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Youth Leadership in Long-term Recovery

Photos: AIDMI.

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FOREWORD

Youth Leadership in Long-Term Recovery

The large number of youth among Indian citizens offer an opportunity to re-imagine disaster recovery, and therefore India. This opportunity is mostly missed by the humanitarian sector as well as disaster risk reduction agencies. As a result, there are no nationwide youth programmes to reduce risk or make recovery more robust and sustainable in India.

Apart from being an integral part of the disaster management cycle, disaster recovery can also be a creative process that helps in building the resilience of communities to future shocks. The recovery phase spans out most effectively when it is done in a participatory manner, leveraging the strengths of all the concerned stakeholders. The youth are perhaps one of most vulnerable as well as capable demographic groups exposed to the adverse impacts of disasters. However, they have very little understanding of and influence in the decision making surrounding disaster recovery and resilience building. As a result, their perspectives on recovery are being lost.

The All India Disaster Mitigation Institute (AIDMI) realizes the importance of promoting a 'Youth-centric' view of recovery so that resilience building addresses the aspirations and apprehensions of this important demographic group. In the first week of March 2016, I was with youth from various universities in Delhi discussing ways to organize the climate change programme in a more inclusive manner. The event was organized around three films by tve South Asia and supported by the Climate and Development Knowledge Network (CDKN). What the youth said at this event was striking. They did not want this or that future, but wanted all futures. Their awe at continuing poverty after recovery was fresh. Where are these ideas in disaster recovery?

To capture the unique views of youth on disaster recovery, AIDMI recently organized a program called 'Building Youth Leadership for Sustainable Development", in January 2016. This program was a collaboration between AIDMI and the Centre for Development and Emergency Practice (CENDEP), Oxford Brookes University, where in 8 CENDEP students along with their professor visited those areas in Gujarat which bore the greatest brunt of an earthquake in 2001.

The students brought together the text, the visual, and the romance of the two in the day-to-day reality of recovery.

It has been 15 years since a massive earthquake measuring 7.9 on the Richter scale wreaked havoc across the villages and cities of the Indian state of Gujarat. The recovery that followed after this disaster is hailed by many as exemplary. The Gujarat Model of Recovery is gaining currency in both, the humanitarian and Disaster Risk Reduction circles in India and abroad. But what is this model? How did it work? When does it need more efforts or imagination to work? The purpose of this program was to deepen the understanding of these students on the long term impacts of disasters on communities and their livelihoods and the subsequent impacts of the various recovery interventions undertaken by the government, NGOs and other institutions. The districts of Patan and Kutch in Gujarat, which have shown stellar recovery after the devastation of the 2001 earthquake, presented the perfect laboratory for these students to test their ideas of vulnerability and resilience.

The program was held for 7 days, wherein the students visited 4 villages and 2 cities in the aforementioned 2 districts. The students saw a wide range of individuals and local institutions between these villages and cities. During their field visit, the students interacted with the community members and observed their surroundings to understand the underlying risks faced by these communities. Based on these interactions the students were able to analyze the impact of long term recovery on the community's shelters and livelihoods. They also documented general lessons that the long term recovery in these communities had to offer.

It is also essential to know the manner in which recovery is planned. To understand youth's perspectives on this question, AIDMI organized a consultation with 115 youths of Muzaffarpur town in January 2016. These youths wanted to make citizens of their town aware about safety aspects of disaster risk, climate risk and conflict risk.

Programs like these are part of a larger effort by AIDMI to promote youth leadership in resilience building. Since 1997, AIDMI has

been consistently hosting students under its '*Exchange for Change*' internship program from all over the world to work in the field of disaster risk reduction (DRR). To date, over 150 students from 64 universities and 16 countries have contributed to AIDMI's efforts of building resilience for the poor and marginalized communities of India. What these students have again and again asked is why there is no measurement of unequal recovery? How recovery makes incomes unequal? Why recovery of asset is better than recovery of labour in most cases? Why do some labourers have more income and most labourers have same or low income after recovery? Why recovery is not seen as a redistribution pathway even by the Right Based Organisations? Such questions fuel AIDMI's work and imagination.

The involvement of youth in resilience building programs has helped in furthering the understanding and interest of this demographic group on issues of vulnerability, risk and deprivation in India. In turn, the youth have enriched the discourse and practice surrounding disaster recovery, reconstruction and mitigation with their insights. Capturing insights such as on unequal recovery, has helped in making the process of disaster risk reduction more inclusive and relevant. Involving youths in disaster planning exercise has helped in making the disaster risk reduction initiatives more practical and demand driven. The Building Youth Leadership for Sustainable Development, 2016 is one of the many steps that AIDMI intends to take to promote youth leadership in DRR by empowering young people to take on the role of next generation change makers.

When asked, a young student in this group said, "Peace, jobs, and resilience defines how good or bad any recovery is". How apt. ■

– Mihir R. Bhatt

PREFACE

The Puzzle of Long-Term Recovery: Finding the Missing Pieces

Disaster recovery is like a jigsaw puzzle with a lot of missing pieces and the pieces we have don't always fit together. New insights into recovery processes are emerging as a result of experience and research, but the empirical evidence is limited and uneven, with a particular shortage of long-term and comparative studies. As a result, we are still some way from establishing broad, coherent theories of recovery.

Old notions of disasters as an interruption in development, and recovery as a return to pre-disaster normality, are clearly no longer viable. There is growing recognition that recovery is not a simple linear process; rather it is complex and multi-faceted. Disasters can generate substantial physical, social, political and environmental changes, and recovery initiatives must take place in this altered context (sometimes referred to as the 'new normal').

Recovery does not have a definable end point and there is little agreement on how to measure success in reconstruction and recovery programmes. In recent years, there has been renewed interest in frameworks and models for measuring progress in recovery. Post-disaster follow-up surveys and evaluations also provide examples of how recovery assessment can be carried out. However, our understanding of measurement or assessment frameworks, approaches, methods and metrics/indicators remains very limited. As a result, recovery investment decisions are generally made in the absence of robust evidence about what approaches are likely to be most effective.

