

REINFORCING DISASTER MITIGATION BY FORTIFYING HUMAN SECURITY: A LIVELIHOODS APPROACH*

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1. INTRODUCTION

A nation's growth is dependent on its human security. Its stock (healthy well-nourished and productive people with adequate availability of food, supply of water and provision of safe shelter; defines the nation's human security. India has shown tremendous growth in human security in the past two decades with massive strides being taken in reduction of poverty. -These strides are characterized by increased literacy and improved food consumption and access to health services. Spurred by an accelerated growth of economic capital, more and more people are experiencing the benefits that the present has to offer. This economic progress was made possible in spite of the series of disasters, minor and major, man-made and natural that has struck the country in the past decade.

Gujarat is an example of how one of the most disaster prone pockets in the sub-continent can also be one of the most productive and quickly urbanizing regions of India, and grows at a steady and fast rate and contributes significantly to the growth of the nation. Continuous occurrence of disasters (1998 Kandia Cyclone, 2000 Ahmedabad Floods, 2001 Bhuj earthquake, continuous droughts

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etc) in spite of its devastating impacts has not impeded the growth of the state.

Society is composed of small units that join to form complex network. The smallest unit of a society is an individual. Individuals combine to form a household. Households combine to form a community and so on. Every single unit has minimum requirements of food, water and shelter that has to be satisfied for a productive life. It has a limited number of stomachs to be fed, need for water and bodies to shelter. Whenever the food, water and shelter available reduces to less than what is required for the unit its existence becomes difficult. The productivity of the unit suffers. At every level the unit resorts to methods for managing this shortfall and inadequacy. These coping mechanisms more often than not entail erosion of assets and ruin of economic, social and human capital. These steps meet short-term needs at the expense of a long-term security. These self-debilitating techniques are not initiated by choice but by the lack of it. One group that is living with near complete lack of choice is slum dwellers in India's fast growing urban pockets.

The security and development within country has been, until now, unequal with a significant number of under-represented sections being excluded from the benefits, like the slum dwellers in Bhuj. Gujarat's rural poor come to its cities from villages in search of work. With the soaring land prices rendering them unable to provide for themselves a decent shelter, they are driven into hazard prone areas to form slums. Estimates of 1996 shows that 18.1 percent of the urban population in Gujarat lived in slums. They live in dismal surroundings and unhygienic conditions to earn their livelihood. The influx of immigrants creates excessive strains on an already stretched urban infrastructure. The physical environment and social conditions of the slums steadily deteriorate, and so does their quality of life.

In urban areas, everyone has to buy food, as opposed to a rural setting where one can cultivate crops for subsistence. The water and power supply to slums is mostly illegal which means they have to pay more than others. The illegal status of their settlements

forces them to live with a constant fear of eviction. In normal times their livelihoods are under constant threat, their daily food intake is in an imbalance, they have limited access to safe water and face the threat of eviction from their homes.

What happens to the livelihoods of the urban poor when a disaster strikes? Their economic and social conditions render them defenseless from the onslaught of disasters and their sustained after effects. Source, support and sustenance of their work are affected adversely. They suffer loss of income and assets. Handcarts, sewing machines and wheelbarrows are damaged and buried under fallen roofs and walls. Shelters, which double as workplaces for the poor, are destroyed. Economic links are damaged and local markets are destroyed. Worse, in the relief process their long-term needs are ignored. These sections were not able to withstand the impacts of disasters or recover like the better-endowed sections of the society. More often than not, without outside support this section of victims is unable to regenerate their livelihoods to secure their lives again.

Work, which provides income, is the life providing oxygen to the urban poor. They have come to cities to work and earn. Work feeds them. Work keeps them clean and quenches their thirst. Work provides them with a roof. Work brings them security for the future. Their need for outside help for food, water and shelter, though important, is limited to the short term. They also know better than relief agencies that no help can continue forever. This 'sustainability of help' is what regeneration and protection of livelihoods can offer to disaster-affected and disaster-prone urban poor.

