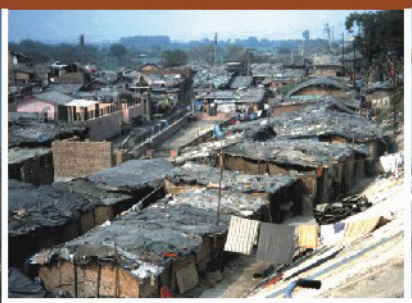
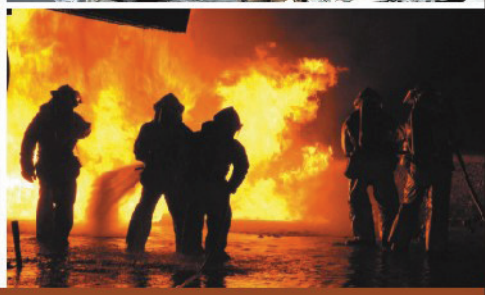
Urban Risk Management in South Asia

Launch of Global Campaign on Making Cities Resilient

8-9, June 2010 - New Delhi

SAARC

SAARC Disaster Management Centre, New Delhi

Urban Risk
Management in South Asia

Launch of Global Campaign on Making Cities Resilient

8-9, June 2010 - New Delhi

SAARC Disaster Management Centre, New Delhi

Contents

SAARC

SAARC DISASTER MANAGEMENT CENTRE, NEW DELHI

P.G.Dhar Chakrabarti, IAS
Director

8 June 2010

Preface

The year 2007 marked a watershed in human history when the world urban population touched the rural at 3.25 billion and from then on the urban population shall be spiraling to 4.6 billion in 2025 and 6.4 billion in 2050 compared to the decline of rural numbers to 3.1 billion in 2025 and 2.7 million in 2050.

Of the 1.29 billion people that would be added to the cities during 2007-25, close to 890 million would be in the developing countries of Asia and Africa, of which 464.2 million would be in South Asia alone.

In absolute terms, India would take the lead with 300 million additional urban population during 2007-25, but in relative terms India's urban growth would be the lowest among all the eight South Asian countries. Pakistan would continue to maintain its current status of being the most urbanized in the region, followed by Maldives, India, Sri Lanka and Bangladesh. Annual urban growth during 2000-25 would be the highest in Bhutan followed by Maldives, Nepal and Afghanistan.

65 cities in South Asia today (Afghanistan:1, Bangladesh:3, India:52, Nepal:1 and Pakistan:8) have more than 1 million people each, of which 5 have more than 10 million (Dhaka, Kolkata, Delhi, Mumbai and Karachi), with four other cities (Chennai, Bangalore, Hyderabad and Lahore) closely following. No other region of the world has concentration of so many mega cities as in South Asia today. Every projection indicates that Mumbai will cross 20 million in 2010, Delhi in 2020 and Dhaka, Kolkata and Karachi by 2025.

The uncontrolled and largely unplanned growth of large cities in South Asia has had negative effects on urban dwellers and their environment. The provision of infrastructure facilities and services is lagging far behind the pace of urbanization, and in consequence the urban environment, particularly in large cities, is deteriorating rapidly. All the cities and towns of South Asia are facing serious shortage of power, water, sewerage, developed land, housing, transportation, communication and other facilities.

The imperfections in land and housing markets and exorbitant increases in land prices have virtually left the urban poor with no alternative except seeking informal solution to their housing problems, leading to mushrooming of slums. About one third of the urban dwellers are living below poverty line

under sub human conditions in the slums, which do not have the basic minimum facilities of drinking water, sanitation, medical care and public hygiene. The disparities in the living conditions between slums and other areas are a potential cause of crime and social unrest in the large cities.

Compounding the problems of urban growth are the natural hazards of floods, earthquakes, cyclones, landslides etc, and layers of physical, social and economic vulnerabilities that are exposing the people of many South Asian cities to increasing risks of disasters. Climate change and its impact on atmosphere, rainfall, water is further dragging the cities into new vortex of risks.

At the same time, South Asia is witnessing rapid economic growth and transformation, and its towns and cities are at the heart of this process. All over South Asia, growth is taking place in dynamic sectors such as manufacturing, information technology, high-end service industries, trade, retail, banking, insurance and finance, all of which are urban-centric. By the year 2011, the urban share in India's national income is expected to go up to 65%, even though only slightly more than 30% of the population will be urban by then. In Pakistan and Bangladesh, the hypertrophic cities of Karachi and Dhaka dominate the economy. The mega-city of Karachi, for instance, not only accounts for a twelfth of the total population of the country's 160 million people, but also generates 70% of national revenue and over 40% of the value added in manufacturing.

This growth would not be sustainable unless South Asian cities are able to adequately address the issues of urban management and urban risk management. A number of initiatives have been taken in the recent past to make the cities resilient to disasters with varying degrees of successes and failures.

This compilation of case studies on South Asian cities, drawn from various academic, research and field organizations is probably the first of its kind. We are grateful to the authors and institutions for contributing to the collections at a very short notice.

We are very happy to bring out this compendium on the occasion of the South Asia Launch of Global Campaign on Making Cities Resilient in New Delhi.

