

Enriching The Asia Regional Plan: Inputs from India



Photo: AIDMI.

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Advocating Disaster Resilience in South Asia since 2005



ABOUT THIS ISSUE

This issue of Southasiadisasters.net is titled 'Enriching The Asia Regional Plan Inputs from India.' It highlights the importance of what India can, should, and will do in order to develop a Disaster Resilient Society.

The various aspects highlighted in this issue serve to depict the manner in which India has developed their NDCs by accepting the need of investing in Green Technologies. Also it will be discussed the importance of making safer cities. They are comprised of systems, which include human, economic, physical, political and social systems that are impacted by internal and external 'disturbances' which provide an opportunity to adapt, transform or decline and therefore there is a need to make them safer spaces for the population. This could be done by taking actions to re-shape the humanitarian response through following the Core Humanitarian Standard.

In addition, India compromises to give especial attention to the future Structural Mitigation Plan by promoting the construction of safe buildings and smart cities where the Urban Ecosystem ensures a healthy humane habitat. Other aspects this issue takes into account are the need to develop a Disaster Preparedness Plan, giving especial attention to Select Religious Places in India, due to the large amount of population that attend these places every year; and the need to build resilience Child Sensitive Social Protection with Technology in the country. ■

- AIDMI Team

INTRODUCTION

India's NDCs – An Opportunity for Co-creation of Green Technologies

India's much awaited NDCs (Nationally Determined Contributions) are out – and to widespread acclaim. This is a firm leap forward for the country; not only towards a robust INDCs policy framework, but also in terms of a bold and clear public stand on making India's NDCs work!

The entire team at the Ministry of Environment, Forest and Climate Change must be congratulated for making the process open and transparent. A far more balanced approach on adaptation and mitigation in the context of India and a wide range of ideas and insights have been included in this process of finalising the INDCs. What India can, should, and will do has been reviewed over the past several months with great care and caution. India's rapid economic growth efforts, steps to lift citizens out of poverty and need for better livelihoods and income generation is addressed in INDCs.

The main features of India's NDCs are:

1. Calls for the transfer of green technology and low-cost international finance including funding from the Green Climate Fund (GCF).
2. Enhancing a wide range of adaptation policies by investing in sectors vulnerable to climate change, such as agriculture, water resources and the Himalayan and coastal regions. Health and disaster management have also found a place on INDC agenda.
3. Unconditional emissions intensity reduction of 33-35% by 2030 based on 2005 levels.
4. Creating a carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent through additional forest and tree cover by 2030.
5. A target of 40% of production of electricity from non-fossil based energy sources by 2030 with expanding focus on solar energy.



Vijayawada. Photo: cdkn.org

India's INDCs join a select number of country initiatives which aim to integrate Disaster Risk Reduction with Climate Change Adaptation. The National Disaster Management Authority (NDMA) actively pursued this inclusion and the Climate & Development Knowledge Network (CDKN) played its role by offering inputs into the process of integration at two major events - The National Consultation on Adaptation and Disaster Resilience in India's Nationally Determined Contribution (INDC), July 23-24, 2015 held at IIC by Climate Action Network South Asia (CANSAs) and AADRR, and at the 2nd Annual South Asian Cities Summit, New Delhi at IHC May 22-23, 2015, organised by CDKN and Cities Network Campaign and All India Institute of Local Self Government.

Shri Prakash Javadekar, Minister for Environment, Forest & Climate

Change made a strong point recently at the Observer Research Foundation (ORF) Round Table about 'Co-creation' of green technologies to Ms. Amber Rudd, MP, Secretary of State for Energy and Climate Change of UK when she was in Delhi. His comments were positive and forward looking, emphasising that India must ask for access to green technologies not available to it so far, that it should not rest or depend on these technologies alone, but develop its own technologies to address the challenges of climate change. Ms. Rudd was open and cooperative to finding ways to transform the debate on technology towards a joint action.

India has stood on its own feet in developing its own Space and Nuclear Technology; it should now work towards developing its own Green Technology. Given the chance, India can and will make a wide

range of green technologies that will not only benefit India, but also those countries fighting poverty and looking towards accelerated economic growth.