Many recovery case studies are urban; but discourse about the distinctive features of urban recovery has been slow to emerge. Systems thinking can also help to give us a better understanding of the dynamics of recovery and how this is shaped by the interactions between engineered systems (infrastructure, housing and other features of the built environment) and other systems (socio-economic, environmental, political-institutional).

Most work on understanding recovery focuses on its physical and economic dimensions. Social and psychological aspects tend to be overlooked. Disasters and disaster recovery processes can have a huge impact on societies and lead to irreversible social change. Indeed, recovery can be arena of contest between different social groups and interests. We must pay more attention to how pre-existing socio-economic vulnerabilities shape longer-term post-disaster trajectories of change, and put more effort into understanding and supporting communities' adaptive capacities and processes. We must also consider the roles of institutions, state and civil society actors in recovery policy-making and implementation. ■

– Dr John Twigg,
Co-Director, Centre for Urban Sustainability and Resilience, Department of Civil, Environmental and Geomatic Engineering, University College London

Sustainability in Long-Term Recovery:
Reflections from Kutch Earthquake Response Work

Photo Courtesy of Dr. Supriya Akerkar.

Karsan with his child (at the centre) and CENDEP students.

I was returning to the Kutch district after twelve years since I had left it in 2003, after working as the project director for Action Aid International India leading their earthquake recovery work since 2001, when the earthquake had struck. This time in 2016, I was returning as a professor with my students undertaking MA in Development and Emergency Practice (DEP) at CENDEP, Oxford Brookes University, Oxford, UK, on a field trip organised in collaboration with AIDMI. This field visit was therefore also a trip down my memory lane, particularly as we reached Bhuj. We speak about sustainability of our work, but what did it really mean in the context of Gujarat earthquake? What had earthquake response work really led to which was worthwhile, and has relevance even today for the affected people? This Southasiadisasters.net issue which focuses on youth leadership in long term recovery offers a perfect landscape to reflect on the idea of long term recovery and sustainability after disaster, reflecting on the Gujarat earthquake response work. Contributions in this issue include those from DEP students, academic and AIDMI colleagues reflecting on these themes.

Here, I share a few reflections about the same, as I travelled through Kutch with my students.

For me, it was heartening to meet up with colleagues from Abhiyan, in Kutch, a network of non-governmental organisations with which I had worked. Abhiyan had after the Gujarat earthquake through a *Setu* initiative played an important role of bridging the communication between the earthquake affected people and the government. Even today, Abhiyan is very much working with the district administration on issues such as spreading awareness about new building codes to make houses earthquake resilient, with manuals which detail how to do the same. Awareness building is a continuous activity, involving newer generations to learn from the past. Disaster Risk reduction is also about sustainable knowledge building, namely passing that knowledge to newer generations, and building their capacities. Certainly Abhiyan's work which had taken roots after the Gujarat Earthquake in Kutch was still flourishing and making meaningful contributions to the future risk reduction processes.

Another highlight was to meet up with a few women who were now doing Masonry work as their livelihood activity. This was certainly a new skill that women had learnt after the earthquake, and a result of the several training workshops that several organisations had undertaken to transfer this skill to women. Kutch as I remember had a strong gender division of labour, with masonry being an all-male activity before the earthquake. When training workshop for masonry were held for women, there were several questions about its success as it meant challenging entrenched gender stereotype. But meeting these women, who are now doing Masonry work as their livelihood activity only goes on to show that social change is possible and is sustainable, when new opportunities are made available to the excluded.

Women had embraced the opportunity that earthquake had provided and were the change makers in the long run.

However in this entire journey through Kutch, the most moving moment for me personally was to meet up with Karsan Rabari, from Khara Pasvaria village with whom I had worked very closely after the earthquake. Karsan was 21 years when I first met him in 2001 after the earthquake. He was a natural leader even then and was vocal in mobilising not only the people from his own village Khara Pasvaria but also people from other villages in Anjaar Taluka. Through peaceful marches and rallies, he had raised several pertinent issues at that time with the taluka and district administrations, such as affected people not getting housing compensations on time, or widows and people with disability not getting pensions, or issues of water scarcities in the villages. Karsan was not just involved in raising people's grievances and getting them addressed through district administration at that time; he was also a progressive youth from Rabari community challenging some of the social practices within his own community: such as marriage of girls at a young age, not sending girls to school and colleges. Now in 2016 when I met Karsan, he was married, and a father of two kids. He is also now the Sarpanch (Village head) of his village Khara Pasvaria. As a Sarpanch, he had led the sanitation initiative in his village, and every household now has a toilet in their house, with availability of water and electricity. He continues to play a progressive role in the development of his village and community. Karsan also extended a generous hospitality to me and my students and the AIDMI colleagues as we all stayed overnight at his house in Khara Pasvaria village with a great community gathering and interaction in the evening. The exposure that young Karsan had after the earthquake has enabled him to channel his energies into worthwhile social causes. Karsan's continued enthusiasm and commitment to social causes is truly inspiring. If leadership development of youth after disasters is an indicator of sustainability, then Karsan's story is surely one of the same. ■

– Dr. Supriya Akerkar, Programme lead Senior Lecturer, CENDEP, Oxford Brookes University, UK

GRASSROOTS PERSPECTIVE

Looking Back and Looking Forward

A view of long term recovery from the 2001 Gujarat Earthquake

At magnitude 7.9 on the Richter scale, the 2001 earthquake in Gujarat, India, took the lives of approximately 20,000 people and left devastating effects on the remaining population. The district of Kutch was the most affected area in Gujarat, with the epicentre just kilometres away from its capital, Bhuj[1]. Fifteen years on, a group of students from the Centre for Development and Emergency Practice (CENDEP) MA Course at Oxford Brookes University, England, travelled to Gujarat to undertake fieldwork research in some of these earthquake affected areas, the purpose being to better understand the long-term recovery process in both rural and urban affected areas. Our findings are reflected in the following articles, collated and analysed under the supervision of Dr. Supriya Akerkar, Senior Lecturer at Oxford Brookes University, and in collaboration with the All India Disaster Mitigation Institute (AIDMI). We believe this to be a unique opportunity in studying the aspects of long-term recovery, fifteen years after the disaster occurred.

