and developing a methodology to make the HIRA process even more effective and accurate.

Emergency Management Ontario continues to provide comprehensive guidelines and technical support for this risk assessment process. This includes worksheets and a simplified evaluation system that can be applied to different contexts within the province. For example, Ministries and municipalities have been asked to assign numerical rankings to the probability of a hazard based on its past occurrence, likely consequences, and the strength of local government response capabilities. This then helps set priorities.

The programme is funded by the Ministry of Community Safety and Correctional Services.

***Results***

The Provincial HIRA has improved the Ontario Government's ability to anticipate and mitigate the potential effects of hazards, throughout all its Ministry sectors. It is already helping to guide the creation of effective exercises, public awareness campaigns and training programmes focused on the most likely and dangerous hazards. This will improve disaster prevention, preparedness, mitigation, response and recovery.

## The good practice

The Provincial HIRA provides a rigorous, baseline assessment that:

- Enables disaster prevention, mitigation, preparedness, response and recovery practices to be as effective as possible by highlighting the hazards of greatest concern.
- Uses a methodology that combines qualitative and quantitative data to assess risk through examining the frequency and potential magnitude of each hazard. This makes the process as accurate as possible.
- Gives emergency management professionals at all levels of government a practical and easy-to-use tool to assess the magnitude and frequency of each hazard. This then highlights which hazards should be a priority for preparedness programmes.
- Offers a dynamic and scientifically based method of assessing evolving hazards and risk.
- Identifies the most likely hazards to which the Government of Ontario may have to respond, including priorities for training and exercises.

***Role of local government***

The provincial Government of Ontario has shown leadership by requiring this comprehensive risk assessment process through an act of law and by empowering a coordinating government office as the lead implementing organization. Mandatory targets were set for all government ministries and all municipalities. Local governments have played a key role through the conduct of their own risk assessments, consistent with the common provincial methodology. These assessments are being used to focus limited resources as effectively as possible. As of 2008, all local governments in Ontario (444 in total) had completed a local risk assessment.

## Lessons learned

- A standardized methodology can provide a clear baseline for Ministries and municipalities to create their own HIRAs. If the same methodology is used, results can then be compared to identify and analyze trends and vulnerabilities.

- A methodology based on scientific information and data can minimize perceived risk and provide a more realistic view of hazards and their potential effects.
- The Provincial HIRA must be updated, as hazards are not static.
- Clear guidelines and an explanation of the methodology used for the Provincial HIRA can be adapted by ministries and municipalities for their own risk assessments.
- Information from a variety of sources and experts is crucial, as obtaining reliable scientific data can be a challenge.
- A HIRA can assist in the allocation of money and resources.

***Challenges***

**Lack of information:** For some of the less frequent and the emerging hazards, information on past occurrences is minimal or does not exist. This was overcome by examining whether there were any factors (such as topography) that exist in Ontario that may prevent this hazard from occurring. Scientific analysis of any information that hinted at past occurrences was analyzed.
Different Hazards: The Provincial HIRA was required to assess and prioritize all known and emerging hazards that exist in Ontario. This meant that the methodology had to be applicable to natural, technological and man-made hazards with different causes and impacts.

**Different Impacts:** A methodology had to be developed that could be used to prioritize hazards with different types and scales of impacts. This was accomplished by subdividing the impact section of the risk assessment into social impacts, property and infrastructure damage and environmental impacts.

**Ease of Use:** The Provincial HIRA was intended to serve as a baseline for the creation of ministry and municipal HIRAs. Developing the methodology required concerted attention to make sure that it was as user-friendly as possible while not compromising accuracy.

## *Potential for replication*

Since the Provincial HIRA attempts to provide a more scientific approach to hazard identification and risk assessment, replication elsewhere should be fairly simple. Replication of the HIRA process is ongoing at Ministry and municipal level in Ontario. A HIRA can also be used for business continuity purposes. Any economic constraints would be related to obtaining equipment such as modelling programs, and the cost of fieldwork.

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# El Salvador

*Oxfam America*

***Strengthening connections between communities and local government***



## *Abstract*

Based throughout the watershed areas of Ahuachapán and Sonsonate in El Salvador, PRVAS is a disaster risk reduction programme coordinated by a consortium of NGOs and donors, working to bring local communities into dialogue with local and national governments and funding sources. Where local governments are committed to the process, this has resulted in strong multi-stakeholder engagement, community capacity building, and collaborative disaster preparedness exercises.

## The initiative

In El Salvador, the 2005 Law for Civil Protection and the Prevention and Mitigation of Disasters requires the formation of Community and Municipal Committees for Civil Protection. However, few local governments have complied with the law and even fewer in a collaborative and inclusive way.

The Reducing Vulnerabilities in Ahuachapán and Sonsonate Programme (PRVAS) aims to improve collaboration between NGOs, local government authorities and local communities. The programme has been setting up and strengthening existing Civil Protection Committees and works on a range of community-based disaster risk reduction projects. These include disaster preparedness training, drills and simulations, small mitigation projects, community awareness raising and support for community action.

The programme objectives are to:

1. Strengthen different organizations by unifying concepts, methodologies, formats and materials for disaster risk reduction.
2. Educate communities and organize local committees for disaster risk reduction.
3. Collaborate with local, municipal and national government to help them fulfil their disaster risk reduction and emergency response responsibilities.

This network of NGOs, local authorities and communities now responds quickly and in a coordinated way during emergencies. The impact has been seen through the effective communication and collaboration that occurred during a number of localized emergencies. During flooding in 2007 and 2008, actions were coordinated between NGOs, the Municipal Committee for Civil Protection and the Mayor's office.

The strategy for all five municipalities of the programme is to:

- Invest in training and form teams of community field workers that can communicate disaster risk reduction information, organize communities, and work together towards a common goal of reducing vulnerability.
- Empower citizens and create space for participation and dialogue by educating, organizing and mobilizing communities using a rights-based approach. The aim is to encourage citizens to become their own advocates so they can negotiate with local government, the civil protection system, national government agencies and businesses. They also need to be able to prepare themselves and work with local government and authorities during an emergency.
- Strengthen municipal and regional level coordination, for example by creating municipal forums for leaders from the different communities to form alliances and work together.

The full PRVAS programme covering five municipalities includes:

- Community leaders (with over 50 per cent participation by women) of 54 communities in the five municipalities of the Departments of Ahuachapán and Sonsonate
- 540 direct beneficiaries (local leaders being trained and organized in five municipalities) and some 124,384 indirect beneficiaries (entire population of the five municipalities)

The programme is being implemented by six National NGOs already working in the local areas: FUMA, PRO-VIDA, UNES, Lutheran World Federation, Caritas Santa Ana and Caritas Sonsonate. It is funded by Oxfam America, ICCO & Kerk In Actie and Lutheran World Federation with institutional support from Caritas El Salvador.

The PRVAS initiative formally began in January 2007. The initial three-year period of the programme ended in December of 2009, and the intention is to continue through 2011.

***Results***

The target communities are more prepared to respond quickly and efficiently to emergencies using skills developed during trainings and simulations.

The organized communities also work together with NGO field staff and the local government to identify key small mitigation projects to help them evacuate during emergencies and to reduce flooding. Only partial funding is supplied by PRVAS, which requires the communities to present plans and proposals to the municipal government in order to obtain the rest of the funds and materials needed.

## Case study: Acajutla municipality

In Acajutla, national NGOs Caritas Sonsonate and Maquilishuat Foundation (FUMA) have long-standing relationships with local officials, but through the PRVAS programme they are strengthening coordination and collaboration with the local Mayor's office.

The work in Acajutla is centered in 16 communities (10 directly supported by PRVAS, six supported by Spanish Cooperation) from of the municipality of Acajutla, Department of Sonsonate, El Salvador: Playa Costa Azul, El Limite, San Cristóbal, La Marañonera, La playa Acajutla, El milagro, La Coquera , Las Atarrayas, La San Roque, El Amatal, Marines Agua Zarca, Monzón, Supervisión, El Rio, Playa Metalio, and La Arenera 4.

***Results in Acajutla***

- 16 Community Civil Protection Committees have been formed that all work together in a network for disaster risk reduction.
- Each community has an emergency plan and risk map.
- A Municipal Committee for Civil Protection has been formed to address disaster risk reduction and response and is being trained and given technical support. It is headed by the mayor with participation of police, navy, Social Security, local health posts, the Ministry of Education, the Acajutla Foundation, NGOs, community leaders from the Acajutla and Metalío Community Civil Protection Committee networks and business people.
- Community Civil Protection Committee networks are linked with the Municipal Committee, which provides a mechanism for NGO partners and community leaders to work together with local government.
- Municipal Emergency Plans are developed and updated, then publicly presented to national authorities.
- Emergency simulation exercises are carried out for water rescue, evacuation and shelter protocol several times a year, coordinated between the Municipal Committee, government officials, police, Ministry of Health, Social Security, local NGOs and local businesses.
- Mitigation projects, like drainage canals for rainwater, have been carried out with local labor and funds leveraged from local government, with help from the PRVAS programme.
- The good practice
- Forming a regional consortium of NGOs and donor agencies avoids duplication of work, allowing for better sharing of experiences and more effective leverage of scarce funds for disaster risk reduction.
- The programme links communities to local government, both directly and through NGOs, making the processes of dialogue and advocacy sustainable. Communities realize they have the right and ability to continue that dialogue and to work to decrease their vulnerability.
- The programme works throughout a region, across administrative boundaries. The programme area was defined not by lines on a map, but was an entire watershed area from the mountains down to the sea.

***Role of local government***

In the case study example, the local government in Acajutla plays a strong and positive role in the overall collaboration with all local actors to truly reduce the risks of disaster. In the PRVAS experience, there have been few local authorities that have worked as well and as closely with NGOs, local industry, business people and the community to achieve this. In other municipalities, local governments have not shown the necessary commitment to the law, or to working in partnership on disaster risk reduction.

These variances throw into relief how vital local government commitment is to successful disaster risk reduction. Disaster risk reduction is everyone's responsibility because a missing link along the way, when one partner cannot fulfill its role, can collapse the whole enterprise. While the government of El Salvador has legislated for local government and community disaster management committees, there is a lack of support and commitment at local and national level to turn words into action. The case study of Acajutla is a good example of local governments taking responsibility for implementing a national requirement.

It is also a good example of a local government appreciating where NGOs and other partners can fill

temporary gaps that the government has not – in assisting with outreach to communities and building community capacity to engage with local government processes. An important element of this programme is its focus on organizing at the community level, specifically for the purpose of improving community advocacy efforts and community dialogue with local government.

## Lessons learned

- Collaboration between international and national NGOs can leverage donor resources more effectively.
- Collaboration between NGOs also helps form unified conceptual approaches and results in a better exchange of ideas, experiences and methods.
- It is important to dedicate time at the beginning of a collaborative programme to the training of field staff and community leaders. Don't expect to tackle the more complex issues in the first year – invest for the medium and long term.
- Empowering communities to enter dialogue and collaborate with local government, industry and small businesses directly is a way to create sustainability beyond the end of the programme.
- The programme could have been improved by obtaining better baseline data and mainstreaming gender from the beginning.

***Challenges***

- A difficulty is to replicate this synergy at the departmental or national level with the government authorities and Civil Protection in other municipalities.
- Other local governments lack political commitment to implement the national law requiring community and municipal disaster committees. Acajutla Municipality is an exception and has been the most involved and committed to the PVRAS programme.
- Organizing 54 communities in this part of the country is a challenge. There is little history of community organizing partly due to a history of violent repression against indigenous communities of the area. This is overcome through the hard and dedicated work of field staff that spends the large majority of its time in the communities working with local leaders.
- It is important to remain as politically neutral as possible and to work around political election calendars, due to the polarized political environment in El Salvador.

## Potential for replication

- Oxfam and ICCO have supported the replication of this programme in two other regions of El Salvador. Both programmes started in 2008: one is in the metropolitan area of San Salvador, the other in the Eastern department of Usulután.
- This practice can be replicated if and when an analysis is done of the local reality, level of community organizing and presence of local actors. The programme also requires the presence of donor agencies interested in collaborating with each other.

Some constraints to replication are:

- Economic resources: There are not many donor agencies investing in disaster risk reduction.
- National government attitudes: While Central American countries are vulnerable to nearly every type of disaster, governments do not always fulfill their duty to protect their citizens by preventing, mitigating and responding to disasters. International donors can only fill a small part of that gap.

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# Fiji

*UNDP Pacific Centre*

## *Beyond early warning and response: Risk-sensitive local development*


## *Abstract*

Flooding in Navua, Fiji, has caused extensive damage to crops, livestock, houses, roads and bridges, and has been exacerbated by poor development planning. In the floods of 2003 and 2004, hundreds of people lost their homes and belongings. Taking a long-term approach to strengthening local level disaster risk reduction, the UNDP Pacific Centre has been working with multiple partners and stakeholders on this comprehensive, locally-implemented project. The initiative has raised awareness of the links between development and flooding within the planning process, helped develop early warning systems, supported communities to assess their vulnerabilities, drawn up plans of action and put those plans into practice.

## The initiative

This is a pilot project that follows an integrated Local Level Risk Management Approach (LLRM) to reducing flood risk. It is an ongoing long-term project that works with communities and local government on disaster preparedness, but also increases understanding of the link between development and disaster risk at a local level.

The overall objective of the project is to make development planning in Navua incorporate community priorities, and become sensitive to flood risk. To accomplish this, the LLRM and development-centred approach has involved:

- Active engagement with local partners
- Developing the capacity of local government, local business, community and civil society to mainstream disaster risk reduction at the local level
- Feeding into national disaster risk reduction mainstreaming

Navua township is situated on the flood plain of the Navua River, Fiji's third largest, which drains a catchment area of 1070 cubic kilometres. Floods in 2003 and April 2004 caused wide-ranging and serious damage to crops, livestock, houses, roads and bridges. Hundreds of people lost their homes and belongings. The 2004 floods caused FJD 90 million in damage to medical supplies and equipment from Navua hospital which is situated immediately next to the river banks.

The way that human settlements around the flood plain have developed has helped transform a natural hazard into a disaster. Flooding of the Navua River is associated with prolonged and intense rainfall, which is common during the wet season from November to April. However, increased flooding of the area has also been attributed to build-up of sediment at the mouth of the Navua River, which raises the riverbed and increases the river's potential to burst its banks. Studies and field surveys suggest that several development processes are exacerbating flood risk: Abandoned irrigation channels built in the 1990s; unsustainable land usage; deforestation of land around the upper catchment of the Navua River; aggregate mining in the river and; dredging of the river for mining and to control flooding.

All of these factors contribute in varying degrees to bank erosion, deforestation and sediment build-up on the riverbed.

The project addresses these problems using the LLRM approach. Disaster risk reduction at the local level is more likely to be sustainable when projects start by addressing local development issues, and integrating risk management into existing development initiatives. LLRM supports communities to manage and reduce disaster risk as well as foresee and control the emergence of new risks. This is done through work on local governance, and community planning and preparedness, as well as through individual participation and motivation.

First, through using Vulnerability and Capacity Assessment methodology, communities identified their development priorities, with particular attention to how gender roles can contribute to vulnerability. Based on this, action plans were developed with villagers, and priorities were identified. Community development needs were then channeled up through discussion with local government representatives, who also take part in the assessment process.

District Officers at the local government level then submitted proposals to national counterpart ministries, which has led to allocation of national-level funds for the project. As the National Disaster Management Office is one of the project partners, information regarding major development and disaster issues is constantly shared and discussed at the national level.

Two project management mechanisms were set up:

- The Steering Committee for the project was appointed with the assistance and advice of the Provincial Administrator and was made up of focal points from local government and civil society organizations. The Steering Committee oversaw and guided the project group's work.
- The project group was responsible for conducting activities and was required to report back to the Steering Committee regularly.

UNDP Pacific Centre's implementing partners are the Fiji National Disaster Management Office, the Pacific Islands Applied Geoscience Commission (SOPAC) The Fiji Red Cross Society, and The Asia Foundation/ Office of U.S. Foreign Disaster Assistance (TAF/OFDA). While

some partners provide in-kind support in the way of technical expertise, other implementing partners also disburse project funding and lead activities. Other stakeholders and partners are UNV, and most importantly for project implementation, local government and local communities.

The pilot started in 2007 and will be completed at the-end of 2009.