Time has come to focus the energies of India's scientists, technocrats, business, bankers, industry, researchers, and common citizens in this direction of co-creating Green Technologies. Opportunities exist for India to work with global actors for the sharing of ideas and technical know how and for the development of 'co-creation of green technologies' jointly between India and UK. Bringing in global knowledge on green technologies will also help in making knowledge the leading ingredient to 'co-creation' in India. When implemented well India's INDCs will reduce emission, reduce poverty, increase jobs and co-create knowledge based green technologies. ■

- Mihir R. Bhatt

URBAN RESILIENCE

Urban Disasters and the Core Humanitarian Standard

When cities are not well managed they can be seen as crucibles of hazards, generating vulnerability and risk for large populations. When a disaster strikes a city, how do humanitarians get it right, considering the aid sector's roots in rural traditions?

The Core Humanitarian Standard, a framework that supports quality and accountability within aid agency response, is a step in the right direction, having been developed in consultation with hundreds of humanitarian actors. While there are nine standards, the first one - ensuring that humanitarian responses must be

appropriate and relevant - is highly debated in an urban context.

Urban humanitarian response becomes appropriate and relevant when it considers three key approaches, among others. The first is that of an Area Based Approach, which can be described as geographically based, multi-sectoral and participatory in nature. Presently, there is a call for a shift in paradigm in humanitarian assistance by agencies like the Inter-Agency Standing Committee (ISAC), United States Agency for International Development (USAID), Office for US Foreign Disaster Assistance (OFDA), European

Commission Humanitarian Aid and Civil Protection Department (ECHO) and the Global Shelter Cluster (GSC) to assist entire neighbourhoods, rather than individual households. In other words, the humanitarian sector is retrofitting a proven development approach to suit urban contexts in a way that promotes collaboration over coordination and factors in the need for timely relief response.

The second is using a complex adaptive systems approach to understand the city. Such an approach recognises that cities are complex, and views the city as a combination of inter-dependent



Photo Credit: Crislyn Fejisida, World Vision 2013.

Due to high levels of diversity in cities, urban approaches require extraordinary levels of contextualization because each household, each neighborhood and each city can be dramatically different from the next.

parts working together at a multitude of scales that shapes its overall behaviour. Cities are also adaptive because their systems – for example, neighbourhoods, and the component parts of the neighbourhoods, for example, individual households or the rules that govern them, adapt to changing contexts such as the need to elevate houses over flood prone areas. Cities are comprised of systems, which include human, economic, physical, political and social systems that are impacted by internal and external 'disturbances' which provide an opportunity for systems to adapt, transform or decline. This conceptual shift in thinking means that for humanitarian aid to be relevant and appropriate in urban centres it must facilitate the provision of basic services through existing channels, not attempt to be service providers as is the heritage of aid. Furthermore, it means building on health care systems, rejuvenating market systems and re-addressing

social systems that bypass the voices of more vulnerable people in order to share power more equitably.

The third approach is to use a resilience lens. Resilience is most helpful when resilience for whom is defined alongside resilience to what. Due to high levels of diversity in cities, urban approaches require extraordinary levels of contextualisation because each household, each neighbourhood and each city can be dramatically different from the next. The opportunity to contextualise the term resilience can be seen as a key strength of the concept. Moreover when humanitarians use the lens of resilience it requires an understanding of the underlying everyday risks that shape urban vulnerability in addition to disaster risks. In addition to designing aid responses with disaster-affected people, humanitarian workers are also called upon to collaborate with urban specialists whose job it is to

effectively and reliably provide centralised services. Such multi-stakeholders include planners, engineers, architects and universities, among others. Part of embracing the new role of a facilitator requires taking steps that build self-reliance within neighbourhoods on the one hand while assisting governments to develop policy and legal frameworks that protect people from disaster risk, especially the most vulnerable on the other. Urban disaster resilience might be able to achieve an entry point for the kind of integrated programming humanitarians are seeking to achieve.