(P.G.Dhar Chakrabarti)

एस० जयपाल रेड्डी
S. Jaipal Reddy

सत्यमेव जयते

मंत्री
शहरी विकास
भारत सरकार
MINISTER OF
URBAN DEVELOPMENT
GOVERNMENT OF INDIA

MESSAGE

Urbanisation is a key indicator of economic development and is one of the major transformations of the 20th Century. The urban population in India grew from 25.85 million at the beginning of the 20th Century to 285.35 in 2001. Similarly, the urban population in Bangladesh is likely to grow from 23 million in 1996 to 58 million by 2020. While the urban population in Nepal will grow from 2.6 million to 7.7 million during the same period, urban population in Sri Lanka will double to 8 million. These expanding urban areas are not only hubs for economic activity, but also present major challenges in providing good quality life for the residents.

2. One of the significant challenges faced by urban areas is to improve their resilience against disasters and calamities. Therefore, the need of the hour is to plan and implement schemes for mitigation of risks. This can happen only if the capacity of the communities, infrastructure, resources and governance mechanisms are enhanced to cope up with disasters. Innovative mechanisms have been used by cities for reducing their inherent risks. Many of these have proved to be very successful and need to be disseminated widely to encourage similar actions in other vulnerable cities.

3. I am pleased to note that the Global Campaign for making Cities Resilient is being launched from India. I am confident that the collective wisdom of experts from all over the world will enrich the Conference and the launch of the campaign. I am pleased that the National Institute of Disaster Management (NIDM) is bringing out a publication on this occasion on urban risk mitigation in South Asia. I hope it will be very useful for policy makers and civil society alike and encourage us to take the right steps towards making cities resilient.

(S.Jaipal Reddy)

104–सी, निर्माण भवन, नई दिल्ली–110108, फोन: 23063495ए 23061162, फैक्स: 23062089
104-C, NIRMAN BHAWAN, NEW DELHI - 1100108, PH.: 23063495, 23061162, FAX: 23062089

सत्यमेव जयते

Vice Chairman
National Disaster Management Authority
Government of India

FOREWORD

I am glad that the National Institute of Disaster Management (NIDM) in collaboration with Ministry of Urban Development, Government of India, SAARC Disaster Management Centre (SDMC) New Delhi and UN-ISDR, Geneva is organizing the International Conference on making cities resilient and launching a Gloal Campaign on 'Resilient Cities'.

While cities have provided the momentum of growth to the economy over time, they have also proved to be extremely vulnerable during disasters, resulting in heavy loss of life and assets. Nowhere is it more apparent than South Asia, where most of the large cities are vulnerable to one or more types of natural disasters, in addition to man-made emergencies like epidemics etc. Realising the need to look at risk reduction in cities differently, city governments and civil society organizations have taken up innovative measures to make cities resilient. Many of these measures could be replicated in other cities with similar problems.

I am glad that the National Institute of Disaster Managament (NIDM), true to its mandate, has taken up the onus of disseminating these good practices as case studies from various South Asian cities. I am sure this publication will assist the disaster management professionals, city managers, researchers and the general pubic alike to build on the collective wisdom of all concerned for transition of these cities into disaster-resilience.

New Delhi
31 May 2010

General NC Vij
PVSM, UYSM, AVSM (Retd)

MULLAPPALLY RAMACHANDRAN

सत्यमेव जयते

गृह राज्य मंत्री
भारत सरकार
नार्थ ब्लाक, नई दिल्ली-110 001

**MINISTER OF STATE FOR
HOME AFFAIRS
GOVERNMENT OF INDIA
NORTH BLOCK, NEW DELHI-110 001**

31st May, 2010

MESSAGE

I am happy to know that the National Institute of Disaster Management, in collaboration with the Ministry of Urban Development, Government of India, the United Nations International Strategy for Disaster Reduction, Geneva, and the SAARC Disaster Management Centre, New Delhi, is organizing an International Conference on Making Cities Resilient and launching a Global Campaign on Resilient Cities. I am delighted to know that the Mayors from a large number of cities in India and other parts of South Asia shall attend these events.

South Asia is witnessing an unprecedented urban growth in the recent years, mainly due to migration of people from the rural areas. This has put very severe stress on urban infrastructure, housing and environment and exposed a large number of people, particularly the urban poor, to the risks of different types of natural and man-made disasters. Every city must quickly put in place a system for assessing these emerging risks and take appropriate measures for mitigation and preparedness for reducing the risks of such disasters. I hope this Conference and the subsequent campaign will give a fillip to reducing urban risks in our region.

I wish this Conference and the Campaign a great success.

(Mullappally Ramachandran)

International Strategy for Disaster Reduction

International Environment House
Geneva, Switzerland

8 June 2010

Margareta Wahström
Special Representative of the Secretary-General for Disaster Risk Reduction

MESSAGE

3.3 billion people (nearly half of the world's population) now lives in cities or urban centers. 2.2 billion of these live within 100 km of coast. Urban settlements serve as nations' economic engines; they are centres of technology and innovation. They embody our cultural heritage. Impact of global climate change is being increasingly experienced by urban populations as more intense hurricanes and cyclones, storm surges and floods are destroying years of GDP growth, livelihood's and future growth potential: Mumbai, Manila , Rio De Janeiro and New Orleans have all been severely ravaged by disasters in recent years which could have been prevented.