From January 3–9, 2016, we visited both rural and urban sites in Gujarat affected by the earthquake, particularly in the districts of Kutch and Patan (fig. 1). We collected data using various methods, primarily through interviews, but also through the production of sketches, transect walks and participatory diagrams. These were conducted with the aim of engaging local people in our research. Listening to first hand experiences enriched our learning of the earthquake's immediate impact and the recovery programmes and processes that followed. Our research focused on three main sub-topics within 'long-term recovery' which consist of 'shelter', 'livelihoods', and 'lessons learnt', and these are reflected in the five articles which follow.

Our first article, *Recovery through Livelihood Restoration,* will discuss how support for people's livelihoods as a priority will enable them to better facilitate their own recovery. *From House to Home: allowing for the safe adaptation of housing in reconstruction projects* considers the requirements for good shelter practice in both urban and rural areas. Observing that people often expand their homes over time, it discusses the importance of anticipating future change when

1 UNDP. 2001. *From relief to recovery: the Gujarat experience.* New York: UNDP. p.3-4.

designing reconstruction programmes to ensure that additional expansions are carried out safely. The third article, *Building Communities through Settlement Planning,* compares two case studies of settlement relocation: the rural village of Chitrod and the Mundra Road Relocation site in Bhuj's more urban context. This research highlights the importance of town planning in the rebuilding of communities as a source of social capital.

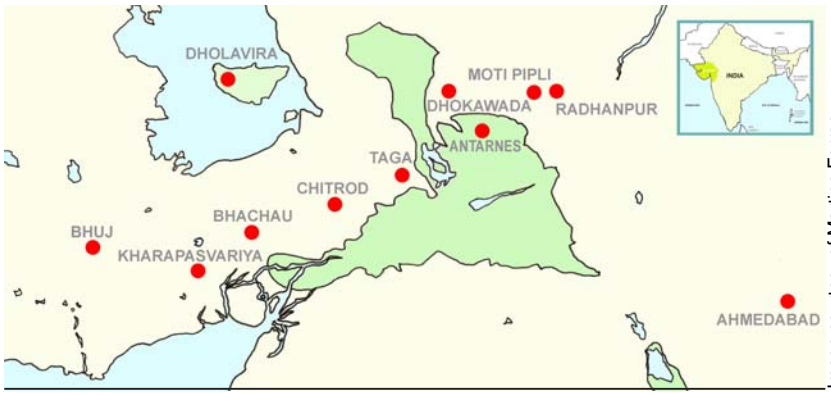


Image courtesy of Martina Ferrao.

Figure 1: Locations visited on the field trip.

A Multi-hazard Approach to Long-term Recovery reminds us that earthquakes are not the only disasters faced by the people of Gujarat. By taking daily hazards into consideration, the long-term reconstruction process can be adapted to enable better resilience against large and small scale disasters. Reflecting on all of our fieldwork, our final article, *Built back better? Disaster Recovery as an Opportunity for Improvement,* presents some of the key lessons we feel can be learned through studying the effects of and response to the Gujarat earthquake. Although we observed some limitations in response strategies, our research leads us to believe that the recovery process encouraged a number of positive long-term developments overall.

We would like to thank Mr Vishal Pathak, Mr Gautam Bhut and Mr Mihir Bhatt of AIDMI, along with Dr. Supriya Akerkar of CENDEP, for giving us this unique opportunity and supporting us in our fieldwork. We would also like to thank all those who participated in our research, for giving us their valuable time and sharing their stories with us. We hope that the following articles provide new perspectives on long-term recovery from the Gujarat earthquake and encourage further reflection on the improvement of recovery programs in the future. ■

– Chanel Currow, Martina Ferrao, Alexandra Freeman, Katie Reilly, Leonie Smith, Austin Snowbarger, Sonia Tong, *and* **George Williams;**
MA and MArchD students, CENDEP, Oxford Brookes University, UK

LIVELIHOODS RECOVERY

Recovery through Livelihood Restoration

It is no revelation that in the event of a disaster, people's livelihoods are adversely affected, yet seemingly, international organisations rarely focus their immediate efforts on addressing such issues[1]. In the case of the Gujarat Earthquake, over 19,000 handicraft artisans were reported to be severely affected in the district of Kutch, 'the backbone' of the area's economy[2]. Very often for poorer people, the priority in disaster response is to recover their livelihoods[3].

Following the earthquake, in addition to standard relief provision, rebuilding livelihoods was a priority for the Self Employed Women's Association (SEWA), a trade union representing low-income informal sector women workers. Three days after the earthquake, SEWA began distributing materials to its craft embroidery members whose stock had been destroyed[4]. We spoke with women artisans from the village of Dhokawada in Patan district who had restarted their embroidery work within 15 days of the earthquake. The SEWA members in Dhokawada had met shortly after the earthquake and decided they must continue their work: "Even if we've lost everything we still have our work; we still have our art," they said (fig. 1).

The embroidery work gave women the chance to take control of their family's recovery. When the husband of one of the women in Dhokawada was injured in the earthquake and hospitalised for nearly a year, she was able to support the family through her craft. Restarting their livelihoods quickly after the earthquake provided the women with much needed income, but the embroidery work had psychological benefits as well. It gave them a physical activity into which fear and stress could be channelled. This notion has been echoed by other women artisans following the earthquake in past reports. For example Vaux and Lund quote women from Bakhutra village engaged in embroidery work who stated "through that [embroidery work] we gained our confidence and now we have been able to rebuild our lives"[5].

The importance of organisation in livelihood recovery was clearly observed during our trip. Taking

Photo Courtesy of Chanel Currow.