Part of making cities safer is taking action to re-shape humanitarian response into a more relevant, more appropriate form that builds on the opportunities and strengths that urban areas provide. ■

– **Pamela Sitko**, Urban Technical Advisor, Disaster Management, World Vision International

An Assessment of Disaster Preparedness Plan of Select Religious Places in India

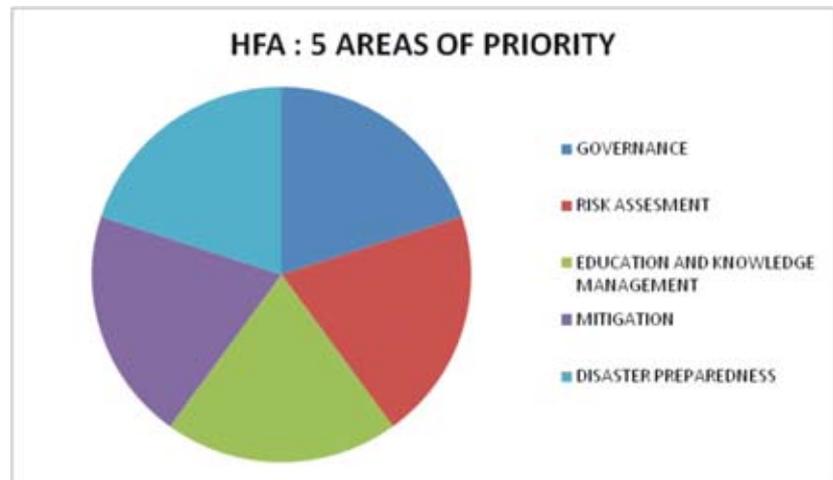
Disasters are a global phenomenon. They are the cause and result of environmental degradation caused by nature or man. Disasters can be broadly classified into natural and man-made disasters. India is one of the most disaster prone areas. Disasters cost India 10 billion dollar per year (UN Report, 2015).

Since independence India's approach towards disasters response remained relief centric till the Bhuj earthquake of 2001. After which, Government of India took two important decisions by setting up a national committee on Disaster management and a High Powered Committee on Disaster management. This led to the enactment of the Disaster Management Act in 2005.

However, the Uttarakhand floods of 2013 once again exposed the fragilities present within our system. The Kedarnath valley (where the Kedarnath temple is located) bore the brunt of these floods. The Kedarnath temple is annually visited by lakhs of Hindu pilgrims. Thousands of such pilgrims were killed and over 70,000 were left stranded in the ensuing mayhem. It has thus become necessary to develop a robust framework to assess the disaster preparedness of religious places and also to improve upon the existing practices.

Religious places

There are a number of religious groups residing in India. In India one can find the oldest pilgrimage tradition in the whole world. A large number of people visited various religious places annually. India holds the record of organising one of the largest peaceful



gatherings in the world, the Maha Kumbh Mela in which about 120 million people participated in 2013.

Religious tourism is a key component of the tourism service industry. Several new tourist circuits are being developed across India so as to facilitate travel to and stay at religious places. The Ministry of Civil Aviation has developed specialized infrastructure for the development of Buddhist Tourism Circuit by developing an international airport near Gaya. The airport operates flights from key SAARC countries and others, such as China, Japan, Thailand, Myanmar, Sri Lanka, etc.

Also the Ministry of Tourism has already identified 35 destinations for Phase I which will be developed with the help of government assistance. They will then cover another 89 in Phase II. The ministry has proposed a required outlay plan of Rs 9,450 crore for the 12th Plan and is hoping to draw in private investment close to Rs 28,000 crore for such projects. Therefore, it becomes pertinent to assess disaster preparedness of selected disaster prone religious

places in the country. India has a total of 2,398,650 places to Worship. These are spread all across India in the following manner.

Vulnerability

India supports 1/6th of the world's population on 02% of the world's landmass of which 59% of land is vulnerable to earthquake, 28% to drought, 12% of its total landmass is vulnerable to floods and 80% of Indian coast line is vulnerable to cyclone. It is estimated that on an average one million housed damage annually in India. According to the EM-DAT, the total number of natural disasters reported internationally each year has been steadily increasing in recent decades, from 78 in 1970 to 348 in 2004. This has led to an increase in the vulnerability of religious places as well.

Existing Measures of Preparedness

The Government of India has been committed to the implementation of the Hyogo Framework for Action (HFA) 2005-2015. UNDP India has supported the Ministry of Home Affairs (MHA) in collecting information from various UN Agencies and non-governmental

organizations on the contribution made by these entities through their work on the five priority areas as identified in the framework. These five priority areas of HFA are governance, risk assessment and early warning, education and knowledge management, mitigation, and preparedness.