Unplanned urbanization, destruction of coastal ecosystems and urban infrastructure investments which are not hazard resilient, or based on proper assessment of hazard risks. In the last one year I have witnessed from close proximity the extreme vulnerability of urban citizens to natural hazards in Kathmandu, Port au Prince, Hanoi, Rio, and Mexico City. Failure to provide land use plans which cater to disaster safe low cost housing for poor is the root cause of disaster causing loss of homes and livelihood's of urban poor in many cities I have visited.

The United Nations International Strategy for Disaster Reduction is working with its partners to raise awareness and commitment for sustainable development practices that will reduce disaster risk and increase the well being and safety of citizens - to invest today for a safer tomorrow. Building on previous campaigns focusing on education and the safety of schools and hospitals, ISDR partners have launched a new campaign in 2010:Making Cities Resilient.

Mayors from cities all over the world are now committing themselves to safeguard the future of their citizens. Mayor and Local authorities are pledging to implement Ten Essentials for Making Cities Resilient and to work alongside local activists, grass roots networks and national authorities.

Urban risk reduction delivers many benefits. When successfully applied as part of sustainable urbanization, resilient cities help reduce poverty, provide for growth and employment, and deliver greater social equity, fresh business opportunities, more balanced ecosystems, better health and improved education.

Today's gathering of over 100 Mayors from India and leaders from major cities of South Asia is an opportunity to join efforts at Making My City Ready . The Ten Essentials for Making Cities Resilient are both simple and comprehensive: risk assessments, city level budgeting for risk mitigation, investing in strengthening schools, hospitals and drainage systems to reduce earthquake, floods and landslides. These actions have stood the test of time in cities which rigorously applied them : Kobe, Istanbul, Mexico City, San Francisco etc.

As elected leaders of local authorities, you are closest to citizens and represent the most articulate citizens of the world. Your energy and courage will certainly safeguard the future of your citizens from disasters.

(Margareta Washlström)

Learning to Act Together: Disaster Mitigation in Hyderabad, Pakistan Through Collaborative Initiatives

Asian Disaster Preparedness Centre, Bangkok

After several months of drought, the arrival of monsoon rains had brought relief to the people of Hyderabad District. But on the 8th of September 2006, the people living in the metropolitan city were taken aback when they woke up that Friday morning. They saw so much water that it was reminiscent of a tsunami-hit area. However, it was only the previous night's rains that brought floods and they did not expect the situation could be so bad. Little did they know that what they were taking lightly was a serious crisis.

In Deep Waters

An 18-hour long spell of moderate to heavy monsoon rains began at 5 p.m. on September 7 and continued until 11am of September 8. It was the heaviest rainfall that the people of Hyderabad District had witnessed since 1962. The rainfall was recorded at 170 mm in Hyderabad City itself, and at 190.4 mm in the rural union councils. Of all the affected areas in the city, the inhabitants of Latifabad units 2, 8, 12, 13, and 14, and some parts of Qasimabad had to face hardship.

Chaos could be seen at the offices of the district government, and at the Water and Sanitation Agency and the Hyderabad Development Authority that are the city-level government agencies primarily responsible for maintaining sewerage and drainage infrastructures in the region. The civil administration had to seek the army's help to evacuate the people who were stranded. The water accumulated on the roads had turned into booby-traps for the people, and no barriers nor warning signs were erected to prevent the people from falling into them. By September 14, there was no significant reduction in the flood, and sewage had mixed with the flood water. The resulting terrible smell was unbearable, and the authorities were unable to completely drain off the water. The authorities were simply unable to cope with the situation.

In urban areas of Pakistan, social cohesion is limited, unlike in rural areas where social cohesion is the life blood of people. People are mostly engaged in livelihood activities in a competitive urban environment; they could hardly find time for community development interventions even though they are the sufferers in the end. In such conditions, one can find only a few socially active people who would volunteer their services for community good. The situation had to be turned around so that the city and the

communities could be better prepared for the annual monsoon rains. Little by little, their respective capacities for disaster risk management were raised by a series of activities under the Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE). The cornerstone for the gains made by the program was promoting social cohesion- that is, enabling the communities and the city officials to act together.

Profile of Hyderabad District

Historical Background

Hyderabad began as a small fishing village that thrived upon the banks of the mighty Sindhu river during the rule of a Hindu ruler named Neroon. A nearby hill tract called the Ganjo Takker (or the Ganjo Range) protected the town from floods that were regular in neighboring regions. Hyderabad was founded in 1768, and was the main town of Sindh province until 1843 when the capital was transferred to Karachi. Hyderabad was established as a municipality in 1853.