***Results***

- Disaster risk reduction education and public awareness campaigns are being carried out, including through workshops held with local government.
- Gender-sensitive Vulnerability and Capacity Assessments have been conducted for provincial or district development.
- Disaster risk reduction is being integrated into provincial development planning and budgeting.
- A flood warning system is being implemented. Under an EU funded project called 'Reducing Vulnerability of ACP States', SOPAC- one of the implementing partners of this project - had already worked with the Fiji National Disaster Management Office, the Public Works Hydrology Division, the Fiji Meteorological Services, and the Provincial Administrations of Serua and Namosi to implement a flood warning system in the Navua region.
- A flood response plan has been developed.
- Local government and community capacity has been developed.
- Relationships have been built between local government, traditional leadership (the chiefly system) and the national government.
- Disaster risk reduction initiatives have been demonstrated.
- An action plan for disaster risk reduction at the local level was developed.

As a result of the initiative, risk sensitive development proposals have been submitted to national Ministries by the provincial administrator, and communities designed and implemented development projects that reduced community vulnerability, one of which is a Mangrove Rehabilitation project. The overall process of mainstreaming disaster risk reduction into community development has helped reduce disaster vulnerability.

## The good practice

- The initiative promotes the investment of national and provincial funds in disaster risk reduction.
- Different institutionalized processes of central and traditional government are being respected.
- Communities are analyzing their own risks, vulnerabilities and development priorities, and addressing them from within instead of relying on external forces. This has been achieved by using participatory methods.
- Gender-sensitive participatory methods are ensuring women's participation and that their voices are heard.
- Local government representatives with planning and disaster risk management responsibilities are being trained in disaster risk reduction.
- An advocacy and awareness strategy on disaster risk is being developed for local level use.
- Community action plans are aligned with the capacities and resources of the communities.
- There is now better communication and interaction between local and national government representatives through joint workshops, training, meetings and participation in a Steering Committee.
- Traditional local leadership mobilized communities.

***Role of local government***

The Provincial Administration of Serua and Namosi provinces were highly committed to the initiative, showcasing the importance of local government to the locally based work of development agencies. The Provincial Administration was instrumental in coordinating, hosting, facilitating and participating in stakeholder meetings, workshops and trainings. It also incorporated disaster risk reduction and development priorities identified by communities into the Provincial Development Plan, and into proposals to national counterpart Ministries. Through their commitment, they kept the momentum of the project alive.

## Lessons learned

- Participatory plans and community-driven approaches are of extreme importance for achieving objectives and goals.

- More effort (also from the national level) is needed to institutionalize capacity building processes for disaster risk reduction at the local level.
- Communities are always the first responders to emergencies, and it falls to local government to help communities respond. It is critical to build local capacity for this
- Initiatives identified by communities themselves are much more likely to be seen through and to become sustainable.
- Involving local government from the start helps to secure their support and willingness to contribute to implementation.
- Having a steering committee and a project group made it possible to have ongoing exchange between local, national and community concerns, strengthening commitment to the multi-stakeholder approach.

***Challenges***

- As there were many changes in staff, not only within the partner agencies but also within government, it was a challenge to maintain the momentum of the project over time, and to maintain continued commitment of all stakeholders and implementing partners to work towards a common goal. Improvements would be to have dedicated officers in charge of the project circle, and one person from the working group who is constantly at the project site.
- It can be a challenge to increase understanding and acceptance of disaster risk reduction among government officials and traditional leaders. Community hierarchies and cultural constraints had to be well-managed.
- Agencies were not able to allocate funding for the project, and there were competing priorities for partners
- Political change at national level, and poor facilities, were also disruptive.

## *Potential for replication*

LLRM pilot projects are already being implemented in other Pacific Island Countries, such as Vanuatu and the Marshall Islands. Further replication would depend on the commitment of the government to disaster risk reduction, and the willingness to partner on such projects. Scaling up would most probably depend on the financial situation of the government and implementing partners.

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# France

*EP Loire*

## *Memo'Risks: Students survey community risk knowledge*


## *Abstract*

The Memo'Risks initiative has been operating in the Loire River catchment area of France since 2004, and brings together local governments and schools to survey local disaster risk awareness. Students are rallied by city Mayors to investigate the possible hazard impacts on their town, to map risks, and to survey the preparedness and risk knowledge of the local population. The survey results become a valuable data resource on perceptions of risk and the level of risk knowledge in the local population. Importantly, the process of collecting, presenting and publicising the results is used by the local government to raise disaster awareness through the media, to increase community participation in disaster risk reduction, and to form the basis of targeted disaster risk information campaigns.

## The Initiative

Memo'Risks brings together risk education for school students with raising awareness in their communities, and produces useful survey data for local governments to use for further risk mapping and education. It also successfully communicates disaster risk reduction to the public in an accessible and engaging way.

Mobilized by Mayors and local governments, students are called upon to carry out a community survey mapping risk knowledge about specific hazards like flooding. Local authorities support the students with technical hazard information. The project emphasizes local and everyday experiences and knowledge, including the students' own, in order to make the subject more personally relevant to people. The survey may investigate, for example, the level of hazard knowledge and preparedness of the local population, what historical memories, experiences and lessons that the elderly can provide, and how local businesses think a natural hazard will affect their work. In essence, the students are carrying out a survey of perceived vulnerability and risk, on which the local authorities can base risk analysis, mapping, and public information campaigns.

The Memo'Risks initiative targeted the 300,000 inhabitants living in the flood planes of the Loire basin, and the secondary schools in those areas. This comprises the six regions of Auvergne, Bourgogne, Centre, Languedoc Roussillon, Limousin and Pays de la Loire, which covers 16 Departments, 18 cities and 11 intermunicipal syndicates. The 18 partnered towns have a combined population of over 30,000. Over 1000 students have been directly involved, and there has been an indirect impact on the people who took part in the survey. More than 30 articles about the initiative have been published in local newspapers.

The NGO Prevention2000 developed the Memo'Risks initiative as part of a global strategy to make disaster risk reduction seem locally and personally relevant at the community level. Memo'Risks brings together local governments and high schools to together develop and disseminate knowledge about disaster risks. On the Loire river, Memo'Risks is promoted and funded by the Etablissement Public de Loire (EP Loire), which is a 'syndicat mixte' in charge of water and flood-related disaster risk reduction for the whole Loire catchment basin area. EP Loire has a mandate for the administration of water on the river basin: prevention of floods, management of water levels in summer, of the environment, and river tourism. Its status and its experience allow it to coordinate projects with different local actors. As coordinator of Memo'Risks, EP Loire partnered with a range of local government authorities and Mayoralties to promote direct joint work between local governments and schools. Partner cities include Amboise, Blois, Chinon, Communauté de communes du pays d'Azay-le-Rideau, Orléans and Tours.

Memo'Risks was showcased during the World Conference on Education for Sustainable Development held in Bonn from 31 March to 2 April 2009, together with the UNISDR campaign 'Disaster Risk Reduction Begins at School' and the UNISDR digital database of disaster risk reduction education material.

***Results***

Overall, Memo'Risks has successfully raised awareness of risks among the general population and has educated young people. In particular, the students' activities and community outreach provided excellent opportunities for local authorities and other partners to communicate disaster issues to the public through the news media. School students taking an active role in civic life, and gathering new information about the community's disaster knowledge and preparedness level, are very media-friendly topics. Significant steps in the project, such as the delivery of the survey report by students to the Mayors, formed part of overall communications plans to reach as many people in the community as possible. Student-led public community meetings have also been held to discuss disaster risk and the survey results.

The positive outcomes of the Memo'Risks initiative have helped convince local authorities to spend more time and effort on disaster risk information.

## The good practice

- Memo'Risks carries out risk education for students and for the community at large at the same time.
- It is based on a true partnership between local governments and schools, both being grassroots institutions able to lead and reach the community effectively.

- It uses a participatory and capacity-building approach, encouraging students to engage with civic processes and generate publicity with their risk mapping survey. Students, the direct participants, end up leading and informing their community as a whole.
- It uses a bottom-up approach by basing information campaigns on the findings of the survey of public perceptions and knowledge.
- It has made disaster risk reduction accessible and more relevant to people by emphasizing their personal, everyday experiences.

It promotes a media-friendly subject that can form part of an overall risk communication strategy at the local government level.

***Role of local government***

- Local government has been instrumental in the planning, funding, implementation and promotion of this initiative. The lead local government partner in this initiative was the regional river management body EP Loire, which funded and promoted Memo'Risks throughout its broad membership of mixed local authorities. The frontline implementation of the initiative by local governments and Mayors has been an excellent example of how local government makes things happen on the ground. Memo'Risks has shown that local governments have a vital role in bringing disaster risk reduction into people's daily lives through leadership, advocacy, communications and technical support, and by partnering with other institutions such as schools that can reach to the very centre of local communities.

## Lessons learned

- Projects of this kind take a long time to implement locally – in this case 18 months. A real commitment and involvement by city authorities throughout the whole period is mandatory for success.
- Risk awareness is not the 'catchiest' topic for local authorities or citizens. But this project has shown that talking to people about their own specific everyday environment and their daily life is a good way to get their attention.
- The innovative nature of the survey, and harnessing the energy and enthusiasm of young people, have both been excellent ways to overcome the 'saleability' problem of promoting risk awareness.
- Similar projects could be improved with a better visibility of disaster risk reduction in the UNESCO Decade of Education for Sustainable Development 2005-2015.

## Potential for replication

The Memo'Risks method can be applied to natural and technological hazard risks, and is adaptable to any territory and any language. It has already been implemented in the French PACA & Caribbean Regions, where the greatest risks are from hurricanes, seismic activity and flash flooding.

For replication, there will be a need for a local implementing partner such as an NGO, trained in the methodology, to financially support and coordinate the project from start to finish. Experience demonstrates the need for a consistent coordinating presence that can follow and support the partnership between the city and the school over the long period of this project. While this role can be handled by a regional authority, there will often be too many constraints on the time and human resources of the city team, regional authority or the school, requiring funded presence from an NGO partner.

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# Indonesia

*Asian Disaster Preparedness Center, Bandung Institute of Technology & Jakarta Provincial Government*

## *Many partners, one system: An integrated Flood Early Warning System (FEWS) for Jakarta*


## *Abstract*

Integrating improvements into the Flood Early Warning System for Jakarta has been a true multi-stakeholder process, involving a huge range of local authorities and partners. Through managing everyone's interests and roles, and improving coordination, the Early Warning System was upgraded from top to bottom. Technical improvements mean that earlier flood warnings are now possible. But more importantly, preparedness capacity has been built and streamlined. Key coordination hubs and standard operating procedures have been established and tested with comprehensive drills, so that institutions and communities are now more ready to act on warnings.

## *The initiative*

The Indonesian capital city of Jakarta has high flood risk. Administratively a province referred to as 'DKI Jakarta', it is a coastal city and is the exit point of 13 rivers flowing from West Java Province and Banten Province. 40 per cent of Jakarta lies below sea level, and the provincial authority area also includes 110 islands. Hydro-meteorological hazards have inflicted heavily damages on the coastal areas and on residential areas near the river banks. During the perennial and five-yearly floods, Jakarta has suffered the loss of billions of dollars worth of investment in building and infrastructure, and has borne the burden of opportunity costs of inundations of the access road to Jakarta International Airport.

The previous Jakarta Flood Early Warning System was predominantly aimed at monitoring flash floods originating upstream. Its four warning stages were only based on water level information from designated checkpoints that provided only about six hours response time for the urban communities along the river banks. This was not sufficient for packing and evacuation. Also, flooding due to extreme local rainfall was also a major concern that was not addressed by the warning system. To address this, the Bandung Institute of Technology's Centre for Disaster Management, the Asian Disaster Preparedness Center (ADPC), and the Jakarta Provincial Government, initiated a comprehensive upgrade and integration of the Jakarta Flood Early Warning Sytem (FEWS). A wide-ranging multi-stakeholder process began, resulting in a range of technical and community-based initiatives to integrate the many elements needed in an effective warning system.

The project began in February 2008 and was completed in July 2009.

***Stakeholders***

The range of multi-level-stakeholders involved illustrates the institutional complexity of fully integrating an early warning system around even one specific hazard in one area.

**National agencies:**

- The National Agency for Meteorology and Climatology (BMKG), responsible for monitoring extreme weather information
- The National Agency for Disaster Management (BNPB), in particular, its Crisis Centre

**Jakarta Provincial Government:**

- The Public Works Department (DPU-DKI) of the Jakarta Provincial Government, which holds provincial responsibilities for detecting, monitoring and disseminating warnings, using water level information
- Crisis Centre of DKI Jakarta, a regional Emergency Operations Centre of the Provincial Unit for the Management of Disaster in Jakarta that holds authority over receiving and disseminating extreme weather, flood warnings and related information
- Bappeda Provinsi (Regional Planning Board)
- Dinas Kesehatan (Health Department)
- Dinas Sosial (Social Department)
- Emergency Operations Centres of Dinas Trantib (Defense Department) and Dinas Kebakaran dan PP (Department of Fire and Disaster Management)

**City government of Jakarta Selatan:**

- Emergency Operations Centre of Jakarta Selatan City, which disseminates warnings and information from Crisis Centre DKI Jakarta to other centres, such as flood-prone subdistricts
- Emergency Operations Centres of Dinas Trantib (Defense Department) and Dinas Kebakaran dan PP (Department of Fire and Disaster Management)

**Sub-district and community authorities:**

- Emergency Operations Centres at subdistrict level, which disseminates warnings and information to lower-levels, such as Post-Coordination hubs (Posko) and sub-subdistricts (Kelurahan)
- Coordination Posts of Kelurahan Kebon Baru (Sub-Sub-District level) as well as Posko at neighbourhood-cluster (Rukun Warga) level, which receive information and warnings, and monitor water levels using the new Flood Reference mechanism

**Non-governmental and community organizations:**

- Indonesian Red Cross (PMI DKI Jakarta)
- Yayasan Empati Sesama
- Air One

**Country project implementer:**

- Center for Disaster Mitigation, Institute for Research of Bandung Institute of Technology (CDM-LPPM-ITB), which initiated the collaboration to improve the Jakarta FEWS through a project with PROMISE Indonesia Country Project

**Regional programme implementers and donors:**

- Asian Disaster Preparedness Center (ADPC) through the Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE), implementing this progamme in Bangladesh, Indonesia, Pakistan, Philippines, Sri Lanka and Viet Nam
- US Agency for International Development, Office of Foreign Disaster Assistance (USAID/OFDA)

***Results***

- Two new warning mechanisms were integrated into the existing early warning system. These were a potential extreme weather warning service, and a community-based early warning service for flooding.
- These changes would improve the overall warning system for local and flash floods, and allow more response time for communities. Warnings can be disseminated 36 hours before extreme rainfall hits. This gives sufficient time for people to pack valuables and evacuate. The system also updates weather information via radar on an hourly basis.
- To make the FEWS fully effective, the project also carried significant work on capacity building within institutions, empowered the Jakarta Crisis Centre as the central disaster management coordinator at provincial and local level, and carried out community-based pilots of Standard Operating Procedures and simulations for flood preparedness and response. To achieve this, the Provincial Government of Jakarta partnered with the national government, the City of Jakarta Selatan (the largest of the five cities of DKI Jakarta, located in the South), local administrative districts and subdistricts, NGOs, universities, technical experts and donors.
- The Technical Working Group
- The changes were kicked off by recommendations from a Technical Working Group consisting of experts from key institutions in disaster risk management at all levels. These included national institutions, regional and local level representatives, the Jakarta Provincial Government, the Bandung Institute of Technology, and the ADPC's Indonesian Country Project PROMISE (Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia).
- To find the best way forward for mitigating flood disaster risk, the Technical Working Group recommended the existing system integrate new aspects: (1) monitoring and detecting flood potential both at the national and provincial designated agencies, (2) dissemination of warnings by Jakarta Crisis Centre as a central coordinating body (3) improving agency interfaces to ensure timely warning dissemination, and (4) community-based FEWS. It also drafted the Standard Operating Procedures, and selected a case study area for implementing community-based disaster risk reduction initiatives. Once the SOPs were drafted by the Technical Working Group, focus group discussions were held with other members of disaster management units and community representatives.

## *Training*

Trainings of Trainers on FEWS and emergency response were held. The participants were government officers, community representatives and school teachers. Meanwhile, training for first responders was conducted to enhance capacity of local communities in emergency response through increasing skills in public kitchen management, post-disaster public health, and water safety and water rescue. PROMISE Indonesia was the lead coordinator for training, in collaboration with many government agency stakeholders.