Governance: After the Disaster Management Act 2005 was enacted the local authorities, i.e. the Shrine board in Jammu & Kashmir undertook steps to ensure that Disaster Management is institutionalized. Four Disaster Management Task Forces were formed for various locations on the 13 km track. Each Task force had different number of members depending on the staff strength in that location and also the number of visitors in that particular place. Each Task Force consists of members for crowd control, Fire, Earthquake, Landslide, First Aid, and Search & Rescue.

Risk Assessment: Disaster management trainings were organised for about 800 staff members of the Shrine Board and other different agencies operating there. Evacuation maps, Risk & vulnerability maps were developed with the assistance of the community to help guide a safe escape with minimal loss of life in an emergency. A robust communication system based on wireless, mobile and landline connectivity has been set up keeping in view the sensitivity of the location, along with joint control rooms at strategic places.

Education and Knowledge Management: A two pronged strategy has been used so as to build a culture of safety and resilience. At the first stage, the task forces are given specialized training based on the outcomes of needs assessment, thereby strengthening their capacities. At the second level, the

staff receives general awareness training so as to ensure a basic level of response to any emergency situation. Besides the above, local risks like snake bite, handling of domestic fire, etc. also get addressed during the training sessions.

Mitigation: Planning and Disaster management training has been integrated with the overall Shrine Developmental Plan. Various development activities of the Board, including constant maintenance of the track, creation of fire lines in the forest area and controlled burning of grass to prevent forest fires, strengthening of the slopes in vulnerable stretches, heavy plantation through special drives etc. are some of the activities having direct bearing on risk reduction aspects.

Disaster Preparedness: An Incident Response System has been put in place to ensure effective and quick response in case of emergency and a location wise Contingency Plan is in place. The Task Force has powers to react and respond *suomoto* during an emergency to expedite response. They have regular meetings to review further training and requirements. A separate emergency fund has been allocated for quick dispersal during emergencies. Apart from this, location wise Disaster Management Store Rooms have also been established.

Further Measures Required

The example of Shri Mata Vaishno Deviji Shrine in Jammu & Kashmir provides us with an important model wherein the Government and the local bodies have been able to combine their efforts to successfully implement the five key points of H.F.A. This model must be effectively replicated across all places of worship (shrines, temples, mosques, churches etc.) present in India.

Another important step that the higher authorities of religious places must take is to evaluate their vulnerability and safety. The factor proposed by some of the researcher should be utilized by these authorities to regularly assess their vulnerabilities.

The local authorities must maintain a proper checklist which evaluates them on the 18 factors mentioned above. They must regularly update this checklist. Government based agencies should evaluate these checklists on a regular basis and analyse the current condition of all these religious places. After proper analyses corrective steps must be taken by the local authorities in partnership with the government so as to increase the safety of these places.

Acknowledgement

This paper is based on the research work being carried out by first author Hamendra K. Dangi and second author Anish Krishna under financial assistance of University of Delhi's scheme Research & Development Grant 2014. The views are personal. ■

- **Hamendra Dangi** and
Anish Krishna, University of Delhi,
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A Road To Earthquake Safe Buildings in India

The problem of unsafe constructions, at times even in the formal sector under the supervision of architects and engineers, is a rather sophisticated problem that India must solve. It will require a multi-disciplinary approach involving engineering, social, political and economic interventions. Research articles, reports, microzonation maps, codes are all meant to improve what gets built on the ground, but do not make any difference if the actual improvement in construction does not take place. Hence, a narrow view of earthquake safety from an 'earthquake' viewpoint cannot be effective and the focus must shift from 'earthquake engineering' to 'good constructions'. India anticipates unprecedented growth over the next decade, an opportunity both exciting and daunting. The

prospects for growth for all those in the construction industry are enormous, yet with the possibility of continuing many of the potentially fatal errors in our constructions as prevalent today.

Foremost among the unfinished agenda to improve the construction process are:

- (1) **Competence-based licensing for engineers in general, and structural engineers in particular.** Professional licensing serves several purposes: (a) ensuring competence of professionals, (b) enhancing quality and accountability of professionals since the council can withdraw the licence to practise in case of misconduct or incompetence, and (c) increasing the mobility

of professionals from one jurisdiction to another.