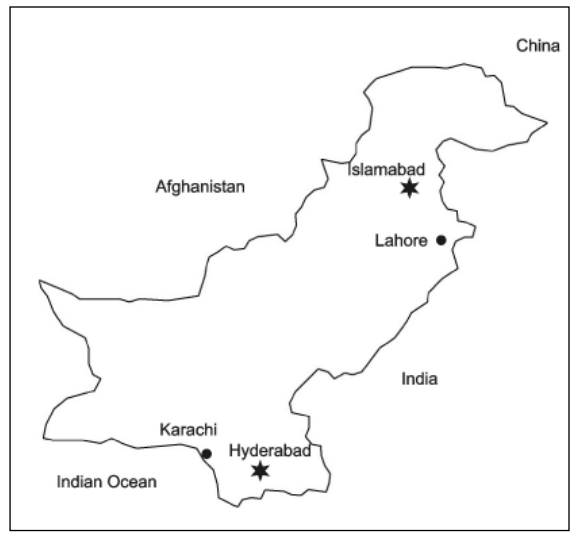


Figure 1: *Map of Pakistan showingHyderabad and other major urban areas*

The present extent of Hyderabad District is a vast, fertile alluvial plain that stretches from the east bank of the Indus river to the hilly region of the old Hyderabad city. Cultivation in the rural areas is dependent upon canal Figured. Map of Pakistan showing irrigation. Millet, sorghum, rice, wheat, Hyderabad and other major urban cotton, oilseeds, and mangoes are the areas main crops.

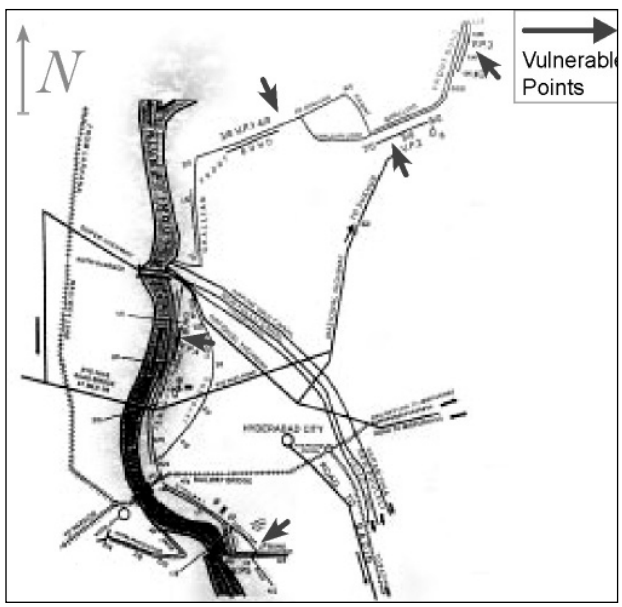


Figure 2: *Vulnerable Points of the Indus River*

The partition of Pakistan from India in 1947 prompted the influx of people from across the border. The city saw its numbers increasing in population, and the statistics at the time show that Hyderabad became the largest city in terms of population. The massive migration also prompted the creation of two suburban towns, Latifabad and Qasimabad, that were later incorporated into the district. Hyderabad District is currently the sixth largest city in Pakistan with an estimated 2009 population of 1,604,601 at an annual growth rate of 2.45 per cent (source: World Gazetteer, www.world-gazetteer.com, as of 18 February 2009).

Administrative Subdivisions of Hyderabad District

Hyderabad District in Sindh Province is comprised of four talukas (sub districts or counties), i.e.: Hyderabad City, Latifabad, Qasimabad and Hyderabad Rural.1 Under the devolution system, the District is headed by a Nazim (Administrator) elected by Union Council (basic administrative unit) Nazims. At the District level, the District Assembly takes care of development planning and its members are the Union Council Nazims who represent their respective areas.

The District Coordination Officer (DCO) works under District Nazim as the chief of District bureaucracy. About 11 Executive District Officers (department heads for such portfolios as health, revenue and agriculture) work under the DCO. The Talukas similarly have elected Nazims and government officials system for providing localized services. Within the Talukas are a total of 46 Union Councils headed by Nazims and Naib Nazims (Deputy Mayors) at union council level. Only 16 union councils are in Taluka Latifabad, and most of these areas are low-lying.

Socio-Economic Profile

Hyderabad has developed in epochs to evolve from a tiny fishing village into a medium-sized city, providing shelter and civic services for more than a million residents, as well as for those living in several rural districts of Sindh Province. Currently, Hyderabad District has a projected population of 1.6 million and a growth rate of 2.62%. The female population is 47%. Almost 70% of the population lives in the urban agglomeration. Most of the people are hired as laborers in manufacturing industries. The average household income was about PKR 120,000 per year (USD 1,983), while the average household expenditure was at about PKR 114,400 per year (USD 1,891) with half of it spent on food and health care (52% of total annual expenditure).

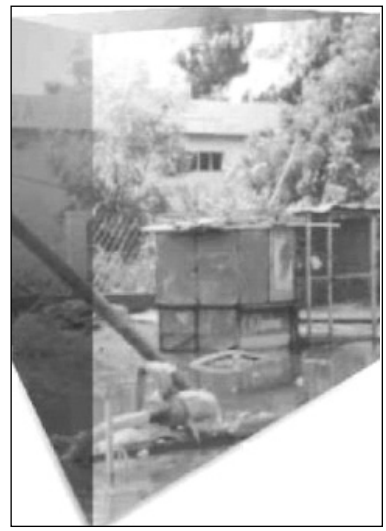
Most of the labor force is involved in agro-based businesses, and Hyderabad is a major commercial center for agricultural produce that include millet, rice, wheat, cotton, and fruit. In addition, Hyderabad has a sizable manufacturing sector that is comprised of industries like textiles, cement, glass and soap, pottery, tanneries, and handicrafts such as silver and gold work, lacquerware, ornamented silks, and embroidered leather saddles. It also has a lot of tourism potential due to its archaeological and historical sites, the presence of the Indus river, and various lakes within its boundaries.