**People trained consisted of:**

- 20 active Technical Working Group members who were officials from the Jakarta Provincial Government, government-affiliated NGOs, Bandung Institute of Technology, and the Ministries of Disaster Management and Climatology
- 25 people on duty 24/7 at Jakarta Crisis Centre.
- Four people on duty 24/7 at the Emergency Operations Centre of the the City of Jakarta Selatan

- Four people on duty 24/7 at the Emergency Operations Centre of the Community Protection Unit) in Tebet subdistrict
- Four people on duty 24/7 at the Coordination Post of Kelurahan Kebob Baru subdistrict

**Community capacity building**

The Jakarta Selatan area of Kelurahan Kebon Baru was selected for increasing flood preparedness and risk knowledge. A Kelurahan is a subdistrict administrative category, comprised of clusters of neighbourhoods called Rukun Warga. Kelurahan Kebon Baru consists of 14 Rukun Warga. Each Rukun Warga holds a few thousand people, and is further divided into approximately 10 neighborhoods (Rukun Tetangga) of around 60 to 100 households. Six of Kelurahan Kebon Baru's Rukun Warga face particularly high flood risk.

This subdistrict of Jakarta was selected to pilot the programme because of its high flood risk, and also because it represents the typical demographic spread of Jakarta and urban areas in Indonesia. Its population ranges from very high income to very low income. Participatory action planning was carried out at the Rukun Warga level, covering short-term, medium-term and long-term stages of before, during and after flooding. Then, Standard Operating Procedures of community-based FEWS were drafted, followed by a number of table top exercises to test the draft for simplicity, usability and effectiveness. This exercise included developing procedures for a 'Flood Reference' community-based warning mechanism that uses a set of five colours to indicate the level of emergency response needed. This proved to be very suitable for urban communities who are prone to similar types of flood that need specific kinds of responses.

Establishing Standard Operating Procedures from the subdistrict level down to neighbourhood communities (Rukun Warga) has given community stakeholders clearer roles and responsibilities. Trainings of trainers, training for first responders, and participatory town-watching was also carried out to improve residents' understanding of their neighbourhood's exposure to risk.

Combined with the Flood Reference indicators, these Standard Operating Procedures and capacity building measures are expected to protect 43 per cent of the

## Registered population of targeted neighbourhoods (Rukun Warga)

| No | Name of Flood Prone RWs | Population |
|---|---|---|
| 1 | RW 1 (10 RT) | 2,675 |
| 2 | RW 2 (10 RT) | 2,447 |
| 3 | RW 4 (10 RT) | 2,669 |
| 4 | RW 8 (10 RT) | 2,652 |
| 5 | RW 9 (10 RT) | 2,539 |
| 6 | RW 10 (10 RT) | 2,693 |
| **Total Population at Risk** | | 15,675<br>(43% of Population) |
| **Total Population of Kelurahan (14 RWs)** | | 36,496 |

Note: Unregistered residents lack a Jakarta ID card and cannot be accurately counted. In some Rukun Warga, such as RW 10, the illegal inhabitants mostly work in the informal sector, i.e. street hawkers, and live in squatter areas.

Kelahuran Kebon Baru population living in flood-prone areas - approximately 15,675 registered residents.

This community-based work was led by PROMISE Indonesia in coordination with the multiple stakeholders of the overall project.

**Institutional improvements and capacity building**
Table top exercises, action-planning and training of trainers and first responders also targeted government officers and institutions responsible for monitoring, detecting and disseminating the warning. Exercises and the simulation have increased the readiness of the institutions and officers, improved their coordination and made them more responsive in anticipating flood. Roles and responsibilities have been clarified.

**Simulation exercise of the Integrated Jakarta FEWS**
A simulation conducted on 1 February 2009 involved stakeholders at all levels of the system: 500 neighbourhood communities (Rukun Tetangga) of Kelurahan Kebon Baru and 75 officials of the Jakarta Provincial Government and Jakarta Selatan City Government.

The simulation tested the three main components of the Integrated FEWS of Jakarta:

- The technical system and early warning mechanisms.
- Readiness of 24/7 officers on duty at all levels: Meteorology Center of BMKG, Jakarta Crisis Center, Posko DPU-DKI, Posdukes DinKes, Posko DinSos, EOC at Jakarta Selatan City, EOC Kecamatan Tebet, up to Posko Kelurahan.
- Preparedness of the community in responding to warnings, and their ability to carry out disaster management activities to anticipate future flood. This was tested through activities monitoring and disseminating potential flood using the Flood Reference water level indicator system. A level two flood warning was deployed for each flood-prone neighbourhood cluster. This was followed by evacuation conducted in timely and orderly manner; and some emergency response activities, such as water safety and water rescue, triage by medical first responders, activities in camps for evacuees, building shelter, public kitchens and trauma relief.

The simulation was inaugurated by the Governor and was carried out from 7:00-11:00 am. The simulation was attended by the Chairs and Directors of the agencies involved in the planning process with the Jakarta Provincial Government. Since the simulation, the Jakarta Crisis Centre has been empowered as the main coordinator.

## *The good practice*

- This was a successful example of a multi-level multi-stakeholder collaboration between the national, provincial and city governments, working with local NGOs and communities, for a fully integrated early warning system. Each stakeholder actively fulfilled their roles and responsibilities, and there was a common vision and shared perspective on improving the Integrated FEWS.
- Stakeholders at all levels were involved in a mix of multi-level capacity building activities, such as training of trainers and simulation exercises, from government institutions to very local communities. This raised the level of readiness of the government officials in charge of disseminating warnings and hazard information, as well as preparing communities better for response, evacuation, and coping strategies.
- Participatory consultation was built in through creating a feedback process. The Participatory Feedback Groups attended by all stakeholders bridged the gap between government and community perceptions of flood risk reduction initiatives.
- The existence of a Technical Working Group consisting of experts from prominent institutions was a key factor for success.

***Role of local government***
While originally initiated by a university and an NGO, strong political support for the project at all levels was key to success. The need to find solutions for costly and disruptive flooding was an issue that was local to a specific flood-prone part of Jakarta, but the issue also had national and provincial urgency due to the importance of Jakarta as the capital city and presence of the main airport.

Like other multi-stakeholder collaborations on single hazards (see 'The Joint Management of Merapi Volcano'), the project benefited from national-level technical

support and coordination, while making full use of local government's abilities to implement initiatives, working across local authority boundaries and with NGOs and communities on the front line of service delivery.

A multi-stakeholder, multi-level and community-based approach was achieved with the political support of the Jakarta Provincial Government, the City of Jakarta Selatan, and the participatory involvement of local community divisions and representatives. Indonesia's administrative system is uniquely organized and categorized from top to bottom, right down to formally recognized neighbourhoods of 60-100 households. This allowed for well-organized partipatory involvement, coordination and monitoring at very local levels.

As the main owner of the Integrated Jakarta FEWS, the Provincial Government of Jakarta provided significant political and technical support and publicity. For example, the FEWS simulation, Technical Working Group Meetings, and feedback groups were all held at the offices of the Provincial Government.

The collaboration of DKI Jakarta with the City of Jakarta Selatan is a good example of how ties between smaller 'city' governments and larger provincial district authorities are very important in the context of megacities, in order to coordinate overlapping resources and responsibilities.

## Lessons learned

- Good coordination, commitment and active participation of multi-level stakeholders from government level to community level is a key factor for programme success.
- Integration of community-based early warning systems is absolutely vital, as preparedness, timely response and resilience of communities is the ultimate arbiter of the success of early warning.
- It is important to consider local wisdom in developing Standard Operating Procedures for community-based flood early warning. This was particularly so in developing warning mechanisms like the Flood Reference system, where community understanding is the most important factor.
- Integrating meteorological information on potential extreme weather, and updating radar data into existing early warning systems, is important for flood early warning in urban areas. Integrating this information into the Jakarta FEWS has given people more time for packing and evacuation.
- Early warning systems need to continually maintain and upgrade their communication and coordination, and the ability and readiness of the 24/7 officers in charge of receiving and disseminating warnings.

## Potential for replication

The involvement of partners from top to bottom has meant that the benefits of local community-based activities can potentially have a regional or national reach when modeled and replicated, because of national-level commitment to the project. The Integrated FEWS for DKI Jakarta developed under this project could be used as a model for other municipalities and cities in similar circumstances. Once the successes of the community-based projects have been modeled, they should be easily replicable in other parts of Jakarta in particular, and in other regions of Indonesia. Ideally, this would be supported by a legal framework requiring the implementation of Integrated FEWS.

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# Indonesia

*The National Agency for Disaster Management, Indonesia*

## *The joint management of Merapi Volcano*



## *Abstract*

The Merapi Forum is an example of a true local multi-stakeholder forum that brings together local and national government, community volunteers, the media, educational institutes, the private sector, NGOs and donors, to jointly manage the risks posed by the active Merapi Volcano. With a mandated parent agency at central government level, local governments have helped coordinate many partners to design and carry out risk mapping, preparedness planning and mass community drills.

## The Initiative

The Merapi Forum is a multi-stakeholder forum that addresses a single hazard in one area - volcanic eruption. The forum jointly manages the risks and resources of Mt Merapi, an active volcano in Java, Indonesia. The whole population of the four surrounding districts is vulnerable to the possible impact of Merapi's volcanic eruption. More than 320,000 people live in the most hazardous areas, including along rivers potentially affected by lahar flows.

The forum's goal is to foster collaboration among the people living around Merapi's slopes, including with stakeholders such as the government, donors, the media and the private sector. The aims of this collaboration are not only to reduce the risks posed by the volcano but also to manage its natural resources together.

The Forum targets stakeholders from the surrounding districts of Magelang, Boyolali, Klaten and Sleman. The first three districts are under the authority of Central Java Province and the last is in the Special Region of Yogyakarta Province. Membership includes:

- Community groups such as Pasag Merapi (a network of community volcano volunteers with presence in the four districts bordering Merapi, with approximately 1,600 members)
- Four district and two provincial governments
- BPPTK (Office for the Study and Development of Volcanic Technology, a vertical institution under the National Ministry for Energy and Mineral Resources)
- Universities, such as UPN Veteran Disaster Management Study Center
- Media
- The NGO Kappala
- PMI (the Indonesian Red Cross) in the four districts
- Donors such as Oxfam GB, UNDP, UNICEF and GLG-GTZ

The secretariat of the multi-stakeholder forum is hosted by BPPTK, the national institution that holds the highest authority over geological hazards. This has been an effective strategy because BPPTK is perceived as more or less free from vested interests and can be accepted by all local participants as a neutral arbiter.

The initiative was officially started in April 2006, although groundwork for the collaboration stretched back several years before this. It is an ongoing and building collaboration. More activities are being developed, and new organizations and people are joining daily.

***Results***

The initiative has substantially built the capacity of local communities and local governments through a range of practical joint activities on disaster risk reduction. Joint work has included disaster simulations, contingency planning exercises and participatory risk mapping. It has fostered mutual understanding among the different stakeholders, establishing cross-border and cross-sector collaboration in risk reduction. This has been maintained through regular communication, information sharing, and knowledge sharing.

## The good practice

- It is a mainly local initiative, initiated by local government authorities.
- The many stakeholders have been able to focus jointly on one specific local hazard. Cross-border cooperation among local governments has been helped by the fact that they are all affected by the same, single natural hazard.
- The participatory process gives space for the communities to take the lead in their areas of disaster risk reduction responsibility.
- Ownership has been fostered among the stakeholders, particularly between community members directly facing the risks of the volcano and the local governments. There has been substantial willingness among different stakeholders to contribute resources to the joint programs and activities.
- Local governments have acknowledged and appreciated the work of the grassroots communities.
- Different levels of government are committed to the project. Practical support is provided by central and provincial governments, including the Indonesian National Agency for Disaster Management and Ministry for Energy and Mineral Resources.

The complex obstacles faced while coordinating the two provinces, four districts, and many different stakeholders, were resolved through:

- Deliberation and consensus building.
- Actual involvement of local communities in mapping hazard risks.
- Broad-based multi-stakeholder participation – from local communities to international donors and development NGOs, combining local wisdom on early warning with scientific findings.

***Role of local government***

The project was initiated by the local government authorities surrounding Mt Merapi, who have also taken on significant coordination work. The Merapi Forum has been an excellent example of how local governments make things happen on the ground through their mandate of reaching out to all stakeholders to deliver frontline disaster risk reduction. Local governments saw that their responsibilities to their constituent communities required good-faith cooperation across boundaries for the common good, with national backing. Local governments actively coordinated the different stakeholders to jointly organize drills and planning with communities, and mainstreamed disaster risk reduction into their local development plans.

## Lessons learned

- A multi-stakeholder forum is effective for pooling the resources and expertise available for disaster risk reduction, especially in encouraging cross-border and cross-sectoral risk management.
- Ownership and sustainability of projects can be substantially increased by more engagement of the communities at risk and local governments.
- If seeking support from international and national development agencies, it is strategic to focus on gaining the long-term commitment of several organizations (governmental and non-governmental) that can play a dynamic and facilitating role.
- Regular coordination meetings are important to ensure and maintain mutual understanding and commitment. In this kind of multi-stakeholder arrangement, it is a challenge to find time that is mutually convenient to all stakeholders. For example, it has been very difficult to stage an event where all the higher-ranking officials from the four districts could join.
- Committed individuals in the government and non-government partners are important for maintaining the ongoing work. There is a need to create an incentive structure for local government officials involved in the initiative, to reward commitment and quality performance. For instance, linking achievements in this initiative to accelerated promotion for local government staff would encourage more active involvement.

## Potential for replication

A single-hazard multi-stakeholder forum like the Merapi Forum would be relatively easy to replicate, provided that there is strong political commitment from one or two authoritative government agencies or other respected and committed institutions. It could be replicated in another setting, particularly where the communities themselves have seen and realized the extent of the risks they face.

The cost to scale up such a programme could be high, as this kind of work is so dependent on coordination and consultative meetings. However, where there is commitment, the rest will follow. There are no political or administrative constraints in Indonesia for scaling up, as the country has implemented decentralization and supported inter-regional cooperation.

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# Japan

*Saijo City Government*

## *Watch and learn: Children and communities study mountain and urban risks*


## *Abstract*

In 2004, Saijo City was hit by record typhoons that led to flooding in its urban areas and landslides in the mountains. As a small city with semi-rural mountainous areas, it faces unique challenges in disaster risk reduction. First, Japan's aging population represents a particular problem. Young able-bodied people are very important to community systems of mutual aid and emergency preparedness, and as young people tend to move away to bigger cities, smaller cities and towns in Japan have an even older population than the already imbalanced national average. Secondly, people within a small city with semi-rural areas may not often be familiar with how to help people in a different physical environment just on the other side of town. To meet both of these challenges, the Saijo City Government has instigated a risk awareness programme targeting schoolchildren, and focusing on different physical environments of the city, from the mountainside to the town.

## The initiative

The 'Mountain-watching' and 'Town-watching' project for educating students and communities about disaster risks has been implemented by the Saijo City Government since 2005. The project has been a part of the recovery from the 2004 typhoon damage to the area, turning that event into a learning opportunity for disaster risk reduction.

Saijo City is in the eastern part of Ehime Prefecture of Shikoku island in Japan, with a population of 113,000. Two thirds of all cities in Japan have less than 100,000 people. After the 2004 typhoons, Saijo City found that it was facing several key challenges in disaster risk reduction, some quite pertinent to Japan's other small towns and semi-rural areas.

It is estimated that by 2030, 32.4% of Japan's population will be over 65 years of age, and this imbalance is even more pronounced in smaller cities, especially in rural or isolated areas, as young people tend to move away for education and work. Saijo City found during the 2004 typhoons that its isolated mountain communities suffered from their lack of young able-bodied people to help with emergency evacuation and community systems of mutual aid and disaster preparedness. Their relative lack in these smaller cities means that there has to be more investment in building capacity of those young people remaining.

Secondly, smaller cities like Saijo City often have a mix of geographic terrains – an urban plain, semi-rural and isolated villages in hills and mountains, and a coastal area. Communities in these different areas are physically and socially isolated from each other, often with little knowledge of the other. But disasters pay little heed to these social barriers, as was shown in 2004 when the landslides and avalanche of wood debris in the mountains dammed a bridge below, flooding the urban plain. Different physical environments are still connected, so residents need to know about how their neighbours' geography will affect the whole city area.

Thirdly, despite local historical knowledge of hazards, the 2004 typhoons surpassed any experience in the memories of Saijo City's elderly mountain inhabitants. They were simply unprepared for typhoon destruction of such scale. It was clear that relying on local historical experience was not enough, and that the 2004 catastrophe needed to be used as a new starting point for education and preparation.

To respond to all of these challenges at once, this initiative established a disaster prevention network, taking young people and communities from the urban areas and connecting them with the elderly in the mountains, to learn together and remember the local lessons of the 2004 typhoons.