2. DISASTER MITIGATION INSTITUTE AND HUMAN SECURITY

Disaster Mitigation Institute (DMI) is a community based action research, action planning and action advocacy organization that bridges the gap between policy, practice, and research from the community to the national level. Established after the 1987-89 repeat droughts in Gujarat, it has four programs: livelihood security; food security; shelter security; and water security. Its

activities are organized around its activity centers: Livelihood Relief Fund (LRF); Emergency Food Security Network (EFSN); Water Security Program (WSP); Emergency Health Unit (EHU); Organizational Resources (OR); Learning Resources (LR) and Action Research and Review Services (ARRS). DMI's mission is to reduce the vulnerability of poor communities by increasing mitigation efforts through learning and action.

DMI's LRF was created as an activity center after the cyclone that hit the western port of Kandla situated on the western coast of Gujarat in June 1998. Since then, LRF has grown steadily to reach out to victims of the Kandla Cyclone, 2000 drought, Bhuj earthquake in 2001 and the communal riots that rocked Ahmedabad in 2002. It has given livelihood support to more than 9500 victims of the earthquake in the three districts of Kutch, Patan and Surendranagar in Gujarat.

LRF in partnership with international aid agencies such as American Jewish World Service (AJWS), Action Aid and European Union (EU) has reached out to the disaster victims and worked for providing them long-term needs. In Bhuj, LRF focused its attention in slums that were ignored even a year after the earthquake and in spite of abundance of relief material.

DMI accepts the wisdom that disasters are no longer a temporary dip in the development graph but a threat to the process itself. For mitigating disasters, DMI has four critical human security programs: livelihood security; food security; shelter security, and water security. DMI's conceptual model of human security is shown in the Fig (1).

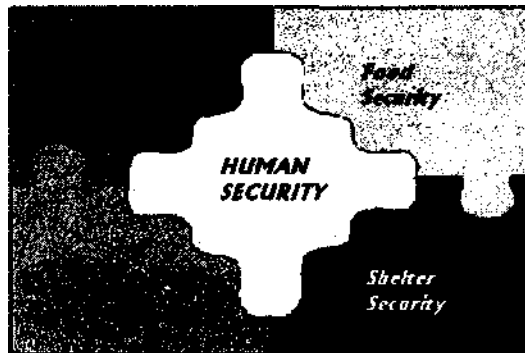


Fig (i):DMI's model

Livelihood security is consciously placed in a prominent position, as it is linked to food, shelter and water security. This model has come out of DMI's ongoing experience with regenerating livelihoods of the urban poor victims of floods, droughts, earthquakes and so on. Beneficiaries of LRF and their families are consuming more and nutritious food. They are ready and capable of investing in disaster-proofing their shelters. They can buy enough water for their daily needs. In short, they are sure of a secure future. Livelihood security, DMI has seen, is the hub around which human security of the urban poor revolves. LRF is the primary factor that links and aids DMI in achieving human security for the urban poor.

3. LIVELIHOOD RISK REDUCTION: THE LINKS

Within days of the earthquake that struck Bhuj on January 26, 2001, a DMI team arrived in Bhuj. After the initial days, DMI realized that there was no shortage of relief material or rescue teams. For following months the DMI team focused on coordination of relief work to aid efficient distribution of the abundant relief supplies and manpower.

A year after the earthquake, in the course of organizing a community rating of the relief performance of Disaster Emergency Committee (DEC) agencies after the earthquake, it was revealed to DMI that thousands of people in the slums, involved mainly in the unorganized sector, were ignored. In spite of being the most vulnerable and needy, their needs were not taken care of due to the illegal status of their homes. This was instrumental in an increase in involvement of DMI in Bhuj. With the objective of reaching out to this large section of the affected and neglected slum communities in Bhuj, Bhuj Reconstruction Project (BRP) was set up in January 2002. BRP works in 18 slums in Bhuj which are home to around 32,000 people.

The findings provided in this paper are results of a research study on the slum-dwellers in Bhuj, supported by the Prevention Consortium through one of its Applied Research Grant scheme focusing on disaster risk reduction in South Asia. The Asian

Disaster Preparedness Center (ADPC), Bangkok the nodal agency in the region provided constructive support and technical inputs to the process.