Table 1 *:Some socio-economic data on Hyderabad District*

Statistic	Count
Population	1,604,000
No. of Men	819,610
No. of Women	786,390
No. of Households (estimate)	250,625
Literacy Rate	65%
No. of Health facilities	65
No. of Major Hospitals	6

The socio-economic profile of selected union councils made in November 2006 revealed that the typical household had access to water, electricity and natural gas. However, during rainy season, the water supply line is submerged and the system breaks down. Furthermore, almost 90% households in the targeted union councils are of pacca or semi-pacca construction, mostly made of concrete, very old, and shabby. This type of construction is weakened by floods, and 79% of surveyed households said

that they j leave their houses during floods because of the tendency for the houses to crack.



One of the drainage system's pumping stations underwater

Hazard Profile

Hyderabad is prone to multiple hazards: floods, torrential rains, and man-made hazards like fire, gas leakage, traffic accidents, heat strokes and electrocution (electrical cables break from time to time, and the risk of electrocution is higher in the period of floods and monsoon rains).

Hyderabad lies on the left bank of mighty Indus river and is surrounded by a canal system. Historically, water used to be abundant in the river but over the last decade, water has become a scarce resource as country is facing drought spell that is exacerbated by an expanding canal system and an unjust water distribution system. Generally, January through mid-February is the period when the city's water sources are exhausted and water becomes a rare commodity everywhere. Knowing no other source, many of the communities have to resort to untreated polluted water from Manchhar Lake, the largest water body in Hyderabad District, facing a high concentration of industrial and agriculture waste water. Drought also has a moderate indirect effect on the community economy as food items become dear during drought spells.

On the other hand, if there are torrential rains, then water floods into the river system and it often results in breaches at vulnerable points. The river is comprised of three barrages, with Hyderabad located on the left bank of the Kotri Barrage system[3]. The irrigation water downstream of Kotri barrage is insufficient for the communities living along sides of the river below Kotri Barrage. This canal system is always exposed to breaches in canal and river system at few vulnerable locations; the provincial irrigation department identified vulnerable points along main protective bund in entire of the District[4] (see Figure 2).

The district has a 40-year-old drainage system which often chokes down when it rains heavily. Unfortunately, the old system could not be updated despite the growing population and the development of informal settlements. The sewerage system is able to drain one inch (2.54 cm) of rain water in a day, and is rendered inutile by floods wherein even the drainage system's water-disposing pumping stations come under water. According to the city government's information, 20% of the population lives in low-lying areas. The ground water table in these areas remains very high; consequently, runoff rain water accumulates in a very short time to make these places flood-prone.

PROMISE in Hyderabad

The concept of floods seemed alien to citizens of Hyderabad, as they were experiencing a drought situation for a prolonged period, until there were huge downpours in 2006 that exposed the vulnerability

of the city infrastructure and the communities against this kind of hydro-meteorological disaster. Since the district has expanded in leaps and bounds during last few decades, appropriate checks could not be put on it by the successive local governments. By 2006, at least 20% of the metropolitan city was situated in a bowl-shaped, low-lying area.

Keeping the hazard profile in mind, a project in Hyderabad district was designed to respond to hydro-meteorological disaster mitigation needs within the overall parameters and objectives of the larger program called PROMISE. The Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE) was a specific effort to reduce the vulnerability of urban communities through enhanced preparedness and mitigation of hydro-meteorological disasters in urban areas. It was implemented in several countries, and Hyderabad was the urban area selected for Pakistan. PROMISE Pakistan (PROMISE PK) focused its community-level work in Union Councils 2,12,13 and 14 of Latifabad sub district and Ali Abad ward in UC 16 of Hyderabad City. Its project objectives specifically consisted of the following:

- Hazard mapping and vulnerability assessment
- Demonstration activities as a measure for disaster preparedness and mitigation
- Training and awareness raising interventions to develop local government and community capacities for appropriate preparedness and response
- Developing a cadre of volunteers as medical first responders
- Creating awareness among school children about hazards and giving them preparedness tips

The country partner for PROMISE PK is Aga Khan Planning and Building Services-Pakistan (AKPBSP), an NGO with the mandate to plan and implement infrastructure- and technology-related development initiatives such as habitat risk reduction, energy-efficient building and construction improvement, water supply and sanitation, and natural resources conservation. Under an MOU signed with the Government of Pakistan, AKPBSP assists local communities within various provinces and regions, such as the Northern Areas, the Punjab, NWFP and Sindh province.