- (2) **Enforcement of building codes by the municipal authorities.** Municipalities in India do have a system of checking the building for fire safety but no such system exists for checking for structural safety. The guidelines prepared in 2007 by the National Disaster Management Authority for managing earthquakes recommend enforcement of building codes in addition to many other elements and it is now time to implement the same. In cities and towns, the municipal authorities regulate building construction (e.g., for bye laws and fire safety), while there is no regulation for buildings in the rural areas. As



Confined masonry construction at the Indian Institute of Technology Gandhinagar campus: first application in India.

urbanization proceeds and rural areas on the outskirts of cities are incorporated within the cities, the rural buildings constructed without regulation become part of the city.

(3) Development and propagation of building typologies that are inherently earthquake-resistant.

There is an urgency to develop, test and propagate construction typologies that are inherently safer. If a common man can build a safe home with locally available construction materials and skills, it will solve a huge problem of unsafe constructions in the informal sector. In fact, such typologies are needed not only for the informal sector, as even the formal sector can benefit from these. Most urban construction in India consists of either masonry load-bearing buildings of up to three or four storeys, or reinforced concrete frame buildings with masonry in fills as walls. Their safety can be significantly enhanced by (a) adopting confined masonry construction in the case of

masonry load-bearing constructions and low-rise reinforced frame construction up to G+3, and (b) providing reinforced concrete shear walls in the case of medium- and high-rise reinforced concrete frame buildings. Confined masonry construction looks similar to reinforced concrete frame construction in terms of building materials. However in confined masonry, the walls are constructed first and reinforced concrete components are constructed later - it is essentially a load-bearing masonry construction technology. Confined masonry is less demanding in terms of special seismic detailing which is necessary to ensure safety of reinforced concrete frame construction. Development of a fully-residential 400-acre academic campus of Indian Institute of Technology Gandhinagar in the State of Gujarat has provided an excellent opportunity for the first large-scale formal deployment of confined

masonry in India. There are six G+3 student hostels (with 1,225 student capacity) and 30 G+2 buildings (with a total of 270 apartments) housing the faculty and staff. The construction was completed in 2015 and the project received a HUDCO Design Award for Cost Effective Rural/Urban Housing Including Disaster Resistant Housing (2015).

The focus of earthquake safety should be on new construction of all kinds, from the millions of housing for the masses that the central government has identified as a priority, to the expensive apartment buildings for the affluent. Clearly, India has come a long way on the road to earthquake safety. And yet, much remains to be done before this journey is completed. Creating a system and culture for building safe houses in 21st century India is something not only possible but an absolute necessity. ■

- **Sudhir K. Jain**, Professor,
Civil Engineering, Director,
Indian Institute of Technology,
Gandhinagar, India

HUMANITARIAN EFFECTIVENESS

The Importance of Humanitarian Standards in Asia

As the most disaster-prone region in the world, Asia occupies 30% of the world's land mass, but experienced 40% of the world's natural disasters over the past decade. This resulted in a disproportionate 80% of the world's disaster deaths over the period, according to the Centre for Research on the Epidemiology of Disasters.

When disaster strikes, it is critical that humanitarian workers deliver

quality responses that are accountable to the individuals and communities they serve. This can be challenging in a sector characterised by high turnover, rapid deployments, steep learning curves, and the need to collaborate with multiple humanitarian actors on a response.

The CHS Alliance improves the effectiveness and impact of assistance to crisis-affected and vulnerable

people, by working with humanitarian and development actors on quality, accountability and people management initiatives. We work closely with our 240+ members and other disaster responders in Asia to ensure they know when and how to apply the standards that enable them to deliver their best work. Central to our work is the Core Humanitarian Standard on Quality and Accountability (CHS) that sets out Nine Commitments



Judith F Greenwood (far left) at the launch of CHS in Bangla.

organisations and individuals involved in humanitarian response can use to improve the quality and effectiveness of the assistance they provide.

Over 50 of our members are based in Asia, making it a region of particular importance for our work. Over the past 18 months, we've partnered with national NGOs to translate the CHS into the languages spoken across Asia from Seoul to Kathmandu. The CHS is now available in Arabic, Bahasa Indonesia, Bangla, Khmer, Korean, Nepali, Thai, and Urdu. We've worked to ensure this important tool is available in the tongues of regional and national disaster responders in order to encourage the dissemination of good quality and accountability practices as widely as possible.