Figure 1: A woman embroidering cloth which will later be sold under the Hansiba *brand in SEWA shops. A minimum of 65% of profits are distributed to members.*

the example of SEWA, their network was already in place and well established in Gujarat before the earthquake. Organisation is central to SEWA's model, as are self-reliance and participation[6]. These factors allowed livelihood support following the earthquake to be mobilised quickly and efficiently, and provided the foundation for women to support each other in their work. It takes time to develop such a network and requires continuous capacity building to empower women, however the benefits when considering long-term recovery are evident.

Apart from the artisan and embroidery livelihoods, cattle rearing within the state of Gujarat was also observed to be a major livelihood. Many villages have an existing market for milk which involves purchasing milk through their community owned cooperatives and using this to supply larger cooperatives, notably Amul, before distributing the profits among the community cooperative members. Cattle are a significant source of economic livelihood as well as being a culturally significant animal (fig. 2). According to the World Bank, 20,000 cattle were killed during the earthquake which impacted many people's livelihood[7]. In Dhokawada, damaged dairy equipment was replaced quickly through the cooperative, resulting in the market for milk recovering and strengthening livelihoods in the area.

Photo Courtesy of George Williams.

Figure 2: Zebu cows such as this one are common across India. The milk they provide is a valuable commodity for their owners.

Livelihoods are often a primary concern for people affected by a disaster. People who are able to return to work soon after a disaster are able to provide for their families, and the work they produce may help them deal with the stress and trauma associated with the disaster event. The ability of the women artisans and the milk cooperative to recover quickly following the devastating earthquake in 2001 is linked with the foundations that were laid prior to the disaster event. Organisation, participation and empowerment are consistent themes we observed and are contributing factors to effective long-term recovery. ■

– Leonie Smith *and* **George Williams**

1 Enarson, E., and Chakrabarti, P.G.D. 2009. *Women, Gender and Disaster.* Los Angeles: Sage. p.218.

2 Word Bank and Asian Development Bank. 2001. *Gujarat Earthquake Recovery Programme: Assessment Report.* Available at: http://www.preventionweb.net/files/2608_fullreport.pdf p.26.

3 Enarson, E., and Chakrabarti, P.G.D. 2009.p.213.

4 ibid., p.216.

5 Vaux, T. and Lund, F. 2003. 'Working Women and Security: Self Employed Women's Association's response to crisis' *Journal of Human Development* 4(2) pp.265-287

6 SEWA. 2013. *Annual Report: Self Employed Women's Association (SEWA)* Available at: http://www.sewa.org/pdf/Sewa_Annual_Report.pdf

7 Word Bank and Asian Development Bank. 2001. *Gujarat Earthquake Recovery Programme: Assessment Report.* Available at: http://www.preventionweb.net/files/2608_fullreport.pdf p.26.

Building Communities through Settlement Planning

There is growing evidence to suggest that social capital, or the network of relationships within a community, increases people's resilience to disasters and the effectiveness of recovery[1]. The relationship between the planning of settlements and the evidence of social capital were of particular interest to us. When researching the long term reconstruction following the 2001 Gujarat earthquake, we visited two relocation sites: Chitrod and Mundra Road in Bhuj. Chitrod was a more rural village which had been significantly damaged, and consequently rebuilt across the other side of the main road. In contrast, Mundra Road was an urban relocation site where many people had been rehoused within the city of Bhuj.

In the rural area of Chitrod, there generally appeared to be a lack of cultural and social sensitivity when considering the overall plan of the new village, resulting in various degrees of satisfaction with the relocation scheme and the experience of community. It had been developed in collaboration with a committee from the village, a method which some residents felt was not truly representative. We spoke to two men who had been reluctant to leave their old homes and relocate, as the old village was filled with memories, culture, friends and ancestral attachment. They felt that although the new village had new facilities, it had less character and didn't feel like home. Their old houses, largely designed and constructed by the men themselves, were not only physical structures, but social spaces too: one of the men reminisced about how the village children would come to his house to watch the TV as a community, as he had installed the first antenna in the village. In contrast, the new Chitrod had been laid out in a more grid-like pattern and lacked *chauraha areas* for community assembly and social interaction (fig. 1), including no provision for a local temple: the villagers had to fund and build this necessary space themselves. In addition, the old village historically had a single entrance, and the men felt that the new design of multiple entrances had contributed further to the decline of 'community' in the new Chitrod. Sanderson and Sharma suggest that these issues can arise when participation is sacrificed to enable rapid reconstruction: 'Rebuilt villages appear to have been designed primarily to suit the demands of mass house building with no consideration of Gujarati culture'[2]. However, another resident we interviewed was pleased with the relocation process as he appeared to have benefited from it. He and his family had been grouped together with others from the Patel community and were satisfied with the social networks that were now established. Due to his work as an agricultural labourer, he was also allocated a larger plot of land, and this suited him well. This also highlights the way in which communities are non-homogeneous entities, and solutions that suit all members are difficult to achieve,

Photo courtesy of Chanel Currow.

Figure 1: Two men sitting at a chauraha *in the old village of Chitrod.*

1 Aldrich, D. and Meyer, M. 2014.' Social Capital and Community Resilience' in *American Behavioral Scientist.*59(2).pp.254-269.

2 Sanderson, D. and Sharma, A. 2008.'Winners and losers from the 2001 Gujarat earthquake'.in *Environment and Urbanization,* 20(1), pp.177-186.

particularly without sufficient community consultation.

In contrast to this, we found widespread community satisfaction in Bhuj. Residents had been allocated plots through the process of a draw, which they were then able to swap in order to be closer to those in the community that they already knew well. Interestingly, even those who hadn't been allocated a house with their previous neighbours were satisfied with the community aspect of the relocated site. In their town planning schemes, the Bhuj Area Development Authority also incorporated public spaces such as gardens, markets, commercial areas and parking. The residents we spoke to used their community spaces for religious functions and social gatherings, and knew that in the event of another earthquake, this is where they would go for safety. What appears to differentiate the implementation of this scheme from that in Chitrod is the significant amount of planning invested in the layout of the relocation site in Bhuj, further developed through community consultation meetings organised by the GSDMA Camp Office: 'To give boost to the process of reconstruction at the relocation sites, regular community meetings had been called, besides the meetings through contact with individual community groups, the problems being faced by the respective groups had been understood and possible solutions were worked out'[3]. For these reasons, the Mundra Road relocation project is widely acknowledged as exemplary of strategic and effective town planning, grounded in research and developed with public consultation[4].