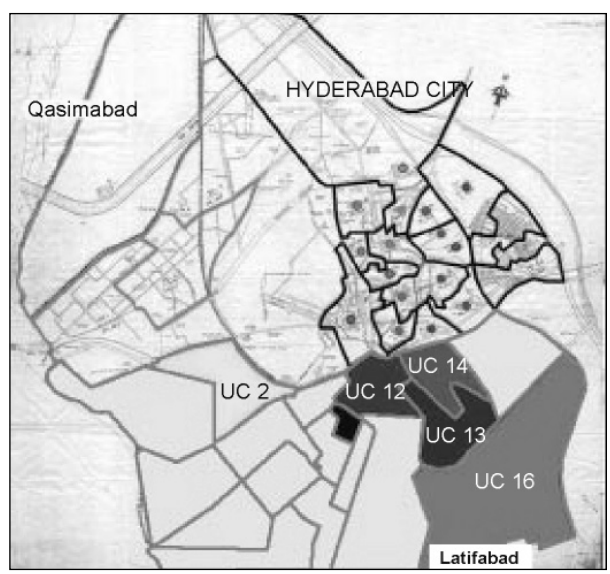


Figure 3** : Hyderabad District map with PROMISE **PK Union Councils

Learning Together

Several activities were held for raising awareness about disaster risk and disaster management: PROMISE helped to build capacities of various stakeholders - community members, local government officials and of the local partner AKPBSP. Disaster management training was given to representatives of

the local government in mid 2006. Officials of Taluka (sub-district) Municipal Administration, Infrastructure Officers, Union Councils Nazims and Naib Nazims, representatives of NGOs and CBOs participated in this training event. Residents of the union councils covered by the project also underwent a two-day course 'Basic Training on Disaster Management" from 30 June to 1 July 2006.

Main Topics for Basic Training on Disaster Management

- An overview of the Disasters and Risks
- Basic concepts in Disaster Management
- Understanding Disaster Risk Management Process
- Community Based Disaster Risk Management
- Community Risk and Vulnerability Assessment
- Capacity Assessment Flood Preparedness
- Mitigation measures for Flooding

Rana Ansar of the Zila Council represents Hyderabad at the 2008 PROMISE Working Group Meeting in Viet Nam.

Technical training courses were organized for local partners (AKPBSP and the District Government) on 'Community Based Disaster Risk Reduction (CBDRR)', 'Geographic Information Systems', 'Hydro-Meteorological Risk Assessment and Community Preparedness' and 'Governance and Disaster Risk Reduction (GDRR)'. Out of these courses,

CBDRR and GDRR were localized and organized at district level by organizing one event each. Mr. Muhammad Hussain Syed, DCO, and Ms. Rana Ansar of the Zila (legislative) Council, represented the local government at meetings and training courses in the Philippines and Vietnam.

A school safety program was initiated that targeted school children in five schools Iqra, Amin Abad, Hali Road, GOR Colony got familiarity with the basic concepts of hazards, underlying causes of disasters and their implications. The concept of the safe school was promoted and children were involved in different mock exercises to facilitate their learning; Focus Humanitarian Assistance was a technical partner for this activity.

The inadequacy of water and sanitation infrastructure is a major issue in Pakistan, with diarrhea as the single largest cause of infant and child mortality. AKPBSP had a program to provide water supply and sanitation infrastructure to rural communities, combined with health and hygiene education with a goal to reduce diarrhea morbidity by 50%. AKPBSP used their existing training material and conducted sessions for women on the four aspects of hygiene including: personal, domestic, food and environmental hygiene. The sessions were meant to improve hygiene practices and reduce vulnerability to water-borne diseases

A presentation at a health and hygiene training session.

Participants at the Governance and Disaster Risk Reduction Workshop in May 2008.

Students at Iqra Girls High School, attending the orientation on disasters.

Understanding Risk Together: Knowing the Community and the Environment through Mapping

The basis for planning and action has to be a risk assessment. A study of Hyderabad was made to identify potential hazards, assess potential disaster impacts, identify particularly vulnerable groups and assess existing coping capacities for episodic disasters. Within this risk assessment was a participatory hazard mapping and vulnerability assessment done by the targeted communities.

The PROMISE team held five activity workshops for the purpose of hazard mapping and vulnerability assessment of the low-lying parts of Latifabad and Hyderabad City. Community members, citizen groups and representatives of local government participated in this assessment. They used participatory risk assessment tools to prepare community hazard maps.

The community groups were oriented with the objectives of the study and PROMISE project itself. Lectures were conducted on the risk mapping process and on existing relevant information such as the Flood Emergency Rain Relief Plan and the available rainfall data. The participatory data collection methods used by the communities included Social Mapping, Transect Walks, Seasonal Calendars, and Historical Profiling.

The participatory risk maps indicated most vulnerable localities, safe passage, and elevated buildings to help people understand where to for each possible situation. Disaster calendars were prepared to mention the months in which different disasters usually hit their respective areas. They ranked the intensity of each disaster and their likely impacts on population.

The action planning was conducted in a highly participatory manner involving different stakeholders. The process included conducting four inception workshops in November 2006 with representatives of the local government, ; and holding involved disaster risks, vulnerability scale, vulnerable structures community workshops with local councilors, citizens and members of different civil society organizations. The community groups were primarily in identifying potential mapping their respective areas on preparing social maps by identifying and safe areas, recommended potential measures and coping strategies.