Our Executive Director Judith F. Greenwood launched the CHS in Bangla in Dhaka earlier this year on the invitation of our member COAST Trust. Judith carried out field visits to the project sites of Alliance

members in Bangladesh where she witnessed the strong application of quality and accountability principles. Judith was impressed that the organisations she visited put people and communities affected by the crisis at the centre of responses as a matter of second nature.

Many disaster responders in Asia are already engaged with humanitarian standards such as the CHS. Amongst our members, Community World Service Asia has been conducting training on the CHS in Afghanistan and Cambodia while Christian Aid is using the CHS as a framework to evaluate its Nepal response.

The CHS Alliance also delivers training on the CHS and other quality and accountability practices. Our Prevention of Sexual Exploitation & Abuse (PSEA) conference will take place in Bangkok, Thailand, on 5 September 2016 focusing on good practice in investigations of allegations of sexual exploitation & abuse (SEA) by aid workers. The conference will be followed on 6 September 2016 by a

one-day workshop offered for free to all conference attendees. They will be able to choose from three topics: Introduction to PSEA, PSEA and Investigations for Managers and Introduction to the Core Humanitarian Standard (CHS). During the week before the conference, from 30 August to 2 September, the CHS Alliance will be offering an Investigations workshop in Bangkok. This four-day workshop demonstrates how to conduct fair, thorough and confidential investigations into complaints of staff misconduct with a focus on SEA.¹

At the CHS Alliance, we envision a humanitarian response where all organisations make the voice of the population their guiding principle by using jointly agreed, country-specific collective accountability and quality standards such as the CHS, and we look forward to working with stakeholders in Asia to achieve this. ■

- Emily Tullock,
Communications Officer,
CHS Alliance, London, UK

¹ More information: www.chsalliance.org/our-events/events.

Can we have Smart Cities without Smart Citizens?

What is the Smart Cities Scheme?

Under this scheme the selected city will get Rs. 100 crores from the Central Government every year for a period of five years. And this is to be matched by the State Government and the local body both. So the total budget from Government Sources will be 300 crores per year or Rs. 1500 crores over a period of five years. The annual budget of Pune Municipal Corporation for the current year 2016-17 is in excess of 5100 crores. The money which will be received by the PMC by way of grant will be about 4% of their annual budget. The per capita amount available to this city of 3.7 million people is 811/- per year. The question is where can it be spent most effectively which will ensure that the City becomes Smart.

The scheme says that this money and whatever the city raises in addition through the SPV should be spent on the core infrastructure elements of a Smart City and offers a choice from ten (10) clearly identified areas¹.

Pune: Smart City

For Pune the best option from these would be no. 7, "Good governance, especially e-governance and citizen participation". A city will only be as smart as its citizens. The World Health Organisation says that Pune ranks very high on all pollution indicators. Most of these are driven by the behaviour of the Citizens.

Conceptualization, design, implementation and monitoring of any plan, intervention or programme cannot happen without a bottom-up approach and such an

approach requires not only the participation of, but also guidance from the beneficiaries (citizens) of that intervention or process. The precondition for any intervention to be successful is for the beneficiaries to have ownership of that intervention (because they are the ultimate users).

The Pune Smart City Vision should give primary importance to good governance and especially e-Governance and citizens' participation in order to form a flexible, rigorous, efficient, scalable and sustainable smart city system and to create an integrated Smart City ICT ecosystem.

The stakeholders, including the citizens, the elected representatives, the administration as well as experts in various fields, who are involved in the creation of the Pune vision, must appreciate the fact that the Smart City process will have to be propelled and guided through identifying, measuring and improving quality of life indicators as all amenities, services and facilities provided to citizens are implemented to improve the quality of life of the citizens. Appropriate technological inputs and platforms can only be decided after identifying and mapping the amenities, facilities and service delivery processes in order to ensure evidence based decision making. This will mitigate lacks, gaps and mismatches that currently impede efficient delivery of entitlements.

An Urban ecosystem that evolves through the above mentioned process will create an environment that adheres to the principles of a healthy humane habitat that ensures

social, cultural, economic and political vibrancy.

All in all, it would be correct to say that the expenditure of Rs. 811/- per capita per year would be most effective if it is spent on improving citizen participation in the decision making process. The amount of money that we have at our disposal should be spent on empowering citizens and communities to ensure that they make smart changes in their behaviour which will lead to smart decisions which will make the city SMART.