The case study comparison between Chitrod and the Mundra Road relocation site highlights the importance of town planning and the provision of social spaces, creating opportunities for strong communities to form. They also reflect the importance of effective communication between those working at policy level all the way to those at grassroots level through activities such as community consultation. Aldrich and Meyer write that one 'way to increase social capital is through the deliberate and careful planning of community layout and architectural structures. The physical layout of communities, neighbourhoods, and even housing complexes affect creation and maintenance of social capital'[5]. Planning towns to facilitate social spaces, interaction and meetings enables people to build networks, rely on each other and develop resilience in case of future disasters. It enables a settlement to become a community. ■

– Chanel Currow

3 Bhuj Area Development Authority.n.d.*Relocation Sites* [online] Available at: http://www.bhujada.com/relocationsite.htm (Accessed 14 Feb. 2016).
4 Mishra, P. K. 2007. *The Kutch earthquake 2001: recollections, lessons and Insights.* New Delhi: NIDM. pp.154-156.
5 Aldrich, D. and Meyer, M. 2014.' Social Capital and Community Resilience' in American *Behavioral Scientist.*59(2).pp.254-269.

NEW DIMENSIONS IN RECOVERY

A Multi–Hazard Approach to Long-Term Recovery

The 2001 Gujarat earthquake reminds us of the tremendous damage that large-scale, sudden disaster events often cause. Such extreme events can take the lives of loved ones, destroy homes and disrupt livelihoods in an instant. The damage is frequently widespread and affects people at regional and national levels or even across international borders. However, there are less extreme hazard events that rarely grab headlines or prompt an international response, yet are of serious concern for the people who face them on a regular basis. During our field visits, people were keen to discuss some of the other hazards that they deal with regularly, such as drought.

An observation that emerged from these discussions was the importance of understanding the hazard context and considering the potential impacts such disasters have on people when planning reconstruction. These low-intensity hazard events, also known as 'extensive risks', can also have substantial impacts locally[1].

The UN Office for Disaster Risk Reduction (UNISDR) defines extensive risk as: "the widespread risk associated with the exposure of dispersed populations to repeated or persistent hazard conditions of low or moderate intensity, often of a highly localised nature, which can lead to debilitating cumulative disaster impacts."[2] While intensive

1 Twigg, J. 2015. *Good Practice Review 9: Disaster Risk Reduction.* Overseas Development Institute.
2 UNISDR. 2009. *Terminology.* Available at: https://www.unisdr.org/we/inform/terminology#letter-m (Accessed: 15 February 2016).

Photo courtesy of Sonia Tong.

Figure 1: A catch-up class for children of migrating families at the school in Dhokawada.

risk may result in sudden losses which overwhelm households, losses connected to extensive risk weaken resilience over time[3].

In the case of the Gujarat earthquake, reconstruction efforts focused, and rightfully so, on ensuring that homes and other structures were built back stronger and safer. However earthquakes are not the only hazard that people in Gujarat face. The state experiences a variety of hazards such as drought, floods, earthquakes, cyclones, and tsunamis. People living in the western part of the state, in Patan and Kutch districts, are especially vulnerable to both intensive and extensive risks which present unique challenges. These districts lie in the most seismically active area of the state and they also receive the least amount of rainfall[4].

In the village of Dhokawada in Patan district, almost all of the houses were destroyed by the 2001 earthquake. Clearly the earthquake was devastating for families as important assets were taken from them and their livelihoods were disrupted. Dhokawada is also a village that experiences the effects of drought. We learned that dozens of families are forced to migrate seasonally as there is no irrigation for agriculture and there are long dry spells. The lack of water affects livelihoods and can interrupt children's education when they move away from Dhokawada with their families for part of the year. It was encouraging seeing how the community was learning from their experiences and taking action to reduce their risk to drought. For example, to support the educational needs of children from families who migrate seasonally, the local school allows students who do leave to pick up where they left off in their studies when they return (fig. 1). Additionally, a student 'hostel' was established giving children of migrating families the option to continue their studies during the school year in Dhokawada. This highlights that extensive risks and the small-scale disasters that may result are a concern for communities. In Dhokawada's case, the local impact was significant enough for the community to develop solutions and take action.

An example of extensive risks being considered in reconstruction following the 2001 earthquake was observed in the village of Antarnes. Here, a national organisation called the Self-Employed Women's Association (SEWA) initiated a housing program that included in its' 'package' a house, as well as a toilet and underground water storage tank. Fifteen years later, some storage tanks were still in use and appreciated as the village is located in a semi-arid environment and does not receive much rainfall.

Small disasters stemming from extensive risks do not attract much outside attention or resources, yet they can quietly increase people's vulnerability and move people toward poverty rather than away from it. The examples from Dhokawada and Antarnes show that communities recognise the importance of reducing their extensive risks and that it is possible for implementing organisations to address multiple hazard risks during reconstruction. This message is conveyed in the Sendai Framework for Disaster Risk Reduction which speaks of using a multi-hazard approach to managing disaster risk at all levels of development and makes clear that the framework "will apply to the risk of small–scale and large-scale, frequent and infrequent, sudden and slow-onset disasters."[5] Considering all the hazards people may encounter during reconstruction can help ensure long term recovery results in greater protection from large and small–scale disasters and contributes to increased resilience of communities. ■

– Austin Snowbarger

2 UNISDR. 2009. *Terminology*. Available at: https://www.unisdr.org/we/inform/terminology#letter-m (Accessed: 15 February 2016).
3 United Nations. 2009. *Global Assessment Report on Disaster Risk Reduction: Risk and poverty in a changing climate.*
4 GSDMA. 2015. *Gujarat State Disaster Management Plan: Volume 1.*
5 United Nations. 2015. *Sendai Framework for Disaster Risk Reduction 2015-2030.*

Built Back Better? Disaster Recovery as an Opportunity for Improvement

From the findings of this brief research project, it is already possible to observe a number of instances in which disaster recovery process has been capitalized on as an opportunity for development. Local economy and livelihoods have been strengthened in urban and rural areas respectively, whilst disaster risk reduction practices have been absorbed into common practice through regulation, training and awareness. Although development is perhaps more evident in some sectors than others, through the collective work of organisations at state and community level, the people of Gujarat appear to have increased their capacity to cope with another earthquake, should one occur in the near future.