The approach was both quantitative and qualitative, and the interest is to make generalizations concerning the whole group of slum-dwellers in Bhuj. The initial list of issues was prioritized in consultation with members of the community. After the entire questionnaire was designed, the slum-dwellers were again consulted and their inputs incorporated. A team of slum-dwellers also conducted the actual survey. A set of case studies provided the qualitative perspective to the findings.

The livelihoods in Bhuj can be classified into four different groups: small businessmen, small-scale vendors, laborers and home-based workers. Several different professions can be categorized under these sections. Among this sample, stratified sampling was done according to the type of livelihood and gender.

A partial list is given below:

Small businessmen: pan shop, tea stall, garage, barbershop, etc.

Small-scale vendors: vegetable hand lorry, chocolate and biscuit selling, etc.

Home-based workers: stitching work, embroidery, milk producing, cowherds, etc

Laborers: masonry, carpentry, scrap collection, etc

The results of the study have unearthed useful findings of significance, linking protection of livelihood as a prime mover for achieving security for their future. They perceive provision of food, water and shelter as a source of protection and support of their income earning activity. Better food meant better nourishment that reflected in their productivity. Regularity and proximity of supply of good water meant less time spent on fetching it from a distance or waiting for it. This means more time for work. Safer shelter meant safer place to work, safer place for keeping raw materials and safety of their families when they are away.

How can livelihoods of urban poor, that provide the maximum perception of security to them, be protected? The study unearthed three crucial aspects that influence recovery of livelihoods of the urban poor in Bhuj after a disaster. These aspects if protected or augmented should lead to an efficient shielding of their livelihoods. The data is fresh and the perspective provided is from the community and inside out. These are:

1. Human capital and livelihood recovery is linked
2. Need based relief is linked to faster recovery.
3. Women recover faster.

3.1 Human capital and livelihood recovery is linked:

One of the keys to reducing risks to livelihoods of the poor is to build the skills and capacities. There is a marked difference in recovery patterns of the literate and illiterate among the slum dwellers. The average income of the illiterates has shrunk from Rs 1789

before the disaster to Rs 1377 after. On the other hand, there is insignificant difference in average income of the literate. The average income is almost same (Rs 1605 before to Rs 1600 after).

Another interesting finding that supports this strategy is the recovery across age groups. The younger groups also had majority of the literates from the sample. The respondents were divided into five age groups as 16-25, 26-35, 36-45, 46-55 and 56-75. Here, the recovery of the younger two groups was better than the other three groups.