The other 9 core infrastructure schemes have funding lines through various schemes such as AMRUT, HRIDAY, Swachha Bharat, Indira Awas Yojana, etc. But, there is no earmarked funding available for "Good governance, e-governance and citizen participation." Since this is at the heart of whether we succeed or fail. If we spend five years with a grant of Rs. 1500/- crores and an equity of 52% as well as investment from other sources through the SPV on improving the quality and quantity of citizen participation, we will go a long way towards building transparency, accountability and sustainability in the governance process and achieve the aim of creating a Smart City.

A word of caution about the SPV. Smart Cities is a scheme of the Ministry of Urban Development and delegating statutory decision making powers to a Special Purpose Vehicle created for executing the decisions made by the Constitutional Authority would set a bad precedent and would be illegal. ■

- Prof. Aneeta Gokhale-Benninger, Executive Director, CDSA, Pune, India

¹ Smart City Mission Statement & Guidelines. Ministry of Urban Development, Govt. of India, June 2015.

Building Resilience of Children and their Communities by Integrating DRR, Child Sensitive Social Protection with Technology

Save the Children and NOKIA have forged a partnership to build the resilience of children and communities through improved access to social protection and increased capacity for disaster risk reduction. The proposed initiative aims to build resilience of vulnerable children, their families and communities in 5 states (Andhra Pradesh, Bihar, Delhi, Rajasthan and Tamil Nadu) across India, through an innovative approach by integrating Disaster Risk Reduction and Social Protection framework with Information Technology. The project is being implemented in 350 locations with varied hazard profiles and will reach around a million lives.

Besides the conventional approach of building capacities of the communities by providing them training on basic life-saving skills, the project addressed the vulnerabilities by strengthening the social protection net using technology. Information and communication technology linked to mapping and network solutions will play an extremely important role in laying the framework for targeting, tracking, linking and disbursement of Social Protection entitlements. At the same time, this will also enable the community and government to respond to a disaster rapidly (First Responders) and at scale. The project focuses on leveraging the technological advancement for improved delivery of basic services and enhanced capacity for action with village institutions.



Disaster Management Planning Demonstration to Project Team with Children and Adult Community Representatives at Navjivan Camp Urban Community.

Some of the important initiatives undertaken are:

- 1. Disaster Management Resource Centre (DMRC):** DMRC are being setup at school and Panchayat levels for effective coordination and response in times of disasters. Each of these DMRCs are equipped with a CPU, LED television, solar panel and inverter. It is envisioned that these DMRC would act at emergency operations centres that would coordinate with the relevant district administration for effective response. The DMRCs are also equipped with task force kits for early warning, search and rescue, relief management, camp management and psycho-social support. Task force members have been formed and trained at school and village level to
- 2. Network in a Box (NIB):** It has been usually observed that there is prolonged outage of mobile connectivity which significantly hampers the response actions. In order to address this key information void, NIB will be installed in six location. NIB can be easily established and operationalized. Though NIB, the task force members will be able to connect with each other through a ruggedized device and coordinate their response efforts.
- 3. 3D Flood Forecasting:** 3D flood forecasting is being piloted in flood prone areas of Bihar. This tool will sound the vulnerable communities based on the existing precipitation level and anticipated rainfall in the next

respond to any emergency situation.

72 hrs. This intervention is designed to dovetail with the EWS application creating a comprehensive system of early warning based on real time information.

4. **FARM Schools:** Forecast Application for Risk Management is an intervention which will build the capacity of local farmers to understand and interpret climatic information provided by Indian Meteorological Department and inform their farming decisions. This will help them save money that they would have otherwise lost if they were not aware of the weather pattern. This also has a component of training farmers on methods to adapt their cultivation to changing climate patterns.

Besides the above there are few more technological interventions being tested for disseminating early warnings and mobile application for road safety ensure prompt response

in case of an accident. The project directly involves community members, children from school and government authorities. Disaster management plans are developed at school level and village level through direct participation of the school and village disaster management committees, children's group and community members. The findings from participatory vulnerability and capacity assessment and other critical information is mapped on Google earth for easy access and monitoring purpose.

Models on innovative community resilience augmentation based on processes integrated with technological solutions are being



Urban community, Majnu Ka Tila, North Delhi.

developed and implemented, which Save the Children will strive to replicate/scale up in India and across the world. ■ - Vinay Iyer, Project Director, Save The Children, India

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