The project takes schoolchildren, accompanied by teachers, local residents and municipal officials, on risk education field trips to the mountains and around the cities. There, they all learn about the risks specific to both of those environments and how they are connected. When mountain watching, the students are accompanied by teachers, local government staff, local mountain residents and forest workers. The group visits the area affected by the typhoon near the upper area of a river alongside a school. They view the site, which was damaged by the 2004 typhoon, and hear stories from eye-witnesses. When town watching, students are accompanied by teachers, their parents, local government staff, and leaders and members resident associations (Jichikai). The group walks around the school zone and searches for dangerous places, useful facilities in case of disasters and important places that they don't notice otherwise in daily life.

The project officially ended in March 2009, however, the education process is ongoing. The project was funded by the Saijo City Government, with technical resources provided by Kyoto University Graduate School of Global Environmental Studies.

***Results***

Town watching has been implemented in five primary schools and mountain watching in three secondary schools as part of a disaster education programme targeting 12-year olds. A total of around 600 students participated in the trips, accompanied by around 20 teachers, 15-20 government officials and 20-30 resident association leaders.

Questionnaires conducted before and after the mountain and town watching activities has shown that all the participants improved their level of knowledge about the impacts of the 2004 typhoons.

The benefits of the mountain and town watching visits have extended beyond the trips themselves. In Saijo City a teachers' association for disaster education was been set up after the programme started. Motivated teachers share information with each other on disaster education, hold meetings, and have produced a guideline for others to carry out the mountain and town watching activities based on their experiences. The first series of mountain and town watching visits was conducted by Kyoto University and Saijo City Government. However, the next series was conducted by the teachers themselves, using the handbook developed by the teachers' association.

A Kids' Disaster Prevention Club is also being set up, consisting not only of students, but also teachers, parents, and community people who have been motivated by their participation in the mountain and town watching. Students suggest topics for further learning, and ask questions based on their mountain and town watching, while parents and teachers provide support and information.

A disaster prevention forum for children is held city-wide once or twice a year. Students from each school in Saijo City make presentations on lessons they have learnt about disaster management, including those from mountain and town watching.

## The good practice

- The initial activity has been institutionalized through participant teachers developing a mountain and town watching handbook. This means teachers anywhere in Japan will be able to carry out the same initiative as a part of the school curriculum.
- It is a successful tool for community participatory risk education in smaller cities and towns. Coordinated by the local government to start with, it has involved many stakeholders, such as pupils in elementary schools and junior high schools, teachers, parents, urban residents' associations, residents in mountains, forest workers, the Citizens' Safety Department and the Education Board. This provides an excellent way for different sectors of the community to build relationships that are vital for community disaster preparedness and response.
- The approach turns disaster recovery into an opportunity for increasing risk awareness and disaster preparedness.

***Role of local government***

The mountain and town watching programme was conceived and implemented by the local government of Saijo City. It is an excellent example of a local government leading a multi-stakeholder and community-based disaster risk awareness initiative that can then become self-sustaining. The government supported the programme through providing professionals from disaster reduction and education departments, funding the town and mountain watching, and putting on the annual forum.

The special strengths of local governments are highlighted in the programme's emphasis on truly 'local' knowledge. Local governments have a particular responsibility to bring together multiple sectors and different people in their constituencies for better community disaster awareness of the local physical environments. Saijo City did this using grassroots participatory methods. This strengthened local community relationships by bringing people together directly to learn from and interact with the natural and built environment.

## Lessons learned

- Sustainable disaster prevention that starts at school can come to involve the entire city. The involvement of schoolchildren can attract different elements of the community to work together and build valuable relationships.
- The very direct and participatory methods of mountain and town watching are good for inspiring participant interest in their local area, and motivating learning about disaster prevention.
- Mountain and town watching should not just happen once. It is enriched through repetition.
- A clear implementing body and a guideline are necessary for successful and continuous implementation.

## *Potential for replication*

The key concept of this initiative is community-based education, which is very much replicable in other cities and local government areas. As a method it is inexpensive and cost-effective, and can be used in developing countries. Similar types of town watching programmes have been implemented in Viet Nam, Malaysia and India. To conduct this programme widely in different cities, local governments should coordinate with the education department and local school teachers. The mountain and town watching guidebook for teachers is in both Japanese and English, and can be a resource for other cities. For details of the guidebook, visit http://www.iedm.ges.kyoto-u.ac.jp

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# Nepal

*Practical Action Nepal*

## *Community-based poverty reduction for disaster risk reduction*


## *Abstract*

People living in the flood plains of Nepal face complex disaster risks that are not just the result of natural hazards, but of poverty and poor development practices. Risk assessment in South Central Nepal found a varied mix of factors that was resulting in not only high flood risk, but also slow-onset disasters, such as crop failure in times of drought. Using the existing provincial authorities' channels for local development, this initiative tapped into Village and District level Development Committees to mainstream disaster risk reduction into poverty reduction. The initiative worked to protect agriculture, mitigate drought and improve flood preparedness. It was NGO and local government-led, with wide-ranging multi-stakeholder involvement.

## The initiative

The villages of Meghauli and Pathihani in Chitwan district are near the Chitwan National Park, in the flood plains of the Inner Tarai region of south central Nepal. The communities depend on agriculture and livestock for survival, supplemented by resource-gathering from the local Buffer Zone community forest area (on the edge of the Park, set aside for just such local community use). All these sources of livelihood are threatened.

The rainy season and dry season, combined with poor land use management and water management, results in floods and droughts, destroying crops and pushing people to rely more on the community forest for resources such as fodder, wood and water. Changing weather patterns associated with climate change have created water shortages for growing crops even during the monsoon period. Winter fog (known as 'sheet lahar') has become more frequent, dense and long-lasting. This makes outdoor work difficult, and encourages crop-disease and pests.

Meanwhile, these changing weather patterns, and a boom in invasive plants within the National Park, mean that wild animals are encroaching more and more on human territory. Animals like rhinos, deer, boars and elephants eat and damage crops, and predators like tigers and leopards prey on livestock.

Indigenous knowledge and coping mechanisms have not been sufficient to deal with the compounded impacts of these multiple hazards. Poverty and a low level of awareness and preparedness have been major constraints.

A wide-ranging poverty reduction approach was brought to this clash of ecosystems, employing disaster risk reduction measures as part of an overall development package. Coping with these multiple stresses demanded collaboration. The initiative coordinates multiple sectors and stakeholders to address development priorities and disaster risk reduction together.

The main goal of the project is to contribute to national poverty reduction through disaster risk reduction. This would be achieved by improving livelihoods for vulnerable communities, and making sure stakeholders at village, district and national levels have adopted livelihood-centred approaches to disaster risk reduction.

The project intends to build local community capacity to reduce the risks of disasters through multi-stakeholder partnership and integrating community-based planning and implementation. Areas of work include:

- Preventive measures and preparedness
- Effective rescue and relief measures
- Increasing the livelihood capacities of households
- Supporting local political bodies and village development committees

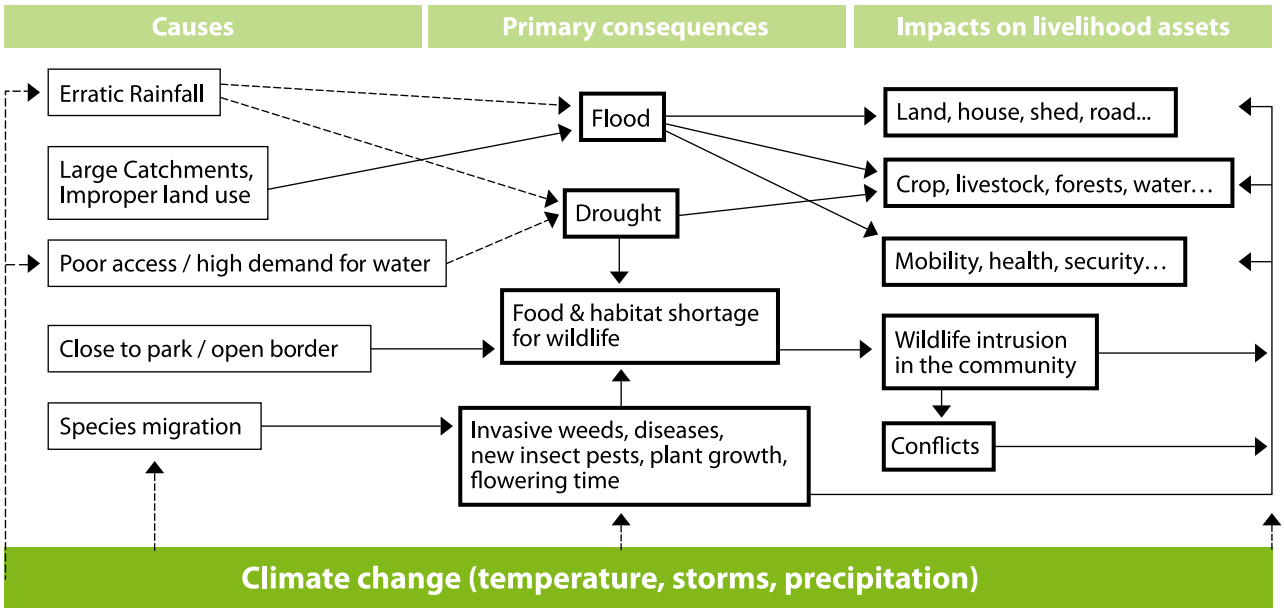


*Figure 1. Impact of climate change on assets and livelihoods based on discussion with communities. Dashed arrows indicate direct effect of climate change, and continuous arrows indicate indirect or combined effects with other factors*

A participatory vulnerability assessment took place with different stakeholders at Village and District Development Committee level. Communities identified and prioritized hazards, risks and vulnerabilities affecting the area, with the support of project staff, experts and government officials. This was followed by assessments of indigenous disaster risk reduction practices, available local capacities and resources for managing disasters, and what external supports were needed. This allowed for designing activities, plans for acquiring resources, and work to set up institutions for community-led implementation.

Local communities organized in different groups have been steering the project activities in the field. Meanwhile, a local NGO facilitates planning, implementation and monitoring, in collaboration with local and district level governments. Joint teams from different stakeholders monitor the project activities. These teams are at village, district and national level with community representatives, government officials, political parties and project staff.

Local governments are the hub of this process, taking a central coordinating role with all the partners, through the District Disaster Management Committees. The District Development Committee acts as the secretariat to the District Disaster Management Committee (a multi-stakeholder representative body chaired by Chief district officer). Holding the mandate for the overall planning, implementation and monitoring of development activities in the district, the Development Committee plays the central coordinating role, reaching each stakeholder in the district. The Village Development Committee plays a similar role at a more local level, and is supported and supervised by the District Development Committee. Partner agencies take the lead in their respective specialty areas and have collectively provided resources to protect livelihoods.

Practical Action in Nepal has been implementing the project in partnership with the District Development Committee of Chitwan, respective Village Development Committees, local NGOs, the local community and other stakeholders. Local communities have led implementation, while local and district level governments, CBOs and volunteer groups have worked together to organize resources and technical support for improving social and physical infrastructures, capacity enhancement, alternative livelihood options and income generation. The NGO Multidimensional Agriculture and Development Nepal (MADE Nepal), is also helping community groups to plan and implement the project activities.

The project started in January 2007 and will continue until December 2010. It was funded by the UK Department for International Development (DFID).

***Results***

The project has reduced asset loss and protected lives and livelihoods. Village level government units and district level governments have been initiating community-led disaster planning and implementation, incorporating it into development planning.

Development and disaster risk reduction initiatives have been replicated in 31 Village Development Committees and one municipality in the district. In two villages of the project area 1,200 people from 210 families vulnerable to recurring flood, drought and wildlife intrusion have benefited from improvement of irrigation facilities, training and input on crops and livestock, income generating off-farm activities, saving and credit schemes, and institutional development for managing infrastructure like tube wells. In the community overall, 9,000 people from over 1,500 families have benefited from riverbank protection and animal-proof fencing.

Loss of crops and livestock due to flood, drought and wildlife intrusion has been reduced due to preventative and adaptive measures. Production of crops has increased by 50% on average, and there has also been livestock improvement, due to improved breeds, feeding practices, healthier sheds and regular veterinary services.

In the case of the animal-proof fence, crop loss from animals has been reduced to nearly zero. The process also provided an opportunity to raise awareness among villagers about disaster risk reduction, natural resource management and biodiversity conservation. Conflicts between 'the park' and human settlements have reduced as losses have reduced. Although the fencing does not solve the problem of drought and invasive species motivating wildlife to leave the park, through this process of engagement the park authorities have realised the importance of habitat management to prevent animals from wandering.

**Wildlife intrusion**

Many stakeholders and institutions collaborated to build electric fencing around villages to protect agriculture, livestock and other assets from wild animals. The Village Development Committee, representing the livelihood needs of the people, and local Buffer Zone Committee, representing more the perspective of Park authorities, were both part of the coordination committee, creating an environment of trust among stakeholders. Sub-committees raised funds, arranging poles, purchase of materials and managing construction and maintenance. Chitwan National Park provided resources and permissions to erect electric fencing around the villages to prevent wildlife intrusion inside the community territory. The local Forest User Group, an autonomous community-based body charged with natural resource management of forests, provided timber for poles. The Village and District Development Committees, and the project, funded wire and materials not available to the local communities. The community raised funds by collecting levies from each benefiting family, and through contributed labour.

**Drought**

To reduce the risk of drought, access to water was improved by:

- Installing shallow tube wells
- Improving wetlands
- Maintaining irrigation channels
- Systematizing water distribution practice
- Improving farming practices

In the case of the drought mitigation work, the single external source of support was from the project, to buy parts and equipments of for the tube wells and installation expertise. The community itself provided the required labour.

**Flood**

The District Disaster Management Committee (a multi-stakeholder coordination body with its secretariat at the District Development Committee) organizes pre-monsoon meetings for preparedness to the flood where short and long-term strategies are discussed and implemented afterwards. Such meetings identify and allocate specified roles for different government and non-government stakeholders. Joint initiatives are planned and implemented to reduce hazards, risks and vulnerabilities, and restoring livelihoods of affected people.

The programme aims to benefit 200,000 more people in the district, and is already being replicated elsewhere.

## *The good practice*

- Livelihood-centred approaches are mainstreamed into disaster risk reduction.
- Multiple stakeholders are involved in planning, implementation and monitoring of activities.
- Community-based disaster management plans are prepared, leading to their endorsement by local government authorities as a component of development planning.
- Both vulnerable communities and local stakeholders are empowered to lead disaster risk reduction activities, and to organize resource contributions from different sources.
- Activities are implemented in an integrated way, addressing combined impacts of different hazards and community development priorities.
- Hazards are identified and prioritized, based on their frequency, damage they cause, and future vulnerability of communities.
- Vulnerable communities, government line agencies and other stakeholders are helped to jointly assess local capacity and available resources.
- Local government and communities are enabled to plan and implement development and disaster risk reduction activities in integrated way.

- Stakeholders are helped to better understand disaster management and reducing vulnerabilities, with planners and communities becoming aware that there is much more beyond rescue and relief.

***Role of local government***

The Village Development Committees and District Development Committees have been central to the project. In particular, the District Disaster Management Committees located within the District Development Committees have been key coordinators of projects and initiatives where necessary. This has allowed local governments to directly collaborate with many stakeholders to help people to be prepared and more resilient in the face of multiple disaster risks. The District Development Committee is starting to allocate emergency funds in the Village Development Committees for disaster management, to support long-term integrated disaster management, since it takes a long time to for government funding patterns to change. Unlike other annual development budgets, this fund cannot be frozen or recalled by governments, allowing local bodies to invest when in need.

## Lessons learned

Reducing losses that result from slow-onset disasters caused by multiple hazards, requires long-term cooperative action. The most severe hazards and most affected livelihood assets can be the starting point. It has been a major challenge to create common understanding of disaster risk reduction amidst competing interests and different approaches to disaster management, not to mention political conflicts happening on a national level. In general, disaster was not viewed from the perspective of victims, and disaster risk reduction was failing to incorporate the needs of vulnerable communities on the ground. Discussions, trainings and workshops involving all stakeholders were held, in order to establish common understanding of hazards, vulnerabilities and their consequences. This built support for cooperative actions.

## Potential for replication

Different hazards require different interventions, but an integrated, multi-stakeholder approach is the basis of this initiative, and this can be successfully applied in different communities and contexts. As such, it can be replicated in other hazard prone areas and at national level. This requires raised awareness and understanding of disaster risk reduction among political parties and government, and government officials working in different line offices.