Literacy

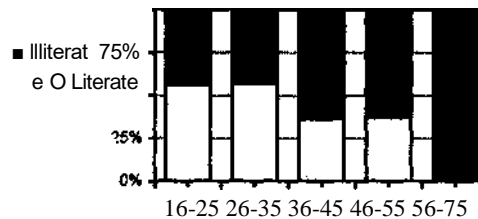


Fig (2) literacy across age groups

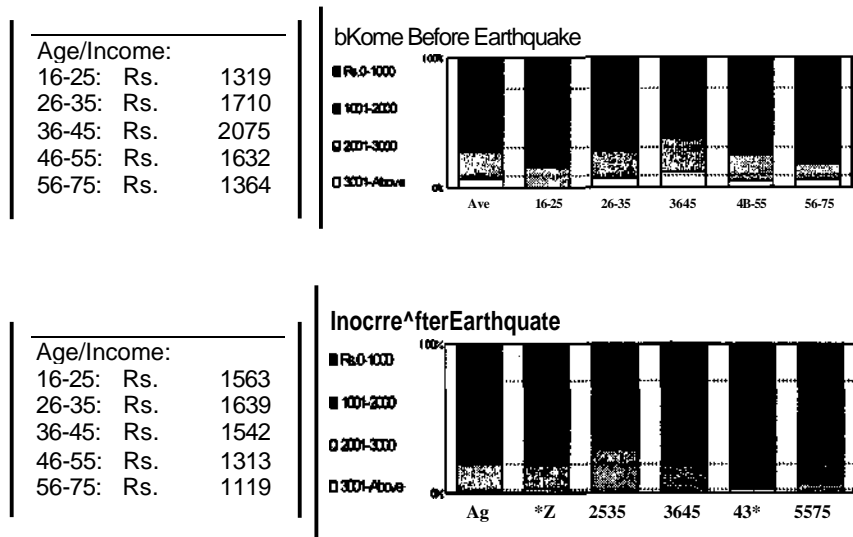


Fig (3) Recovery across age groups

This is evidence of the significant role that literacy plays in recovery after disasters. What is even more striking is that even in the poorest category of the society, literacy (not only in school going terms) helps in making the right decisions, understanding markets, awareness of rights, etc. The literate are able to better link up with the changing and emerging market and align their livelihoods to benefit from it. The illiterate are not able to do so.

The educational level of the slum dwellers is quite low. Less than 35 per cent of the sample had gained some level of education. Out of these, barely 26 percent had completed the primary school, 8 percent the secondary school, less than 2 percent entered the high secondary school. A majority of them does not pursue education due to lack of resources and the need to earn to live.

3.2 A need-based relief is linked to faster recovery:

In Sanskrit, there is a saying: '*Bhinna Ruchir Lokah*'. This means different people have different tastes. Different people have different needs. In a society as diverse as that in India, it would be insensitive and inappropriate to straightjacket all relief work. The economic status of the slum dwellers in Bhuj was not uniform to

maintain a common approach to relief and rehabilitation. The damage too was of different intensities. In addition, the population of the slums was composed of composite groups that included Baniyas, Patels, Lohanas, Rajputs, Brahmins, SC/ST, Muslims, Ahirs, Jains and migratory people. Each group had customs specific to the traditions and the demands of the people also varied correspondingly. The extent of damage also varies from person to person.

Though there has been a surplus of livelihood support provided after the disaster there is still scope for improvement in linking relief with needs. Most respondents felt that there is an increase in competition and reduction in demand (fig (4)) is due to the indiscriminate relief supplies that flooded the city. A large number of hand carts are distributed in a small area, sewing machines are given to five people in a single lane. The average customers per day when calculated per day when calculated from the responses has shrunk from 15 per day to around 10 per day.

There is a crucial link with market, age and literacy. Of the respondents in the more literate 26 to 35 age groups, more than 60 percent said that there was adequate market demand. However, in the 56 to 75 age groups, only 31.2 percent thought that the demand

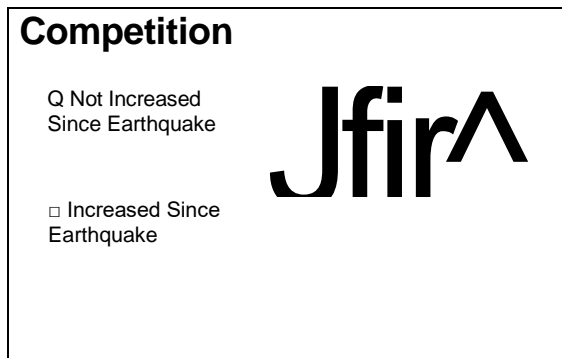


Fig (4) Increase in competition

for in their trade was adequate.

To obviate this duplication and need-supply mismatch, LRF ensure that all relief is need based and tailor made. Thus, there is no standard relief package.

beneficiaries demand base. Center for relief provision

However, it is balanced by their demonstrated interest and capacity to use that relief for recovery and further development of the

affected. Therefore, the beneficiary becomes as much as a partner in recovery as an outside intervening agency.

Each beneficiary is given personal attention and his needs and aspirations are considered separately. The beneficiary is given what he or she asks for. The volunteers of the area regularly meet the beneficiaries and ensure that they are using the material appropriately. This is not policing but an informal support mechanism.

3.3 Women recover better:

The study showed startling numbers with the average income of women to have increased post disaster. The number of women who earned nothing is less now than before and this section has contributed to the increase in average income.

The average- income of women had increased from Rs 1202 before the earthquake to Rs 1221 after, while the corresponding incomes of men had reduced from Rs 1976 to Rs 1674.