DMC members from all project sites at an orientation on their roles

Acting Together to Lower Risk

he participatory hazard mapping, vulnerability assessment exercise, and training in community-based disaster risk management definitely helped these groups to strengthen themselves into socially viable entities. The mapping exercise was followed by continuous mobilization of the communities. Awareness-raising workshops and corner meetings developed a sense and feeling of getting organized to help themselves for their collective issues. The PROMISE PK team made a deliberate effort to find out those activists upon whom community had a trust. Thus utilizing their (activists') energies, groups were formed and later on expanded with continued social mobilization efforts. Six disaster management committees were established under PROMISE in different residential clusters each in Ghera Basti, Ali Abad, Thakur Colony, Baban Shah Colony, Maheshwari Colony and Hali Road.

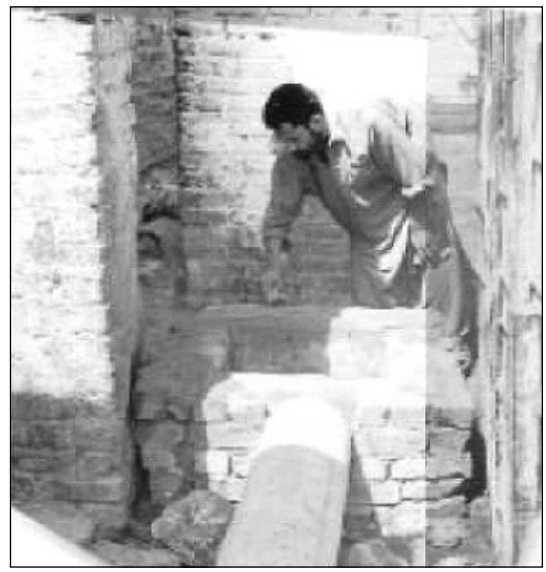
Each groups had eight members wherein at least two members must be women. Each member is given different assignments during the time of disaster, with two each for coordination and facilitation, relief, rehabilitation, and awareness and capacity building. Each committee elects/selects their Chairperson and Treasurer. The DMCs were given iterative capacity building support on understanding their roles and responsibilities, concepts of disaster and dynamics of community organization.

They started to meet when called, and a few of them met regularly and started to look for other opportunities for their development like registering themselves as organizations and seek local government funds. Two of the DMCs were registered as Citizen Community Boards under the project to be able to mobilize public resources from district budget funds. Thus, DMCs emerged as pivots of change and creating a responsive attitude towards hazards.

Small-Scale Disaster Mitigation Projects

The PROMISE PK project provided seed money for small-scale disaster mitigation projects (SSDMPs) for each union council; the DMCs were assigned to design the projects. Every DMC used the risk assessment made during the participatory risk assessment exercise and identified the highest-priority project that could lessen their misery in case of a disaster. Most of the communities came up with very

useful ideas in the sense that those projects could be effective enough in their regular life; Ghera Hindu Basti is one such mitigation project.



The small-scale ' disaster mitigation project in Ghera Hindu Basti.

The basti (hamlet) is more prone to flooding due to its low-lying location. Ghera Hindu Basti is spread over 1.8 acres of land approximately three feet below the sea level; a drainage system does not exist in the Basti. Ghera Hindu Basti is also more vulnerable to disasters than any other community in the entire UC 13 in Latifabad. It had approximately 100 households with a population of about 1,200 persons, and almost 90 per cent of houses are made of thatched and clay material.

The average duration of flooding during torrential rains in the Basti is fifteen days and an average two feet of water accumulates inside houses and on the streets, which leads to worsening of community hygiene conditions further exacerbated by erosion of basic necessities and economic losses. Stagnant rain water served as breeding ground for mosquitoes and other germs which cause diseases. The community has inadequate resources for maintaining hygiene in such conditions and consequently suffers from increasing burden of disease.

Terms of Partnership

Salient Features of AKPBSP and Partner Communities for Implementing PROMISE Small-Scale Disaster Mitigation Projects

Responsibilities of the Community

- The community is to form a disaster management committee (DMC) at muhalla (colony) level representing more than 70 per cent of households.
- DMC will be responsible for a contribution of up to 20% of the project cost, and it may be in cash or in kind as decided between DMC and AKPBSP.
- DMC will form committees for project implementation, operation and maintenance, and audit for the smooth implementation of the projects.
- DMC will be responsible for resolving issues arising with regard to social conflicts, regarding community contribution, land donation, and arrangements for future operation and maintenance of the project.
- Purchase of construction material will be made through mutual consent between DMC and AKPBSP.

Responsibilities of AKPBSP/PROMISE

- AKPBSP/PROMISE will design the project components, including detailed drawings and cost estimates etc.

- AKPBSP/PROMISE will be responsible to provide onward technical supervision of the project.
- AKPBSP/PROMISE will introduce strategy for future operation and maintenance of the project.
- AKPBSP/PROMISE will provide technical assistance in purchasing of construction material.
- AKPBSP/PROMISE will provide regular supervision and monitoring in both construction and financial matters of the project.

The DMC of Ghera Basti convened a general meeting of the community and brainstormed on the risks and possible aversion methods. After long sessions, the community agreed to construct storm water-cum-regular drainage system, and to add a few sanitation facilities in the colony. An action plan was eventually prepared and submitted to the PROMISE PK team along with a community resolution.