The neighbouring Nawalparasi district is also replicating the project, and is starting the planning process with support from this project. The same model of disaster risk reduction planning is also being initiated in three districts (Udayapur, Siraha, Sunsari) in eastern Nepal with input from Practical Action Nepal and the District Development Committee involved in this project. Similar initiatives have been taken in two districts (Banke and Bardia) in western Nepal where Practical Action Nepal led the process, again, with input from the Chitwan District Development Committee. National level policy makers have been approached both by the local governments and project leaders to replicate the good practices in other vulnerable districts in Nepal.

Scaling up the initiative would increase collaboration among different administrative entities, giving more force to the project. Furthermore, integrated disaster risk reduction activities in one cluster of areas and administrative units will help to reduce the risk of disasters in adjoining areas.

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# Pakistan

*Earthquake Reconstruction and Rehabilitation Authority of Pakistan (ERRA)*

## *Institution-building and capacity building for local governments*


## *Abstract*

The 8 October 2005 Earthquake was the most devastating to have ever affected Pakistan. The Pakistan Government quickly established national agencies for relief and reconstruction. Since inception, the Earthquake Reconstruction and Rehabilitation Authority (ERRA) has been integrating disaster risk management into its community preparedness work, with results such as a guidebook for mainstreaming disaster risk reduction into development, hazard indication maps for the districts of Mansehra and Muzaffarabad, and Disaster Management Committees and Emergency Response Teams being established in 112 Union Councils across the two districts.

## The Initiative

The earthquake that struck the northern border area of Pakistan on 8 October 2005 was the most devastating disaster to have ever affect the nation. The earthquake claimed over 73,000 lives, injured over 128,000, rendered 2.8 million people homeless and affected 3.5 million people in an area of 30,000 square kilometres. The response from the Government, civil society and international donors was swift. The Government established a Federal Relief Commission (FRC) and an Earthquake Rehabilitation and Reconstruction Authority (ERRA) to support medium to long-term recovery and reconstruction efforts. ERRA integrated disaster risk reduction in all its reconstruction work, and initiated a disaster risk management programme for community preparedness in the affected districts.

In its reconstruction work, ERRA follows a Disaster Risk Management approach of risk reduction, risk avoidance, risk transfer and risk management. Since its founding in October 2005, ERRA has worked on strengthening community-based disaster preparedness in line with Priority Five of the Hyogo Framework for Action. This initiative has worked directly with local governments to build institutional and community preparedness through new Union Council Disaster Management Committees and Union Council Emergency Response Teams.

The initiative aims to reduce disaster risk by increasing the disaster resilience of local authorities and communities. This would require due consideration of disaster risks in the planning processes of local authorities and communities, increased capacity to respond to and prepare for disasters, and more ability to adapt to changing risk factors such as climate change and environmental degradation.

UNISDR and UNDP Pakistan fielded an advisor to ERRA in February 2007 to ensure disaster risk reduction was part of the post-earthquake reconstruction process. The advisor organized awareness workshops on disaster risk reduction for ERRA senior management, for key partners and stakeholders, compiled guidelines based on internationally accepted literature (UNISDR, Pro-vention, ADPC, Tearfund UK etc.) for mainstreaming disaster risk reduction. ERRA also prepared a more specific project for disaster risk reduction, particularly preparedness, in the earthquake-affected areas. The objectives of the project have been to:

a) Improve disaster preparedness at the community level and in the relevant government departments as well as NGOs and other key stakeholders through distilling best practices and strengthening information dissemination. This was to be achieved through the introduction and promotion of disaster preparedness practices in two of the affected districts, i.e., Mansehra and Muzaffarabad, as a pilot.
b) Strengthen community-based disaster risk reduction in the two earthquake-affected districts, employing a gender-sensitive approach. This was to result in enhanced community participation through community sensitization, mobilization and organization. A functional community-based disaster management system would improve stakeholder capacity to respond to the current challenges and those in the future.
c) As such, the programme aimed to support safe lives and livelihood of local communities and reduce the negative impact of disasters in the area.

The project has been implemented through a team comprising:

- Project Director (disaster risk reduction advisor), a disaster risk reduction expert, GIS expert and a Programme Officer with the capacity for coordinating mainstreaming, all located at ERRA Islamabad.
- In the districts, a District Project Coordinator-cum-Trainer, assisted by a team of Master Trainers. The Master Trainers team will have the capability and skill to train communities in disaster risk management, including hazard awareness, basic search and rescue, emergency first aid, fire fighting, evacuation and early recovery and reconstruction.
- An international expert, provided on the basis of need, to guide and backstop the first phase of programme implementation in the two districts.

The Project was launched in March 2008 and its first phase (two districts) was completed on 30 June 2009. The project is funded by the World Bank, and receives technical support from UNDP Pakistan.

***Results***

**Mainstreaming, planning and risk mapping**

Mainstreaming and planning workshops were held for ERRA senior management and development planners from the district governments in North West Frontier Province and Pakistan Administered Kashmir. The workshops produced guidelines for integrating disaster risk reduction in future ERRA reconstruction planning. This initiative will be followed up with the production of district level hazard index maps for the area. A risk that clearly needs to be mapped is the potential impact of climate change and environmental degradation on landslides and flash floods. Slope-instability was also aggravated by the 2005 earthquake. Maps are being developed for debris flow, snow avalanche, slope instability, possible valley blockage (remote hazard), flood and simplified physical risk, after capturing exposure data. A historic event register is an important part of district level hazard indication mapping.

As well as mapping, the following activities have been initiated to mainstream disaster risk reduction in existing institutions:

a) A series of consultative meetings and workshops were carried out with government line departments, district administration, representatives of CBOs, NGOs and INGOs in both districts.
b) Planning processes in local government units have been identified for spatially relevant development activities and planning.
c) A mainstreaming guidebook for local authorities is being compiled.
d) Capacity-building for key government officials (planners) in disaster risk reduction is being carried out, especially in reading hazard maps and related products, assessing disaster risks and planning for disaster risk reduction

**Community-based Disaster Risk Management (CBDRM)**

CBDRM is an integral component of the ERRA disaster risk management project. The specific objectives are to:

- Raise the capacity of the local authorities and communities to manage risks and to respond to disasters.
- Make tools available (training tools, equipment and stockpiles) to local authorities (district, tehsil, Union Council level) for disaster risk reduction in general, and effective response in particular.
- Build the capacity of local authorities (District Disaster Management Authorities, established under the newly instituted National Disaster Management Authority - NDMA) to form volunteer teams (response teams) for responding in times of crisis.
- Strengthen awareness of government officials about the various aspects of disaster risk reduction.

Union Council level institution building and community responders' trainings have been completed in the two districts.

***The status of trained volunteers***

| **Number of Union Councils:** | **112** |
|---|---|
| **No. of volunteers trained as disaster management committee members:** | |
| Male | 1,836 |
| Female | 529 |
| Total | 2,365 |
| **No. of volunteers trained as responders:** | |
| Male | 3,282 |
| Female | 939 |
| Total | 4,221 |
| **Grand total of trained volunteers in two districts:** | **6,586** |

112 Union Councils of Muzaffarabad district in Pakistan Administered Kashmir and Mansehra district of North West Frontier Province, have been trained, galvanized, and equipped with response tools and equipment. District-level officials have also been trained and sensitized, and hazard indication mapping has been completed. At community level there has been a substantial improvement in preparedness capacity and institutional knowledge, which has decreased disaster vulnerability.

***Institution building and skills training***

The primary local government authority for people in this region is the Union Council, which is the fifth tier of government. Union Councils are an elected authority led by the Union Nazim. Institution-building was carried out in 112 Union Councils by establishing Union Council Disaster Management Committees and Union Council Emergency Response Teams. Through these committees and teams at Union Council level there has been basic skills training in: hazard and risk mapping, hazard safety, response planning, coordination, basic search and rescue, first aid, fire fighting, public information, communication and disaster management. This new community response and preparedness structure is directly linked to the district level institutional framework.

***Increasing response capacity***

Stockpiles of emergency relief and response items like tents, blankets, disc cutters and shovels at the District and Union council level have been established.

***Case study: Community response to a real time event***

On 15 January 2009, a fire accidentally broke out in a shop in Ghari Habibullah Town, Tehsil Balakot, Mansehra District, North West Frontier Province. A shopkeeper was filling a customer's gas cylinder and there was a lit gas-heater nearby. After filling the cylinder, as he flung the hose without turning off the valve, the gas caught fire from the heater. The fire quickly spread to engulf six nearby shops.

Dr Muneer Quershi, one of the participants in the Union Council Disaster Management Committee training and Team Leader of the Information & Communication team of the Union Council Emergency Response Team, informed his team members. 14 Emergency Response Team members reached the spot within 15 minutes and controlled the fire.

***Increasing planning capacity***

Disaster response plans are being developed for each community with strong involvement and input of all concerned sectors. This will help the community and the local authority in effective and timely response to any disaster situation.

## The good practice

- The project mainstreamed disaster risk reduction into district development processes with technical support from national and international partners. Workshops developed guidelines for integrating disaster risk reduction in future development planning, and in national reconstruction planning. A concise mainstreaming guidebook has been compiled for district planning officials.
- Particular attention was paid to the Hyogo Framework Priorities 3 and 5 in carrying out preparedness and capacity building for local communities and district-level officials.
- Priority 2 of the Hyogo Framework was addressed by hazard and risk mapping, which identified, assessed and monitored disaster risks, and enhanced early warning.

***Role of local government***

District-level and community-level local governments and institutions bear the responsibility in this case for frontline implementation of resilient reconstruction, and for improving preparedness. The line-departments of district-level local governments have been delegated the responsibility for the reconstruction of earthquake affected areas. These local governments have contributed to developing specific disaster risk reduction guidelines for each sector. They also have full ownership of the ERRA Disaster Risk Management programme, mobilize volunteers to attend trainings, and provide secure sites for storing emergency equipment. The Union Council-level local institutions in the earthquake-affected areas started with a very low capacity for disaster preparedness. However, due to the earthquake's devastation of people's lives, the process of organizing the Disaster Management Committees and Emergency Response Teams was met with an overwhelmingly positive response from residents, Union Councils and district-level local governments.

*"I lost my two daughters age 3 and 6 in the earthquake in Muzaffarabad. Time has passed and life continues after the tragedy. I have taken ERRA's Community Based Disaster Risk Management Course because, although I could not save my daughters and all the other children struck by the earthquake on that fateful day, on this course I have now received training to help people in emergencies. We are trained to handle disastrous situations, how to locate and treat the injured. Had we known all these life saving skills before 8 October 2005, we could have helped many people and the loss would have been much less."*

*Ms Yasrab Muzaffarabad*

## Lessons learned

Mainstreaming disaster risk reduction in development is a slow and sustained process. In situations where there is an almost total lack of skilled human resources in disaster risk management, and a lack of awareness about the subject among decision-makers, obstacles and delays should be expected. To combat this:

- Project planning processes must be participatory and transparent
- A multi-sectoral approach is crucial to project success
- There must be close coordination with local government to ensure ownership and sustainability of a project

Moreover, despite the damage they cause, major disasters provide an opportunity for shifting paradigms in communities, governments and funding agencies from disaster relief to preparedness.

***Success factors***

- Sensitization: The destruction of the 2005 earthquake elicited a strong response from donors, national institutions, and from communities who survived the devastation. Donors have been proactive in supporting disaster risk management programmes, although this support obviously cannot be relied on long-term. Commitment has been clear at a national, local, and community levels. Governments at the district and local levels have been unusually responsive, and now understand the cost of being unprepared for hazards. This has resulted in an enabling environment for disaster risk reduction.
- Effective organizational structure: The ERRA has an effective presence on the ground in the affected areas in North West Frontier Province and Pakistan Administered Kashmir through a network of programme offices and other infrastructure. This has been helpful in coordination and implementation.

## Potential for replication

ERRA is implementing this project in a limited geographical area, considering the limitations in local capacity. Due care has been taken to closely collaborate with the National Disaster Management Authority (NDMA) so it can be more easily replicated in most parts of the country; at least in physically similar regions. A positive evaluation by an international expert has been carried out, and based on this there has been agreement in principle by NDMA to extend the programme to other earthquake-affected areas in Pakistan.

With regard to different contexts, by moulding the methodology and strategies to suit specific local conditions, the project can be considered for replication. It comprises three basic elements of disaster risk management: assessment of hazards, mainstreaming into development processes and enhancing communities' capacities. Therefore, the overall approach can, by and large, meet the preparedness needs of any community anywhere in the world.

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# Peru

*UNDP Peru and Municipal Governments of Chincha, Pisco, Cañete and Ica*

## *Empowering local government as leaders in disaster reduction and recovery*


## *Abstract*

After the 2007 earthquake in Peru, reconstruction and recovery in the affected regions was typically fragmented and not well integrated into overall development and risk reduction work. Affected themselves by the quake, local government institutions were cast into a passive role. This UNDP project partnered with municipal governments to help them enhance their roles as leaders and coordinators of local development and recovery.

## The initiative

During disasters, local authorities and organizations themselves suffer from disaster impact, and in the aftermath are less able to lead development work in partnership with external humanitarian groups or national agencies focused on repairing infrastructure. Longer-term development concerns about building resilience, such as through livelihood recovery, institutional strengthening or gendered approaches, are not considered often enough. After the 2007 Peru earthquake, external stakeholders – e.g. public institutions, national and international NGOs – followed the pattern of implementing recovery programmes in an isolated and dispersed manner, with no consideration of the local capacities and their recovery efforts.

This UNDP Country Office intervention provided full time staff positions to provide technical disaster risk reduction and recovery assistance to municipal governments, with particular focus on the following areas identified by the local governments themselves:

(a) Housing and territorial management
(b) Livelihoods recovery
(c) Planning, coordination and information
(d) Systematization of lessons learned

The Technical Assistant positions are expected to cover the two years following the earthquake. They are responsible for reinforcing municipal abilities to promote recovery initiatives, leading work with central government in each sector of focus, training, permanent assessments, coordination, and preparation of ad-hoc proposals. The goal is to make sure that local authorities can lead recovery, coordinate local and national stakeholders, and integrate development and risk reduction into reconstruction.

UN Coordination Centres have promoted the interaction of humanitarian actors, then transferred the leadership of coordination to local governments. The bottom-up approach meshes well with the decentralization process being implemented in Peru. While local governments are still weak in Peru, they are ultimately the actors best suited to promote development and transformation in their territories.

Groups working on each focus area have come up with a set of strategies and methodologies for promoting a sustainable recovery and development in the different provinces. Specific initiatives carried out through local government have been:

- Mainstreaming risk management in land use plans, economic plans, development plans, annual operative plans and corresponding tools.
- Promoting new settlements in non hazard-prone areas.
- Promoting the construction or repair of houses with better techniques.
- Supporting economic activities of women's organizations within the affected region.
- Creating an Information System for monitoring the recovery process and then the development process.
- Training municipal technical staff in incorporating risk considerations in the design, execution and monitoring of recovery and development projects; and, in a more formal way, into the procedures used by the Ministry of Economy (Public Investments System) for supporting local government initiatives.
- Improving the coordination mechanisms and practices between all actors involved in recovery, to promote a more effective and clearly laid-out intervention. Local coordination platforms with participation of public and private stakeholders were created. These platforms focused on different topics – e.g. housing, health, economic development – and were coordinated by the corresponding local institution with the assistance of a UN agency or NGO.

The project is taking place in the earthquake-affected regions of Ica (Provinces of Chincha, Pisco and Ica) and Lima (Province of Cañete). It is currently supported by the UNDP Project 'Consolidation of the Recovery Process in Peru: Beyond the earthquake', which has allowed continued technical assistance from UNDP to local governments. The initiative started just after the August 2007 earthquake, with the technical and economic support of the Office for the Coordination of Humanitarian Affairs and the Bureau for Crisis Prevention and Recovery of UNDP in Latin America and the Caribbean. The current UNDP Project is extending its support from August 2008 to August 2009.