Efforts to recover the economy of the state as a whole are most tangible in urban areas such as Bhuj, Kutch. Of the local residents interviewed, most considered that the area had experienced economic growth in the recovery period, contributing factors to which included a state government led tourism campaign and tax incentives for industries to relocate to Kutch before 2004. The latter scheme led to the establishment of over 150 projects and therefore new employment opportunities in the engineering, chemical and mineral sectors in particular[1]. At the community level, town planning initiatives in Bhuj can be commended for their incorporation and strategic siting of local businesses and shops to serve new relocation sites, which also allowed for the renewal of services and roads in previously overcrowded inner city areas.

In rural areas, socio-economic developmental recovery is more visible in the forms of livelihood support and the development of community assets. As discussed in *Recovery through Livelihood Restoration,* local organisations such as SEWA assisted in rural areas by replacing lost tools and materials and linking workers with markets[2]. Significantly, their existing projects to diversify livelihoods with work in the forest gum and dairy industries had strengthened vulnerable communities, such that people were already in a better position to cope with the effects of the earthquake. A number of NGO reconstruction schemes also included improved community resources: the building of new local schools was observed in villages such as Dhokawada and Chitrod, through which the capacities of the next generation can be built (fig. 1). However, as documented in *Building Communities through Settlement Planning,* where the provision of social spaces and cultural centres was overlooked, some communities have since funded and built these necessary facilities themselves. Consequently, not all reconstruction

Photo courtesy of Sonia Tong.

Figure 1: The new Dhokawada Primary School built to replace the former building destroyed in the earthquake is sited on a larger plot of panchayat *(village owned) land with an earthquake resilient structure.*

1 Mishra, P. K. 2007. *The Kutch earthquake 2001: recollections, lessons and Insights.* New Delhi: NIDM. p. 117.
2 Vaux, T. 2002. *Disaster and vulnerability: SEWA's response to the earthquake in Gujarat.* Ahmedabad: AIDMI. p. 10.

projects have been as positively received as in Bhuj, leading Sanderson to speculate on the extent to which the success of a reconstruction scheme is linked to the level of community engagement in its development, rather than the design itself – reflecting on one village's experience in Kutch, he writes, "...it may not be unfair to suggest that the...residents' ability to settle into their new environment has been hampered by its design, a situation that might have been avoided had there been more engagement by the residents themselves in design and layout decisions"[3]. Facilitating participation, therefore, still remains an essential practice in developmental recovery work.

As well as aiding reconstruction, key organisations have also engaged in risk reduction and preparedness activities, indicating that the recovery process was widely viewed as opportunity to reduce vulnerabilities. The prompt formation of the Gujarat State Disaster Management Authority (GSDMA) following the earthquake enabled it to have a significant impact on both the coordination of the recovery effort and the preparation and implementation of disaster management plans at state, district and *taluka* level[4], their mandate to reduce disaster risk reinforced by the passing of the Disaster Management Policy (2002) and Act (2003)[5]. Observed examples of how these commitments have manifested include the formation of stricter building codes, the mass training of masons by numerous NGOs and a campaign to educate children on safety. Whilst each of these measures reduce risk in principle, regular follow-up programs and even enforcement may be required to maintain their effectiveness. For instance, it is questionable as to whether regulations such as a maximum build height of 2 storeys are still met by some urban properties in Kutch that have been gradually extended over time. As observed in From *House to Home,* rebuilt houses in rural areas vary in quality, despite mason training programs initiated by organisations such as SEWA, the Hunnarshala foundation and the Unnati Earthquake training centre, though these issues may now be addressed through the 2013 revival of the GSDMA mason certification program[6]. The GSDMA and wider Indian government are seen to have supported programs for teacher training, mock drills and distribution of safety equipment in schools, recognising children's education as a strategic entry point for raising the profile of disaster awareness and risk reduction practices in communities[7]. It is hoped that this necessary work will expand and continue preparing children and their families to face future disasters.

Finally, it is encouraging to see that the experiences of livelihood recovery, settlement reconstruction and DRR practices communicated to us in interviews are comparable to the intended characteristics of a transition-recovery approach, of which the Gujarat recovery was a "test-case" for the UNDP. As a concept promoting recovery that facilitates sustainable development rather than leading to a 'circulatory of risk' or state of replacement[8], its generally successful implementation gives us hope that another disaster would not have such grave consequences on the state.

Although the 2001 earthquake had devastating effects on Gujarat, intentions for holistic approach to recovery and reconstruction have brought about significant improvements in local capacities and disaster risk reduction. Policy interventions at state and city governance levels have been seen to encourage investment and economic growth to these areas, whilst in rural areas, livelihoods have been increasingly diversified and community assets strengthened. Recovery programs have also seized the opportunity to raise greater awareness of preparedness measures, through the establishment of stricter building regulations, the training of masons and education of schoolchildren. Whilst some limitations were observable in each of these strategies, lessons from the Kutch earthquake have since been absorbed into international discourse in improving long term disaster recovery[9]. Undertaking this study has been a profound learning experience for us in connecting theory with practice and field research, and we at CENDEP would like to thank AIDMI for this valuable experience. ■

– Sonia Tong

3 Sanderson, D. and Sharma, A. 2008.'Winners and losers from the 2001 Gujarat earthquake', *Environment & Urbanisation*.20(1).pp.177-186. DOI: 10.1177/0956247808089155. p.181

4 Mishra.*The Kutch earthquake* 2001.p.103-104.

5 ibid., p.172

6 GSDMA. 2013. *Masons training/certification program.* Available at: http://www.gsdma.org/key-projects-programmes/masons-training.aspx (Accessed 14 February 2013).