A similar method of planning was also adopted in other areas of PROMISE sites in Ali Abad, Thakur Colony and Maheshwari Colony. The communities in Ali Abad and Thakur Colony opted for storm water-cum-regular drainage systems, whereas in Maheshwari colony, the community decided to improve a sanitation system for their SSDMP.

Terms of partnerships were signed formally between each DMC and AKPBSP. Each DMC formed a project implementation committee with the responsibilities of procuring construction materials, supervision of ongoing works, ensuring quality checks, and, in one case, for raising money. The committee was also made responsible for providing services of labor as community contribution, and for ensuring that the community had elevated their houses. After completion of their projects, the communities were happy with the quality of their work.

Pooling and Multiplying Resources

PROMISE PK built capacities of DMCs in resource mobilization and networking. Two of the DMCs got registered under the Citizen Community Board mechanism and made efforts to seek funds for further development of their respective areas.

The DMCs were able to use their seed money to leverage more funds. Once the disaster mitigation project in Ali Abad started (construction of a storm water drain and filling streets with earth), the DMC was able to mobilize a few philanthropists from their community to help. They advocated with them so well that a group of philanthropists agreed to raise houses of 16 persons at the street level. Since the number of those affected by flooding was large, a selection was therefore made of the most vulnerable and most poor community members.

The community in Thakur colony advocated with their UC Nazim to pave their streets since the drainage system was already laid down through PROMISE PK. Bowing to community pressure, the UC Nazim agreed and got the scheme approved from District Council. The living standard of the community was immediately improved due to twin interventions.

Building a Rapid Task Force

Naib Nazim Zafar Rajput Champion ofDRR

The role of medical first responder is very crucial for any emergency. PROMISE PK prepared a cadre of volunteers by providing training on community-based emergency response, and organized them into task forces. The task force members are equipped with basic materials to respond to any emergency. The responders are in close coordination with each other and play their important role as and when needed. A practical demonstration was witnessed when a fire broke out in Ghera Basti in May 2008. Some of the MFR activists were among the very few that came to rescue the inhabitants, reaching the fire even before officials of local agencies.

"A number of members from first responders team turned up quickly to respond to the fire event that occurred in Ghera Basti when almost 300 houses got fire. The fire was triggered by a short circuit. Many of the city agencies were also mobilized by these volunteers and members of disaster management committee, Ghera Basti," shared Mithu Bhai, Councilor and Chairman, DMC Ghera Basti. Because of the timely efforts, the community was saved from casualties, even" though the residents lost most of their belongings.

Mr. Iftikhar, the leader of the task force at Ali Abad, shared, "PROMISE project helped to develop us into an organized force ready to take any challenge in case of any emergency. Although the project has ended now for six months, the task force to respond emergencies is intact and we are (just) a call away from each other".

Hyderabad District is now equipped with a team of 24 skilled first responders who are in turn connected with the DMCs in the six demonstration sites.

Partnership among Stakeholders

A well-knitted network with different stakeholders from the civil society and the government was established by the project; it helped to maximize the impact of interventions.

The national government established Disaster Management Authorities at the national, provincial and district levels, with the function of coordinating and facilitating the implementation of strategies and programs on disaster risk reduction, response and recovery. Their mandates cover the coordination and management of the whole spectrum of disaster risk management -e.g. mitigation, preparedness, response and recovery.

The DCO, as the head of bureaucracy at the District level, is also the deputy head of the District Disaster Management Authority, with the District Nazim as head of the authority. The DMCs under PROMISE were established with the primary objective of becoming representative community organizations able to conceptualize, plan and execute preparedness and mitigation projects in their respective com-

munities. The DMCs are expected to mainstream at District level once the national government's District Disaster Management Authority gets functional (as of the time of publication, the District Disaster Management Authority is not yet functional).

The political and administrative leadership of Hyderabad have been appreciative of the changes that happened. District Naib Nazim Mr. Zafar Rajput was instrumental in the implementation of the PROMISE approach by supporting the project at every stage. Sharing his views about the project, he mentioned: "PROMISE has brought us closer to the communities. Although the current devolution system in governance provides lots of opportunities for people and government to work in collaboration, the local governments (which are still in their infancy) needed projects like such (PROMISE) to be able to understand people's problems in a better way. We believe that the very informative and skill-oriented training programs (participated in by the representatives of the local government and community alike) have opened minds and developed skills for better planning and development. Through this project we have realized that for the success of interventions, we will have to go again and again to the communities, learn through them, and act".

Lessons Learned

- Social mobilization remained the cross-cutting activity of this project to ensure maximum participation of community in the disaster preparedness and mitigation work and look after post construction work with enhanced skills.
- Gender equity was ensured by giving women the opportunity to participate in project activities with membership in DMCs.
- Participatory prioritization of community needs, based on the knowledge of hazards and vulnerabilities, ensures government buy-in and requisite support. Socio-economic disparities not only make the poor more vulnerable, but marginalize them in times of emergency.
- Combining the financial empowerment of the communities with transparency will generate the best results.
- SSDMPs address gaps in the government's capacity for implementing disaster mitigation schemes and facilitate resource mobilization.
- Trust in the worthiness of community leaders makes it easier for government to undertake DRM projects.
- Liaise with officials of relevant district departments and facilitate their visits to project sites allow new synergies to develop.
- Preparedness is incomplete without the proper human and institutional development

*****