***Results***

- The Municipalities have initiated a process for updating and redesigning their Development Plans (10 years) and Annual Plans for promoting sustained recovery and risk reduction. A multi-stakeholder participatory process for assessing and defining strategies and activities is taking place.
- Through full-time technical assistance, risk management has been incorporated into recovery, in ways that both correct past mistakes and plan for the future. Local governments are becoming less reactive and dependant, and more proactive in leading, promoting and implementing risk-sensitive recovery.
- On top of the traditional infrastructure reconstruction approach, there has been inclusion of development and capacity-building issues, such as livelihoods, gender, information management and institutional strengthening.
- With contributions from different sectors, local and central government have defined and adopted better policies, strategies and mechanisms for planning, implementing and monitoring the reconstruction.
- The municipal government's other regular tools and methods have changed, such as their Public Investments System, and improving Information Systems for monitoring and disseminating information. Workshops for both authorities and technical staff were conducted to raise awareness, transfer abilities for planning, and putting these systems into practice.
- Land use plans will be revised and methodologies for incorporating risk considerations when designing and implementing public projects will be taken into account.

## The good practice

- Local governments are being supported to implement disaster risk reduction through helping them assume responsibility for coordinating and leading development-focused recovery, alongside central government and civil society organizations.
- Development plans are including disaster risk reduction.
- The whole project adopts a gender approach across the board, supporting the initiatives of 20 women's organizations.

***Role of local government***

The project recognizes local governments as the main leaders of development, and as crucial for risk-sensitive reconstruction. The gap in local government capacity after the earthquake was a significant obstacle to making sure development and long-term risk reduction concerns could be taken into account in the recovery effort. While a UNDP initiative, the project has relied on the unique position of local government to identify local priorities to reduce disaster risk. The municipal governments prioritized four areas, to which UNDP provided close and permanent technical assistance: local governance, housing and territorial management, economic reactivation and information management. The comprehensive range of results has been an indication of what can be achieved by local governments with the right support.

## Lessons learned

- In reconstruction and recovery, short-term, immediate and visible results are prioritized by national and local political interests. The challenge is to combine short-term activities with strategic longer-term initiatives to reduce risk, using political interests as an opportunity for gaining real commitments to risk-sensitive development.
- Recovery stakeholders often intervene in an isolated manner, disconnected from development initiatives and with no inter-institutional coordination. It is important to coordinate different actors for joint interventions in ways that integrate with development work.
- It is crucial to reinforce local capacities as a main goal of recovery, because local governments are the institutions that will sustain development once external supporters leave. For example, the affect of a disaster on the local authorities and staff themselves, combined with a top-down style of external aid, can lead to passivity in local government. Not only is technical advice needed, but support to restore local authorities' confidence and abilities to lead both recovery and development.
- Recovery planning and implementation should be a part of the development planning and implementation. This is needed to make disaster risk reduction sustainable far beyond the reconstruction stage.

- UN partners have needed to work closely with Municipal governments, providing close and permanent technical support. This has resulted in great improvements in sensitizing officials to the issues, and greater involvement in leading the recovery process.

## *Potential for replication*

Compared to the high overall cost of recovery projects, supporting local governments to make recovery sustainable costs little but produces great benefits. To replicate this experience, key stakeholders need to be identified as well as their priority needs and interests. Permanent negotiation with authorities from the beginning is needed. It is important to create and maintain strong links around the local authorities and to promote effective coordination mechanisms. Bottlenecks in recovery processes are ultimately much more related to political and institutional aspects than to economic constraints. Even very small amounts of money can be inefficiently and ineffectively employed, or delayed, if institutional arrangements and coordination mechanisms are not well established and linked in with development processes. Strong sensitization of stakeholders at different levels is crucial for effective implementation of recovery initiatives.

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# Philippines

*Provincial Government of Albay*

## *A permanent provincial coordinating office for disaster risk reduction*



## *Abstract*

The Albay Provincial Government in the Philippines established a permanent disaster risk management office in 1995 to deal with the area's high risk of typhoons, floods, landslide and earthquakes. This meant that disaster risk reduction was institutionalized, funded properly, and genuinely mainstreamed within local government planning and programmes. As a result, disaster prevention, preparedness and response have been well coordinated, and numerous major natural hazards have resulted in no casualties for the province.

## The initiative

The Albay Public Safety & Emergency Management Office (APSEMO) was established in 1995 by the Provincial Government of Albay in the Philippines. Creating this office was a way to ensure that disaster risk reduction was institutionalized, staffed permanently, funded as part of the regular budget, and genuinely mainstreamed within local government planning and programmes.

The Provincial Government of Albay funds and runs APSEMO, targeting provincial constituents who face disaster risks and the multi-sectoral actors with the responsibility for reducing those risks. Albay Province is comprised of three cities and 15 municipalities, with an overall population of 1.2 million people. Albay is located around the active Mayon Volcano, about 500 kilometres from Manila. Of Albay's population, 350,000 face risks from typhoons and floods, 127 villages or 12,000 families are vulnerable to landslides, three cities and five municipalities are at risk of volcanic eruption, and 300,000 people face tsunami risk

APSEMO is now an independent department of the Local Government Unit of Albay Province with 22 permanent staff and four Divisions:

- Research, Statistics and Evaluation Division
- Plans and Operations Division
- Information and Training Division
- Traffic Safety Division

The APSEMO in its capacity as technical and administrative arm of the Provincial Disaster Coordinating Council of Albay Province, focuses mostly on pre-disaster programmes. Projects are funded both under its regular annual appropriations and through external support. It also provides technical assistance to other Local Government Units within and outside the region, and to private organizations.

The Provincial Government of Albay created the APSEMO in line with the Hyogo Framework for Action and the national government's framework and protocol on disaster risk reduction. The proposal to establish APSEMO was developed by local government officials in April 1994, supported with local legislation in August 1994, locally funded in January 1995, and operational from June 1995. It has grown from three to 22 permanent staff, and has been supported by six consecutive Provincial Governors from 1995 to 2008. Its success has led to the mainstreaming initiative being replicated in other provinces.

Funding comes from the regular Provincial Government budget for personnel services, maintenance and other operating expenses. 800,000 pesos were allocated in 1995 to set up the office (approximately US$10,700), and for the 2009 fiscal year around 6 million pesos (approximately US$127,000) has been allocated from the provincial government's regular budget.

***Results***

As a permanent office, APSEMO has decentralized and mainstreamed disaster risk reduction into the local government's local development plans and programmes. Disaster preparedness now forms part of the local planning and administration of Local Government Units, with career staff and regular funding attached. This has seen risk and resource maps being made available, area-and hazard-specific plans being put in place, community-based early warning systems being set up, and communication protocols and evacuation procedures tested. This institutional strengthening and the province's well-coordinated evacuation preparation resulted in zero casualties for the province during numerous major hazards, including the strong typhoons of November 1995 and November 1998, and the Mayon Volcano eruptions in 2000, 2001 and 2006.

This kind of success has rested on APSEMO's ability to establish effective cross-government and multi-sector working relationships, and to institutionalize them. Within government, APSEMO has been able to establish a Provincial Disaster Operation Center that houses their own headquarters, and also the Provincial Social Welfare and Development Office, Provincial Health Office, Philippine Information Agency, Department of Health, and other line agencies that support the Provincial Disaster Risk Management functions in the province.

Its participatory approach has also meant that the government, private sector, NGOs, religious sector, media and grassroots communities have been able to coordinate joint objectives, actions and planning for disaster risk reduction. This has resulted in more cost-effective policy and emergency actions, less duplication of work and ultimately better disaster preparedness and response with lower casualty rates.

Where APSEMO project initiatives are recognized as a good practice, it hosts study visits in support of Replication Inception Workshops of the Department of Interior and Local Government.
It has also supported tertiary institutions to create Disaster Risk Management courses at graduate level, and an Emergency Paramedic Training Unit.

## The good practice

- APSEMO has shown that having a permanent and institutionalized disaster management offices at a local or provincial level is a good practice. Having a permanent body that is the overall coordinator in times of emergency is particularly important for saving lives and implementing effective and sustainable disaster risk reduction and response.
- Specifically, the project was the first in the country to make disaster risk reduction staff in Local Government Units permanent – rather than allowing them to be replaced after each election. Notably, the project gained consistent support for its policies and funding from six Provincial Governors since its inception, showing that political decision-makers have been able to see the benefits of stability and non-partisanship in disaster risk reduction work. This stability of staffing contributed to more effective teamwork, coordination and relationship building throughout the 14 years of APSEMO.

***Role of local government***

This initiative is an example of a provincial government putting its own house in order by carrying out real disaster risk reduction mainstreaming throughout its areas of responsibility. By creating and adequately funding a permanent office responsible for disaster risk reduction mainstreaming and coordination, with permanently appointed staff who can survive the vagaries of the political climate, this has allowed for substantive institutionalization of disaster risk reduction priorities within the regular planning, governance, programmes and projects of local government. Significantly, the provincial government has set disaster risk reduction goals that directly affect the lives of its constituents – such as early warning, preparedness and evacuation from local hazards with zero casualties - taking local responsibility for local risks.

## Lessons learned

- The presence of an institutionalized disaster risk reduction office at a local or provincial level makes it easier to facilitate and coordinate the multiple stakeholders needed for disaster risk reduction. For APSEMO this included different local and national government agencies, grassroots community groups, and foreign and local donors. A permanent, institutionalized presence results in more cost-effective work that avoids duplication, and more effective disaster risk reduction practices.
- To successfully set up and institutionalize a permanent disaster risk reduction coordination office requires political-level agreement on creating permanent responsibilities and roles, permanent staff, and stable annual funding from regular public budgets. All these elements are particularly important for sustained institutional capacity development.

***Challenges***

- Disaster is uncertain. APSEMO can coordinate cost-effective disaster preparedness and quick response but the impacts of a natural hazard maybe beyond its physical control.
- Politics is also uncertain. Political leadership in Local Government Units has a short duration. Interventions of newly elected leaders must be dealt with carefully, and disaster risk reduction needs comprehensive public awareness campaigns and social support to avoid politicization. There is a fundamental need for local disaster risk reduction institutions to maintain impartiality and independence from the political process.
- Multi-stakeholder support can be temporary in nature, and is an ongoing process to maintain.
- There is a need for continuous financial upgrading not only to sustain but to expand APSEMO's coordination work to lower-level Local Government Units.

## Potential for replication

The APSEMO concept can be adapted to different contexts. The Provincial Government of Camarines Norte has already successfully replicated the APSEMO initiative,

and the three provinces of Sorsogon, Pampanga and Sarangani provinces are doing the same. Replication inception workshops are being supported by Oxfam Great Britain and the Department of Local Government and Community Development. Replication could also be supported through incentives and an award system to motivate similar initiatives.

Successful replication requires political leadership, success stories, legislation, case presentations and multi-stakeholder support. The precedent itself is a good guide to replication. Key factors to consider are the existing policies and funding availability, and levels of political commitment. For the greatest impact, replication attempts should engage with the socioeconomic development planning processes, emphasizing the risks to development prospects should disaster risk reduction not be prioritized.

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# South Africa

*Overstrand Municipality*

## *Developing and managing water resources*


## *Abstract*

Over the years, water use has become unsustainable in Hermanus, the main city in Overstrand Muncipality of South Africa. The Hermanus Water Resource Development and Management Programme has been working since 2001 to ward off drought risk and water scarcity. Coordinated, funded and implemented by Overstrand Municipality, the programme has employed a suite of methods in partnership with many stakeholders, such as locating new water sources, reducing water wastage, and clearing invasive alien plants. This has resulted in not only an easing of pressure on water supply, but also significant community engagement, job creation and community development.

## The initiative

The Hermanus Water Resource Development and Management Programme works to reduce the risk of drought and water scarcity.

Hermanus is the main town of the Overstrand Municipality and is situated along the spectacular coastline of the South Western Cape Province in South Africa. Due to rapid and seasonal population growth in this tourist area, the water demand of Hermanus increased from just over 500,000 cubic metres per year in 1960 to three million in 2000 and four million in 2008. The sustainable yield of the town's only water source, a dam, is only 2.8 million cubic metres per year.

This unsustainable situation, highlighted by a decline in rainfall since 1997 and the threat of climate change, calls for better resource management. Climate change is expected to make rainfall more variable and temperatures more extreme in the Western Cape region. Prompted by the memory of the 1966–1977 drought, Overstrand Municipal leadership escalated work to reduce water use and to find new sustainable water sources.

The Hermanus programme adopted the principles and conceptual approach that underpins the national policy and legislative platform built by the South African National Department of Water Affairs and Forestry, which is aligned with the Hyogo Framework for Action.

The programme employed two main strategies, namely water demand management, and finding additional, sustainable water sources.

Hermanus has actively reduced water demand through the introduction of a stepped tariff structure, a community awareness campaign, a water-wise garden project and accelerated infrastructure maintenance to reduce wastage from leaks. A project has been launched to remove invasive alien vegetation in the catchment area of the water source, which also focuses on job creation, skills development and the empowerment of the youth, women and people with disabilities.

The programme has located more water sources by accessing groundwater in a confined fractured-rock aquifer. This has involved monitoring of the full water cycle and environmental indicators agreed upon by community and official stakeholders.

The overall approach of Overstrand Municipality has built on a sound policy and legislative platform, has demonstrated the advantages of a long-term view for building informed community involvement, and has encouraged innovation and application of the best scientific expertise.
The whole community of Hermanus (37,000 people) is targeted. The project has been implemented and funded by the Overstrand Local Municipality. The following stakeholders have also been part of the programme:

- The National Department of Water Affairs and Forestry (DWAF)
- The Western Cape Provincial Department of Environmental Affairs and Development Planning (DEA&DP)
- Cape Nature, the public institution with the statutory responsibility for biodiversity conservation in the Western Cape
- The Onrus River Monitoring Committee, a Committee consisting of representatives from various Community Based Organisations
- A range of consultants and contractors

The project started in 2001 and is ongoing.

***Results***

- Risk of drought and water scarcity reduced for the community of Hermanus
- Water demand for the area reduced
- Additional sustainable water sources obtained
- Environmental restoration carried out
- Jobs created
- Skills training carried out
- Poverty alleviated
- Environmental education carried out
- Empowerment of woman, the youth and the disabled
- Increased awareness of HIV and AIDS

**The Water Demand Management strategy**

- Clearing Invasive Alien Plants: In partnership with the Working for Water programme, invasive alien plants are cleared and controlled, freeing up water resources for more productive use and creating jobs.
- Water wise gardening: Residents are encouraged to use indigenous vegetation and plants requiring

less water in their gardens. Users are also encouraged to replace portions of grassed areas with paving.
- Public awareness campaign: Residents and other users are made aware of the need to conserve water. Water conservation information is presented at schools. Water users are made aware of water saving devices that can be installed, i.e. low volume shower heads and toilet systems.
- Leak detection and leak repair: A project is underway to detect leaks in the water distribution system and to repair them. Users with unexpectedly high consumptions are visited and assisted to find and repair leaks on their premises.
- Water re-use (treated effluent): Treated effluent from the Waste Water Treatment Works is re-used for irrigating the golf course and sport fields. Previously the treated effluent was disposed of into the sea and potable water was used for irrigation. This has also become a new source of income for the Local Authority.
- Pressure management: It is planned to introduce pressure management into suitable areas of the water reticulation network. The pressure in the network will be reduced substantially during periods of low demand (between 23h00 and 04h00) so as to minimise losses as a result of leaks.
- Metering (bulk and domestic): An ongoing programme of meter replacements was introduced to ensure that all water use is metered accurately.
- Water tariffs: All households in the Overstrand Municipal area receive 6 cubic metres of water free of charge per month. Thereafter, a punitive

**The Working for Water programme**

Invasive alien plants are a direct threat to biological diversity, water security, the ecological functioning of natural systems and the productive use of land. They intensify the impact of fires and divert enormous amounts of water from more productive uses. In South Africa, invasive alien plants cover about 10% of the country.

In association with the National Department of Water Affairs and Forestry, the Working for Water programme has been implemented in Hermanus. Since 1995, the programme has cleared more than 1,000,000 hectares of invasive alien plants in South Africa, providing jobs and training to approximately 20,000 people from among the most marginalized sectors of society. Of the people reached, 52% are women. The programme is globally recognised as one of the most outstanding environmental conservation initiatives on the continent.

Plant control methods included: Felling, removing or burning; using environmentally safe herbicides; using species-specific insects and diseases as bio-control agents; and combinations thereof.

The programme has employment targets of 60 per cent women, 20 per cent youth and 5 per cent people with disabilities. Working for Water also aims to support community development, provide environments for skills training, and implement HIV and AIDS education projects.

***Finding additional water sources***

After analysis of the local options, drilling for groundwater was identified as the best option for finding new water sources for Hermanus. Five potential target areas for groundwater exploration were identified, and of these, two are currently being explored, tested and monitored for yield and environmental impact. Seven boreholes have been drilled that could yield together 2.8 million cubic metres of water per year. Exploration of two more of the sites is planned for 2010.