7 For additional information, see AIDMI. 2012. *Ten years of making schools safer: child's right to safer schools campaign.* Ahmedabad: AIDMI.

8 UNDP. 2001. *From relief to recovery: the Gujarat experience.* New York: UNDP. p.5

9 Mishra.*The Kutch earthquake 2001.* pp.104

Youth, DRR and Sustainable Development

Conceptualized and developed to bridge the gap between the academy and the work being carried by practitioners, the programme - Building Youth Leadership for Sustainable Development - allowing students to experience in practice themes related to Disaster Risk Reduction (DRR) in the context of long-term recovery.

By learning about different social and economic elements related to the disaster/s, the strategies and mechanisms used to overcome its devastating impact, the students were able to grasp the importance of joint efforts to develop invaluable projects for the most vulnerable groups within the society.

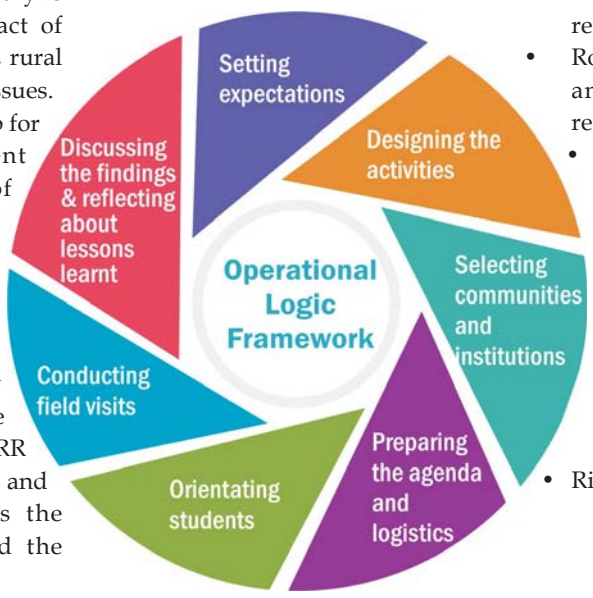
The dialogue between academics and practitioners - or, in other words, of theory and practice - is of fundamental importance towards improving the life of those in most need and developing a region sustainable. In view of this, the programme also enabled the students to identify and analyze gender sensitive issues, impact of disaster recovery programmes, rural value chains and other social issues. The Building Youth Leadership for Sustainable Development evidenced the benefit of providing a research platform for young students who are the agents of change of tomorrow.

People's participation, priority for the most vulnerable groups, community-specific DRR measures, link between DRR and development so to address the causes of vulnerability, and the support of outsiders by performing facilitating roles, are generally raised during different consultations with communities including institutions. These aspects are more linked with the challenges and opportunities of sustainable development.

Our work with communities reveals that stand-alone risk reduction measures fail to succeed in the long-term; they must be backed up by other mitigation measures involving diverse stakeholders. Dealing with poverty and disaster risk separately does not lead to sustainable development and a holistic approach is needed if both are to be reduced.

Objectives of the programme

- Bridge the gap of theory and practice by providing a platform to students to learn more about risk and disaster risk reduction at grassroots-level.
- Act as a research laboratory for the students through a field visit to the most affected areas by the disaster with a focus on immediate to long-term recovery, as well as the impact of climate change.
- Promote knowledge exchange and coordination between various stakeholders - academics, practitioners, community and government.
- Deepen students' perspective about development objectives and core values of engagement with communities.
- Systematize the lessons learnt to support the vision of taking disaster recovery as an opportunity for holistic development and contribute for the implementation of the Sendai Framework for DRR.



Main topics covered

- Long-term recovery
- Challenges of life, shelter and livelihoods after the Gujarat Earthquake
- Vulnerability of households to shocks and external events
- Role of women in disaster recovery
- Role of socio-political structures and institutions in disaster recovery
  - Functioning of state institutions and their interventions after Gujarat Earthquake
  - Changing face of livelihoods and urbanization
  - Awareness-raising and education for disaster risk reduction
- Risk transfer and insurance

– Vishal Pathak *and* **Ana Carolina Richter,** AIDMI

From House to Home

Allowing for the safe adaptation of housing in reconstruction projects

More than 1.2 million properties were damaged as a result of the 2001 Gujarat earthquake, leaving 1.7 million people homeless with damages estimated at a cost of US$ 3.4 billion[1]. To aid reconstruction, the Gujarat State Disaster Management Authority (GSDMA) coordinated two forms of assistance, the first being a system of tiered grants funding owner–driven reconstruction, and corresponding to the amount of damage suffered[2].

In this approach, houses are reconstructed by the people themselves, with external agencies providing financial and technical assistance in some cases[3]. The grants were paid in instalments when the criteria for achieving specific benchmarks in construction and quality were met. The second form of assistance is donor-driven reconstruction, in which an NGO 'adopts' a settlement and facilitates the reconstruction[4]. In the donor-driven reconstruction approach, the NGO or external agency is itself responsible for the construction of each house[5].

In some cases, both options were available for people to choose between. This article compares two donor-driven reconstruction schemes, reviewing how initial design and implementation has affected whether people have since accepted and adapted their houses, whether the houses have been maintained as well-built and structurally sound homes to resist future seismic activity, and the reasons why this has or hasn't been the case.

As a whole, rebuilt houses varied in quality, particularly in rural areas, but those developed with participation and regard for future adaptations in terms of space and training appeared more satisfactory to the beneficiaries in the long term. In Antarnes, the village was adopted by a local NGO who rebuilt homes *in situ* or on-site following the donor-driven approach, however residents did participate by contributing labour at 30% of the cost. The scheme had a significant uptake as the NGO had already conducted livelihood

Image courtesy of Katie Reilly.

Figure 1: A sketch demonstrating the typical layout of the rural homes. This particular sketch shows how the home has been expanded to the front to include a larger storage area.