All the boreholes drilled to date target the confined aquifer of the Peninsula geological formation of the Table Mountain Sandstone Group. The water extracted from the boreholes is rich in iron and manganese and requires pre-treatment before it is mixed with water from the dam and treated at the existing water treatment works.

stepped water tariff applies that discourages water use of more than 30 cubic metres per month.
- Water restrictions: When required, water restrictions in various forms are instituted to restrict the use of water.
- Development restrictions: During the most extreme periods of water scarcity, new property developments were restricted and postponed until additional, sustainable water sources were identified.

## The good practice

- The approach is transparent, inclusive, sustainable and provides a long term solution to the problem.
- Government departments from all levels (National, Provincial and Local) were involved, and worked with community-based organisations and the private sector to develop and implement a sustainable solution.
- Many positive outcomes were delivered: less water demand from invasive alien species, less water demand from residents and other users, environmental restoration, job creation, skills training, poverty alleviation, environmental education, empowerment of woman, the youth and the disabled, raising awareness of HIV and AIDS.
- A rigorous Environmental Impact Assessment was produced, and includes continuous ecological monitoring due to Overstrand Municipality's commitment to environmental protection.

***Role of local government***

The Overstrand Local Municipality initiated, manages and funds the project. The programme is a good example of a local government taking responsibility for steering a long-term process to solve problems that threaten the local economy, community and environment. When projects require ongoing participatory and multi-stakeholder engagement, along with the need for rigorous and wide-ranging development and scientific-environmental considerations, it is highly useful to have a permanent coordinating body that has the local mandate and responsibility for its constituents' long term wellbeing. This kind of mandate is also a key advantage for introducing new ideas and unfamiliar practices to a community in a participatory way, ensuring accountable implementation of the best scientific and environmental practices, engaging existing programmes and agencies that are proven to work well, and gaining intergovernmental support.

## Lessons learned

- Our fresh water resources are limited and must be managed responsibly.
- Effective inter-governmental co-operation is possible.
- There are no sustainable 'quick fixes' - an integrated long-term approach must be followed.
- Stakeholder participation and support is important and enough time must be allowed for it.

***Challenges***

**Gaining community and stakeholder buy-in:**

Prior to this project, the community of Hermanus had no experience of extracting large volumes of groundwater for domestic use. Therefore, there was a certain amount of uncertainty and even scepticism about the project. The uncertainty centred on the long term sustainability of the project and the impact it could have on the environment and other groundwater users in the area.

This challenge was overcome by establishing the Groundwater Monitoring Committee consisting of representatives from all the stakeholders. This had the effect that stakeholders felt that they were included and part of the project. Another strategy was to move slowly in the beginning and to gather baseline information. A hydro-census was conducted in Hermanus and the surrounding farming area to establish a database of current groundwater use. The network of monitoring boreholes was established and monitored for one year before any groundwater extraction started. A Well Field Management Model was developed and small-scale pumping tests were then conducted to refine the Well Field Management Model. All of these initiatives resulted in a better understanding of the aquifer and the environment and reduced the risks and uncertainty associated with the project.

**Maintaining continuity and momentum**

Due to the long processes involved and staff turnover, it was a challenge to retain project momentum and continuity. Fortunately, the situation seems to have stabilised in the last two years and the project is progressing well again. Securing funding to employ a

dedicated, experienced project manager on the project would improve similar initiatives in the future, although it could be a challenge to find a project manager with expertise in the very wide range of elements that form the programme as a whole.

**Coordinating implementation**
The project is wide ranging and complex and therefore a variety of service providers and specialist consultants were initially contracted to implement the project, from borehole drillers to botanical specialists. Relationships between the many different contractors and consultants were not always well managed, resulting in fragmentation of the project, frustrations and delays. This has now been overcome by appointing one lead service provider who has taken full responsibility for the whole project and who appoints all other service providers as sub-contractors.

**Integrating changes into local service provision**
The final challenge was to integrate the new groundwater resource into the existing water system of the Local Authority. Staff operating the existing water treatment plant were hesitant at first to accept the 'new' water at the plant. This issue is being addressed at the moment by training the staff in the implementation of the Well Field Management Model.

## *Potential for replication*

Water demand management should be implemented by all water providers. The ten elements of the Hermanus Water Demand Management strategy can easily be adapted by any water provider. The principals of demand management can also be applied in the energy sector.

In the case of the Hermanus programme specifically, there are no economic or political constraints for scaling up within the local authority area of Overstrand. The local politicians of Overstrand fully support the programme and provide the funding required for its continuation. The programme has already started rolling out certain elements to other towns in the area.

Scaling the project up to a district or higher level will be more difficult. It will require the buy-in of various local authorities and other institutions. Each of them will have different priorities and competency levels. The level of commitment and funding will vary for each of the authorities and it will be difficult to implement a well co-ordinated regional project.

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# Viet Nam

*Development Workshop France & Commune Local Governments of Thua Thien Hue*

## *Building local capacity and creating a local government network for cyclone risk*



## *Abstract*

Development Workshop France has been working with Viet Nam's Commune Local Governments since 2000 to make construction cyclone resistant. Training, education and public awareness has resulted in more resilient homes and communities, and genuine local leadership of disaster risk reduction. This has increased recognition of disaster risk reduction at local and provincial levels of government. Importantly, Commune Local Governments are now networking with each other to share experiences and expertise, spreading the benefits of the project to other Communes and even internationally.

## The Initiative

During the yearly monsoon, central Viet Nam on average is hit by four to six typhoons, which can cause massive damage to vulnerable communities. Communes in Viet Nam are the lowest level of government administration, and have the most direct contact with local communities. The Development Workshop France (DWF) project[3] in central Viet Nam works with the Commune Local Governments (CLGs) to promote disaster risk reduction, particularly in cyclone-resistant construction.

The project has aimed to:

- Raise awareness of why and how buildings should be strengthened
- Show what techniques can be used and develop local skills to apply them
- Provide credit to help families pay for strengthening buildings
- Develop an array of communication and participation tools and ideas that are used by community leaders
- Encourage participatory disaster risk reduction awareness raising, both for the public and specifically addressing children in schools

Commune People's Committees and mass organisations including the Women's Union and the Farmers' Union are at the heart of all the project actions as the key partners in:

- Promoting and conducting the safe house programme with communities
- Sharing disaster risk reduction experience between Communes
- Collectively finding solutions through a network of CLGs

This project has been working in stages over the years to make gains sustainable.

**2000-2002** Demonstration of preventive house strengthening and training of builders.

**2003** Established Commune Damage Prevention Committees embedded within the CLG in each partner Commune and, above all, working on developing the Commune disaster prevention action plans.

**2006** Damage Prevention Committees were integrated into each Commune Committee for Flood and Storm Control, which were previously focused on preparation and response rather than prevention. The Commune Disaster Risk Reduction support network was also established, initially to share project techniques and approaches, but which progressively took the lead in the Commune level disaster risk reduction programming and action.

The project targets the most vulnerable Communes of Thua Thien Hue Province, Central Viet Nam, focusing on poor and vulnerable families, construction workers, schools and children, village leaders, and the CLG. Each year, the project reaches out to some 100 000 people. It was initially supported by CIDA and the Canada Viet Nam Aid Foundation, and since 2003 has been supported by ECHO's Disaster prevention programme (DIPECHO). As of 2008, it receives additional support from the Ford Foundation for developing credit for house strengthening. Equally important support has also come directly from the CLGs and beneficiary families.

***Results***

More than 1,400 families have strengthened their homes, and these have resisted subsequent typhoons. As a result the project has a high level of local appreciation and acceptance. When Cyclone Xangsane hit central Viet Nam in 2006, almost no damage occurred to any houses that had been strengthened. Other families outside the project began to copy the techniques. These successes attracted the attention of the Provincial Government. In late 2006 the Provincial Government issued a province-wide official recommendation urging all districts and people to apply the 10 key principles of cyclone resistant construction. The Commune authorities contribute funds for strengthening public buildings, and their staff time for working with the communities. In late 2006 the Provincial Government had its Department of Construction research and validate the DWF approach, and has since published guidelines on safe construction.

3 Preventing typhoon damage to housing

## The good practice

Already identified by as a good practice in other contexts[4], with regard to local government it is the role and development of the Commune Local Governments themselves as key players in community disaster risk reduction that stands out. Most specifically, the development of the Community Local Government network should be highlighted. The network provides a unique example of horizontal sharing in experience and decision-making about Commune disaster risk reduction. The networks draw on the skills and experience that have developed within the Communes in the past decade.

A key success has been the ability of Communes with several years of project experience to share their experience and guide other Communes in the process of developing and implementing their own disaster risk reduction action plans for their Commune. The network has been an efficient way to discuss, plan and implement risk reduction plans, warning systems (Radio FM, loudspeaker network), school programmes (lessons, plays), raising awareness through participatory events (like boat races with teams from different Communes), and practical evaluation of vulnerability of existing houses.

Already, alongside the DWF 'prevention' project, CLGs are strengthening their roles in disaster preparedness and response, in improving capacity for evacuation of vulnerable populations and the provision of food and other forms or relief managed by the Commune. CLGs have in the past decade been mandated by the central and provincial authorities with increasing responsibilities, and are developing capacity to act quickly and efficiently to save lives. Strengthening the CLG role in preventive action for disaster risk reduction has been a logical step.

***Role of local government***

Since the start of the project, each CLG contribution has been invaluable, as a partner and increasingly, as the lead local implementer of activities. The institutional and strategic base has been built at different levels, through:

- The CLG and the CLG Network
- Provincial government support of through public endorsement of the ten key points of storm resistant construction
- Collaboration with the Provincial Committee for Flood and Storm Control who advocate for the DWF strategy
- Joint projects partly financed by the Provincial Government
- Provincial Department of Construction promotion of project techniques that lead towards the integration of Safer Housing policy into broader Provincial strategy and activities

Overall each CLG has taken over many of the roles initially fulfilled by the DWF team in Viet Nam in the early stages. This will help assure continuity.

The growing CLG experience both in preparedness and prevention, has made the Commune network particularly interesting. While decision-making in Viet Nam has been largely a top down process, with Communes mostly in an implementation role, the CLG network has taken its collective experience of local realities and promoted approaches that have been tried and tested at the grassroots.

The CLG network is an important innovation, and within it, so too is the idea that expertise can come horizontally from one or more Communes to help others draw on experience grounded in local reality. This has contributed to easier assimilation of ideas by new partners when explained by people who have to deal with very similar conditions and risks.

The CLGs and their network have directly contributed to reducing risk and vulnerability, by helping families make their houses safer, being active in raising public awareness, and encouraging public participation.

4 Chosen by ISDR, UNESCO, ADRC, DANI, and attributed the 2008 World Habitat Award as a best practice for the project's approach to reinforcing homes to reduce economic loss, on the involvement of children and adults in the community as partners in the prevention awareness raising process, and in developing skills at grass roots level amongst community builders.

**Commune Local Governments leading implementation**

- Each CLG has drawn on its local knowledge and popular participation to develop a 5-10 year disaster risk reduction action plan, which are implemented with project funds and the Commune's own funds. Priorities have included strengthening existing and new public buildings that demonstrate safe techniques, and in developing other safety features such as escape routes and safe havens for boat families, and early warning systems.
- Technicians have been trained by the Communes to then identify work that needs to be done on individual houses, and to carry out quality control of strengthening work done by local builders and families. The CLG identifies potential beneficiary families amongst the poor for house strengthening.
- The CLGs also provide advice on how credit for house strengthening should be organized locally, applying local knowledge about how repayment patterns can be influenced by income sources and family poverty.
- The CLGs have been trained by the project to organize training for community builders
- The CLGs put on a large range of public awareness-raising and motivating events, and events developed with the project, to educate on vulnerability, risk reduction, preventive action and house strengthening.

## Lessons learned

- To reduce disaster risk and vulnerability at community level in a way that lasts, and to bring about changes in strategy and policy at higher levels, takes time. This work has to be built up in progressive stages to allow local partners and local government to assess, advise and assimilate ideas.
- An important step has been reached when decisions and strategies are made locally and reflect local constraints and realities.
- Encouraging leaders in local government to become the source of local expertise in disaster risk reduction based on solid experience increases credibility and uptake when these same strategies are proposed elsewhere.
- In a country such as Viet Nam more resources – human, material and financial – need to be allocated to enable local government to implement disaster risk reduction activities that reflect local realities. In the development of larger scale projects, more attention should be paid to the experience and opinion of local government (and thus inhabitants) in the assessment of both needs and viability. Too many large-scale projects for disaster risk reduction take place with insufficient local consultation.
- It is vital to reinforce the role of local level expertise. Similar initiatives should integrate this into strategy as early as possible.

## Potential for replication

To develop and replicate the project strategy elsewhere requires resources and to a certain degree, political will. Within Viet Nam, the opportunities for replication are considerable. In 2003, DWF worked with the Association of Vietnamese Cities to demonstrate the project approach in other provinces, with awareness-raising events, training and demonstrations of preventive strengthening. More recently, DWF has been asked to provide training and demonstration in new areas in central Viet Nam including mountain communities. Local conditions vary, but the overall principles and strategy are easily replicated.

In the coming years, Vietnamese government policy will emphasize the Community-Based Disaster Risk Management method through different externally funded projects. The networking experience in Thua Thien Hue should be disseminated more widely. But there needs to be a commitment of national resources for this sort of action to be scaled up.

Further afield, DWF is taking its Vietnamese expertise and experience to assist communities in Myanmar to learn about safe construction methods in the aftermath of Cyclone Nargis[5] - working with community leaders, training builders and using the strengthening of existing

5 Since mid 2008 the project in Myanmar is being developed with institutional and financial support provided by the Save the Children Alliance.

schools to show locally-adapted safe construction techniques. Myanmar technicians benefited directly by spending time in Viet Nam studying the DWF Vietnamese experience and techniques and listening to local opinion. The Myanmar experience highlights how valuable the role has been of local government in developing disaster risk reduction in Viet Nam, where the Commune People's Committees have become genuine and active partners the process.

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An International Conference on "Building a Local Government Alliance for Disaster Risk Reduction" was held and hosted by the Metropolitan City of Incheon, Korea, in August 2009, from which the main purpose and content of the 2010-2011 Campaign has emerged. What follows is the full text of the Incheon Declaration, adopted by the conference participants on 13th August 2009.

# Building a Local Government Alliance for Disaster Risk Reduction "The Incheon Declaration"

**Summary from 11-13 August 2009 Conference, Incheon**
(after comments and approval in plenary)

Opened by the United Nations Secretary-General Ban Ki-moon, the Mayor of Incheon Metropolitan City Sang Soo, and Special Representative of the Secretary-General for Disaster Risk Reduction Margareta Wahlström.
Co-chaired by UNISDR Deputy-Director Helena Molin-Valdés and Secretary-General Peter Woods of United Cities for Local Governments - Asia and Pacific.

*Today I urge local authorities to accelerate all efforts to make cities safer to prevent the loss of lives and assets. By conducting risk assessments of critical infrastructure such as schools and hospitals and public buildings. By strengthening public awareness and education about risk and reinforcing disaster management and preparedness. By engaging private sector investments and targeting public investments to build "disaster resilient cities." This will take a collective effort.*

**Ban Ki-Moon**, Secretary General of the United Nations

The Conference participants have come to an agreement to actively move the disaster risk reduction and climate change adaptation agenda forward through an Alliance of Local Governments for Disaster Risk Reduction, with 200 participants from national to local government levels, local authorities, associations and networks, professional and technical organizations, academia, the private sector and civil society, and the UN present.

Conference participants thank Incheon Metropolitan City and United Nations secretariat of the International Strategy for Disaster Reduction (UNISDR) for hosting this meeting and for their leadership in building this Alliance.

The group of Ministers and Members of Parliament participating in the Conference met in support of this cause, and committed to continue championing the subject for the benefit of humankind, to work together across political boundaries and to make sure that the recommendations and learning reach the population at risk.

We agreed to target '**local governments**' and use this as the encompassing term for urban and rural communities of different size and level (regional, provincial, metropolitan, cities, municipalities, townships and villages), in the global awareness campaign lead by ISDR and partners and in the Alliance. We also agreed to focus especially on reaching the poor and high risk communities with our efforts to reduce risk and build resilient communities, and to engage with grass-roots organizations and people, to motivate and involve them directly. The campaign will primarily target mayors, other local leaders and technical staff involved in urban development, as well as national authorities responsible for local development and/or disaster risk reduction.

## *The challenges we have identified:*

In the Plenary Sessions, the four Thematic Sessions and in particular, the discussions, the following key challenges and issues have been identified:

### Political opportunity

In his opening remarks, the UN Secretary-General, Ban Ki-moon, asked how local governments could actively contribute to address climate change and reduce the increasing risk of disasters. He called for world leaders in this area, including mayors, townships and community leaders, to address climate change and disaster risk reduction. This commitment presents an opportunity to scale-up the political empowerment and voice of local governments on the international scene, which is often still weak or even absent.

### Urban risk on the increase

More than 50% of the global population now lives in urban areas with an increasing population exposed to failing infrastructure, sanitation deficiencies, and lack of basic services, among many other risk factors. The 2009 Global Assessment Report on Disaster Risk Reduction lists unplanned urbanization and poor urban governance as two main underlying factors accelerating disaster risk. Other important risk drivers are vulnerable rural livelihoods and ecosystem decline.

Risk is increasing in urban agglomerations of different size due to unplanned urbanization and accelerated migration from rural areas or smaller cities. The low institutional capacity of local authorities to provide land and services to the poor leads to urban growth of informal settlements in hazard prone areas (900 million in informal settlements - increasing by 25 million per year). Urban hazards (e.g. flooding) are exacerbated by the lack of investment in infrastructure as well as by poor environmental management. With respect to flooding, the lack of appropriate storm drainage systems is a major cause for urban floods.

### Disaster risk reduction in rural communities

Risks are not only found in urban areas. The challenge faced by impoverished rural communities and their local governments in small villages and townships during and after disasters are multi- dimensional, especially for those with large day-to-day dependency on crops, livestocks and natural resources. While local communities have developed indigenous knowledge for disaster risk reduction to minimize risk, the adoption of new technologies, tools and sharing of good practices by local governments can go a long way to reduce risk in those communities and enhance adaptation to climate change.

### The exploration of alternatives to ever-increasing metropolises and increased urban risk

Faced with unsustainable and often disaster-triggered migration of what is usually the poorest rural populations to urban areas totally lacking in efficient and sustainable infrastructure, there is a need to encourage regional economic development in rural areas and smaller cities. This would support planned urban areas of sustainable proportions that would obviate the need for mass migration in search of economic opportunities. Governments should not just recognize that huge numbers of people are moving to unsustainable cities but may need to actively intervene with effective planning and economic investment to provide an alternative.

### Advocacy for local level disaster risk reduction and the empowerment of local governments

We need to more actively mobilize political support for the engagement of a wider group of stakeholders, not only the local governments, but national governments, civil society and the private sector. We recognize that local governments can actively contribute to solving global issues.

## Local governance for risk reduction

It is the local government that is the first responder, and the one responsible for community development and sustainable disaster risk reduction. The empowerment of local governments must be a key priority in order to encourage democratic decision-making that involves the citizens and all key stakeholders at the local level. The proper confirmative authority of the local government, human capacity and allocation of appropriate resources needs to be ensured.

Risk reduction at the local level depends on good local governance, particularly in political decision-making, formulation of policy, and enforcement relating to land use planning, regulatory controls, zoning, and construction standards. Risk reduction calls for flexibility in the decision-making process and the empowerment of communities, which in turn pushes transparency and good governance. The value and usefulness of an Alliance of Local Governments for Disaster Risk Reduction is that it can help facilitate good governance and create space for stakeholders to work together.

Every disaster brings to bear questioning of accountability of local and regional authorities, and whether they are over-ruled by national authorities. Each local or provincial government should have an explicit policy and action plan for disaster risk reduction, and dedicated personnel and budget assigned.

## Move from a 'disaster response' mode to a 'risk reduction' mode

The age-old challenge that still exists with many local governments, is to change the mindset from disaster response to disaster reduction and preparedness. "Mindset" means the understanding, the awareness and current way of understanding and doing things. The challenge is to bring the issues of disaster risk to a new level of significance for local governments. We need to clearly describe what the local authorities need to achieve: to localize the Hyogo Framework for Action.

## Disaster risk reduction is an investment - not a cost

We face an ongoing challenge to justify the need for resources to invest in reducing risk and how to effectively utilize national resources by whichever sphere of government is in the best position to utilize those resources.

A World Bank-led milestone study on the Economics of Disasters will be launched mid-November 2009. It will include important evidence to build the case for savings and benefits - and the costs of not addressing disaster risk. The methodology may well be used for the local government to provide its own analysis of costs and benefits to negotiate with national governments.

It is important to reflect on how information and data is gathered for global reports like this. Does it represent the reality on the ground? We recommend as a principle that participatory approaches are used for data gathering for all studies to truly reflect the realities, and to build ownership at the local level.

## Planning for disaster risk reduction

The need for a more widespread development of municipal risk assessments and maps as well as of local vulnerability and capacity assessments exists. These studies should serve as the basis for local and urban development plans and programmes and the development of municipal disaster risk management plans. Many good lessons are available; these need to be shared. We call for such practices to be shared by different means and ways, such as widely availalbe web resources.

## Partnerships

The key partners in any effective democratic decision-making are the citizens - the people - and the interest groups, organizations and structures that can assist in this process, often including specific cultural organizations and their leaders, e.g. religious organizations, grass-roots organizations, NGOs and traditional leaders.

The challenge is to find ways to work with local businesses and companies, to ensure there is an opportunity to involve the private sector when policy is being developed by local governments in projects aiming to reduce risks, and creating strong sustainable public private partnerships within the framework of Corporate Social Responsibility. In doing so, decisions must be made transparently and with sound technical and sustainable understanding of the consequences, in order to not create new risks. For example, telecommunications service provision could be an opportunity to develop partnerships with emergency response and disaster reduction and preparedness. To be effective, they must be developed ahead of time.

## Climate change adaptation, mitigation and disaster risk reduction

Given the 'front-line' status of local governments, there is an urgent need to inform communities and local governments about local level climate change implications and practical guidance for adaptation, as well as of climate change mitigation opportunities. Local climate change adaptation and mitigation efforts can be the most powerful method of minimizing potential disaster losses due to local climate variability and extreme events that have immediate implications.

What is the capacity of local government to deal with this responsibly? Local governments are considered as one of the pillars in the proposal for a new agreement within the UN Framework Convention on Climate Change. To fulfill this role, they need strong collaborations and partnerships to enhance the linkage with national policies and initiatives. Local governments and actors can provide basic data, currently unavailable, and feedback from a local perspective on how disaster risk reduction, adaptation and climate change mitigation actions are being integrated in the local sustainable development processes. We see as an opportunity the outcomes of the 4th Asia Ministerial Conference on Disaster Risk Reduction to be held in Incheon, Republic of Korea in 2010, which will have the theme 'Climate Change Adaptation and Disaster Risk Reduction'.

Local governments can provide the necessary political leadership to reverse climate change and reduce climate risk. A collective of local government organizations and individuals can achieve this together, in the Campaign and Alliance. We need to create national political space, and to use ISDR as an advocacy vehicle. Role models and good examples should be collected and disseminated in the Campaign and by the Alliance.

## Tools for disaster risk reduction

A vast number of tools, guidelines, templates and other useful resources already exist and only need to be adapted or updated for specific use by local government authorities and local communities. The challenge is to locate, collect and create access points for a range of tools and resources for disaster risk reduction. Research, monitoring and evaluation should be considered in all project and programme development.

6 The World Economic Forum developed guidelines and principles for private sector involvement in humanitarian situations, which should be abided by.

### Capacity development for local authorities

This is certainly one of the most pressing issues, as capacity development can have a significant impact on minimizing losses from disaster events, climate change and variability, and on strengthening decentralization of resources. There are many existing international, regional, national and local centers, training institutions and academic institutions to build on. Capacity development is recognized as a vital ingredient for decentralized disaster risk reduction and sustainable local development, and for empowering local government units and communities. As such, capacity development is a necessary component in building the Local Government Alliance for Disaster Risk Reduction in carrying out the World Campaign.

### Improved information and communications technology (ICT) is a necessity

Capacities of stakeholders to use ICT for disaster risk reduction need to be strengthened. ICT can empower people, communities and organizations to become more self-sufficient in dealing with and managing disaster situations and their aftermath. The use of ICT can increase the efficiency of managing the disaster reduction processes and, as a result, enhance the delivery of services to people at local and community levels and beyond. ICTs facilitate and enhance coordination, collaboration at all stages of the process dealing with disaster risk reduction, such as planning, early warning and increased communication among stakeholders. Where appropriate, access to resources should be designated to increase ICT capacities at the local level, to build on existing conditions, and opportunities to partner with private sector operators should be explored.

## *Way forward*

Arising from this meeting, the following concrete objectives have been identified as priorities to take into account for the ISDR system 2010-2011 World Disaster Reduction Campaign for local governments on urban risk reduction and the supporting Alliance of Local Governments:

### Communicating clearly for disaster risk reduction

We collectively agree to recognize and to actively promote the use of straightforward, commonsense language in all aspects of disaster risk reduction. Effective communications is critical to delivering a clear and readily understandable set of messages about the use, value and importance of disaster risk reduction to communities and local governments in all areas.

### Political engagement

The Alliance, as part of the World Campaign, will establish a compact between national and local governments, particularly those who can demonstrate strong partnering and interaction towards the common goals of disaster risk reduction, including the utilization of resources.

### Champions

We will seek to identify at least 25 'Champions' from local governments, and from national governments for local and urban development, with demonstrated leadership in this area (see criteria). These Champions will be invited to commit time to help raising awareness and advocating local government needs at the highest levels, and promote broad partnerships through a bottom-up approach. A target for the Campaign will be to improve the commitment of the UN to work with local government in risk reduction, and in climate change adaptation and mitigation programmes.

### Promoting capacity development for local governments at all levels

We shall, as an Alliance, develop a long-term mission and work plan, towards 2015 and beyond, to actively promote capacity development and training programmes at the international, regional, national and local level, with the aim of enhancing human resource development, necessary to empower the role of local governments and actors in disaster risk reduction.

As part of the immediate ISDR campaign strategy, the following capacity development actions should be considered, to be carried out by existing training facilities, champions and partners in each region:

- Inventory of resources and opportunities available worldwide at all levels;
- Support to localize and indigenize training programmes to reach communities and local governments in all areas;
- A plan to initiate a 'Training of Trainers' programme, utilizing the new Incheon ISDR Training facility and existing institutes and organizations with already developed training and capacity development, to develop disaster risk management awareness and capacity, targeting local governments and legislators. It will build on specific partnerships and available resources in each region;
- Partnerships for curricula development (technical, policy and legislative contents) through and with the support of UNISDR Regional Offices;
- Support of disaster risk reduction mainstreaming within the already existing capacity development programmes;
- Besides training, promotion of capacity development through experience sharing, South-South exchange and knowledge transfer; networking and partnership building; and joint project development and implementation.

The Alliance will promote decentralization and mobilization of resources, especially from national to local levels, to facilitate equal access to existing opportunities as well as the development of local opportunities responding to specific local needs.

### Localizing the Hyogo Framework for Action (HFA), and mid-term review:

After the first five years of implementing the Hyogo Framework, much has been learned and achieved, however, it has been affirmed that the process needs to reach out further to local governments and local communities. The mid-term Review 2009-2010 will offer a number of opportunities and challenges for local governments and particularly local-level high risk communities. These 'front-line' organizations will be called upon to help to upscale the implementation of the HFA and to lead and mobilize communities to adopt and use this disaster risk reduction tool.

Local Governments and Alliance networks around the world will be called upon to spread the message of the HFA, to collect success stories and to share country-specific experiences. Achieving the goals and objectives of the HFA by 2015 will not be possible without the support and collaboration of local government authorities**.**

The HFA midterm review is also a significant opportunity to contribute to the new urban risk reduction initiative and World Campaign 2010-2011, which will also stimulate local action for the implementation of the HFA. This shall be accompanied by a comprehensive advocacy campaign to build awareness of both the HFA and disaster risk reduction.

### Disaster risk reduction and climate change adaptation and mitigation– what does this mean for local governments?

This is a pressing issue for everyone. Local governments must become the drivers of adaptation and mitigation strategies that will result in greatly reduced disaster risk and loss potential. The campaign will focus on sharing practical measures on effective climate change adaptation and the links to disaster risk reduction.

### Select showcase local governments as role models for resilient cities

We propose to start with a minimum of 25 cases as role models and commit to communicate examples to UNISDR. This is proposed as the starting point. We will aim at having thousands of local governments involved by the end of the campaign, with increasing numbers towards 2015 and beyond.
What does this mean for each of those local governments? Initiatives to recognize good achievements and

examples of successful local risk reduction examples have to be set up - UNISDR will develop a matrix and share it with the Alliance for nominations and follow-up.

### UNISDR will coordinate the global campaign strategy, and especially focus on:

**(a)** Facilitating the political space between local governments, national governments and the UN for disaster risk reduction,
**(b)** Providing for a coordinated public awareness and media campaign, which will build on local, national and international partners outreach capacities (engage with professional marketing and media experts), and
**(c)** During the campaign, committing to facilitate the compilation of existing tools and good practices[7], and promoting capacity development, learning and sharing of experience between champion local governments and with the partners in each region.

## Commitment:

The Alliance of participants at this Conference will serve as primary consultative group for the global campaign. Specific responsibilities of institutions and networks will be set out in the campaign strategy, based on their specific commitment to take responsibility for aspects of the campaign. UNISDR will call upon the participants in this meeting as the advisors to the campaign and launch a call for "champions" and role model cities and other local governments with good practices- to demonstrate the attributes of a disaster resilient city and local government.

The concentrated global awareness campaign on urban risk reduction takes place during 2010-2011 and will build on previous ISDR campaigns for safer schools and safer hospitals. After this, the campaign will continue with the Alliance, national and local government organizations and partners to promote disaster resilient local governments at all levels with targets for 2015, and beyond.

7 We have 40 examples of local government in disaster risk reduction good practices already; 15 will be published in 2010.

## About the United Nations International Strategy for Disaster Reduction (UNISDR)

Adopted by United Nations Member States in 2000, The **International Strategy for Disaster Reduction (ISDR)** is a global strategy aiming to coordinate the efforts of a wide range of actors to reduce disaster risks and build a "culture of prevention", as part of sustainable development.

The secretariat to the Strategy, the **UNISDR** , serves as the focal point in the United Nations system for the coordination of disaster reduction and works towards disaster risk reduction becoming integral to sound and equitable development, environmental protection and humanitarian action. The motto for UNISDR is "to connect and convince". UNISDR has its headquarters in Geneva, with a liaison office in New York, and regional offices in Africa (Nairobi and Addis Ababa), the Middle East (Cairo), the Americas (Panama), the Asia-Pacific (Bangkok, Fiji, Kobe), and Europe and Central Asia (Brussels, Bonn and Dushanbe), with a Training Centre in Incheon, Republic of Korea.

The **ISDR system** comprises partnerships through which governments, intergovernmental and non-governmental organisations, international financial institutions, technical institutions and networks, civil society organisations and the private sector interact and share information on risk reduction programmes and activities.

The Global Platform for Disaster Risk Reduction is the main global forum for all parties involved in disaster risk reduction and it convenes every two years. In addition, Regional Platforms for Disaster Risk Reduction and Ministerial meetings are convened by regional organizations in coordination with UNISDR and other ISDR system partners. National Platforms for Disaster Risk Reduction are national multi-stakeholder committees or mechanisms that promote the implementation of the Hyogo Framework, advocate, and coordinate risk reduction issues nationally. Local platforms or alliances for risk reduction are being formed in some communities and cities.

UNISDR coordinates campaigns to raise awareness, increase commitment and spur action to reduce disaster losses. The 2010-11 campaign is for Making Cities Resilient.

***The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters***
Adopted by 162 Member States of the United Nations, The Hyogo Framework for Action (HFA) is the key instrument and global blueprint for implementing disaster risk reduction. Its overarching goal is to build the resilience of nations and communities to disasters, achieving substantive reduction of disaster losses by 2015.

The HFA offers five Priority Areas for action, to achieve disaster resilience for vulnerable communities in the context of sustainable development. The Priority Areas are:

1. **Make Disaster Risk reduction a Priority** – Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

2. **Know the Risks and Take Action** – Identify, assess, and monitor disaster risks – and enhance early warning.

3. **Build Understanding and Awareness** – Use knowledge, innovation, and education to build a culture of safety and resilience at all levels.

4. **Reduce Risk** – Reduce the underlying risk factors.

5. **Be Prepared and Ready to Act** – Strengthen disaster preparedness for effective response at all levels.

United Nations
International Strategy for Disaster Reduction

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*Making Cities Resilient*
***My City is Getting Ready***

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