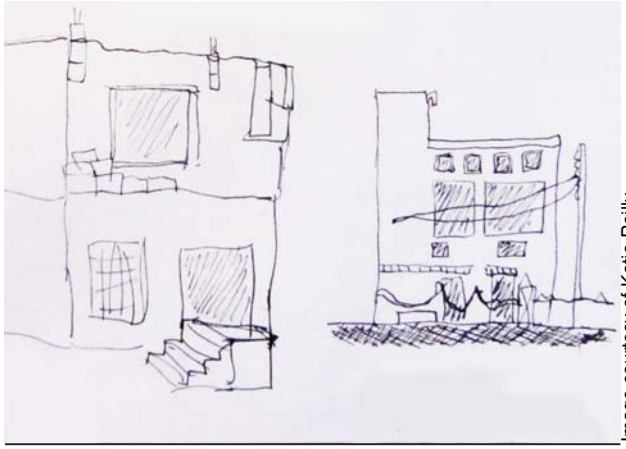


Image courtesy of Katie Reilly.

Figure 2: Sketches showing examples of expansion to homes in the Mundra relocation site.

1 Sanderson, D. and Sharma, A., 2008. 'Winners and losers from the 2001 Gujarat earthquake' in *Environment and urbanization,* 20(1), pp.177-186.

2 Mishra, P. K. 2007. *The Kutch earthquake 2001: recollections, lessons and Insights.* New Delhi: NIDM. pp.95-99.

3 Barenstein, J.D. 2006.*Housing reconstruction in post-earthquake Gujarat : a comparative analysis.* London: Overseas Development Institute, Humanitarian Practice Network.

4 Mishra, P. K. 2007. *The Kutch earthquake 2001: recollections, lessons and Insights.* New Delhi: NIDM. pp.95-99.

5 Sanderson, D. and Sharma, A., 2008. 'Winners and losers from the 2001 Gujarat earthquake' in *Environment and urbanization,* 20(1), pp.177-186.

Photo courtesy of Alexandra Freeman.

Figure 3: On the right is the originally built SEWA home with an additional home built more recently.

strengthening projects in the area[6], and were therefore trusted by the people. Developed through community consultation, the house design included a single room, corridor, terrace, water supply and courtyard. Notably, the inclusion of storage facilities on the front of the home had allowed different families to adapt these spaces to cooking areas or worktops as per their preference and need (figs. 1 and 3). Similarly, a number of families had built new homes for the extended family within their courtyard. This reinforced the importance of including people in such reconstruction projects and incorporating shared spaces for cultural and social activities. The labour contribution was supported by masonry training programs for both men and women. This consideration also helped build local capacity, giving its trainees another livelihood option, and providing the knowledge and skills to facilitate the safe construction of future developments in the area. Similar schemes have also been observed to give beneficiaries a sense of ownership, improve quality control, and make good future maintenance and repair work possible[7].

Contrasting this, in other rural areas and under differently managed reconstruction schemes, people had since engaged in unsafe adaptations to their homes, building with materials that were unsuitable for construction and building without adequate structural support. This has resulted in situations where structural columns have been removed to create larger living spaces. In other cases, houses built using a donor-driven approach were seen to be abandoned or unoccupied on account of being too small or constrictive, with limited opportunity for expansion. These observations emphasise the importance of providing training programs to accompany reconstruction projects, such that people are no longer reliant on external aid for secure housing. Even in Antarnes, a woman living in a self–built extension explained, "I prefer the larger house [which was constructed by the owner at a later stage] because it is bigger and has a terrace, but the [NGO funded] house is safe and built using modern materials, with enough water in the cement". If the importance of good quality construction is communicated and people are given the skills to achieve it, later developments that respond to their needs have a greater chance of being built safely.

One particular urban donor-driven reconstruction scheme that we visited appeared to be similarly successful in terms of resident satisfaction, and possibly more successful in terms of continuing structural safety. This was because the design anticipated expansion work, whilst residents themselves had the resources to facilitate further good quality construction. At a relocation site designed to relieve the density of inner city Bhuj in Kutch district, single storey houses were funded and built by a religious organisation and supplemented with owner contributions. Each house contained a bathroom, store and living space with a small terrace and raised entrance. The designs also allowed enough space for an internal or external staircase and therefore vertical expansion (though only to first floor level to comply with new regulations). Fifteen years later, many of the homes had been extended in a variety of ways, widely ranging in style and scale, taking on a colourful, unique character of their own and imbued with a sense of creative ownership (figs. 2 and 4). In general, these additions also appeared to be well built and structurally sound. It is likely that residents here had more resources available to them throughout the period of recovery than residents in other areas we visited and were

6 Vaux, T. 2002. *Disaster and vulnerability: SEWA's response to the earthquake in Gujarat : summary report.* Ahmedabad: AIDMI with SEWA.

7 Barenstein, J. D. 2006. *Housing reconstruction in post-earthquake Gujarat : a comparative analysis.* London: London : Overseas Development Institute, Humanitarian Practice Network

therefore able to employ professional contractors for both the original construction work and extensions. Whilst this economic ability appears to negate the necessity for training of residents themselves, the need for competent local masons remains: local construction opportunities go hand-in-hand with the socio-economic development of the area, such that it has been proposed that utilising external contractors and resources in donor-driven reconstruction programs squanders local opportunity[8].

To conclude, in both rural and urban contexts it has been observed that people will expand and develop their shelters into a home over time, and therefore organisations should seize the opportunity to assist rather than hinder this possibility and ensure that it is done safely. Examples in which this has been considered in response to the Gujarat earthquake have included participatory methods of design and implementation, scheme designs that allow for adaptation and expansion over time, and the provision for facilitating safe and good quality construction work in the future. If employing professional contractors is not a viable option, this can be achieved through the training of the people themselves. Visiting sites of reconstruction 15 years after the disaster provides a valuable insight into what is required to build back better and achieve effective long term recovery. ■

– Alexandra Freeman

Photo courtesy of Alexandra Freeman.

Figure 4: Mundra Relocation site, showing the variation in houses. To the right can be seen two homes which remain unchanged.

8 Ibid.

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