A related finding here is the increase in average income of the home-based category compared to small vendors, small businesses and laborers. This is again due to the movement of women, who constituted a majority of home-based workers (73.2 percent) from the zero-income category to the next highest slab. Another implication here is that the livelihoods that require less capital have recovered better compared to others.

The women in the slums in Bhuj told that multiple job profiles make it extremely difficult for them to earn. When the work is combined with household and child-care, the time left for their income earning activities is reduced. However, usually it is the household work and the child-care practices that suffer. Women also earn less than men. Though this is partly due to their lack of awareness, lack of assets, lower level of education and training and lack of credit is a major hindrance to their ability to earn. The women find it most difficult to restart income and earnings.

However, they do better than men if given the chance.

The income generation activities of the women are generally spatially restricted at or to the locations near the place of residence. The study showed that there is a significant impact of the earthquake on the location of their work (Fig (5)). Twenty percent more women now have to work outside their community as compared to, before the earthquake.

This has affected the women in many ways. Earlier they lived close to their source of employment and customers (within the Walled City)¹.

The location and quality of land allocated to the poor community thus affects women as much as, if not more, than men. In the course of the study, most women said that they wish to have home-based work. They wish to remain closer to their work and home both. Relocation to places that are more distant from their former places of work may make working for wages or money uneconomical for women.

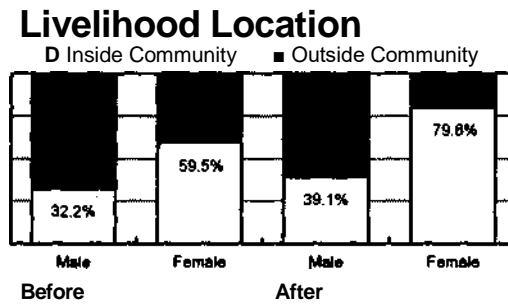


Fig (5) Change in work location

4. EXISTING VULNERABILITY OF THE POOR IS COMPOUNDED BY DISASTERS

Existing vulnerability of the poor is compounded by disasters. Among the respondents, more than 80 percent of the respondents felt that they were not able to invest in any saving mechanism. This number

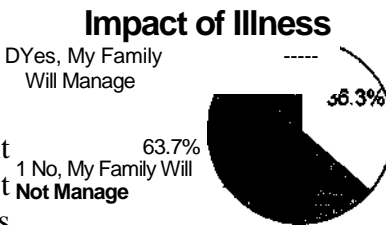


Fig (6) Vulnerability intact

¹ The central area in the city that has the maximum market activity, and was also badly destroyed

has increased to 85 percent with the laborers showing no capacity to save. The average saving amount also has reduced from Rs 519.2 to Rs 203.5 per month.

Not surprisingly, more than 87 percent said that their extra costs were not covered. One of the most important questions that asked them if their family would survive if he/she fell ill. An overwhelming number, 63 percent, replied in negative. Refer fig (6).

5 FORTIFYING HUMAN SECURITY: THE LIVELIHOOD APPROACH

Poverty, defined in simple terms, is a deficiency of lack of security, which includes livelihood, food, water and shelter security. Disasters regularly attack the security or asset base of the poor and increase its rate of erosion. The poorer households in urban areas are affected more as their security is not protected or fortified even before the disaster. Without protection, their security and assets repeatedly gets erased and discarded when a disaster strikes, consequently, weakening their human security.

Livelihood is the crucial link to creation of human security and livelihood risk reduction is a definite way to protect it from the onslaught of disasters. If livelihoods are stabilized then the security of individuals will be better fortified from future disasters. Even before the earthquake, their livelihoods are under constant threat, daily food intake is in an imbalance, and they have limited access to health facilities and safe water. Post disaster recovery in Bhuj showed clear differences in recovery patterns with those with protected livelihoods clearly at an advantage. (Shown in the graph below)

Recovery with protected livelihoods

^Recovery lacking protected livelihoods

Thus, livelihood risk is a major concern for those who promote human security. Security, whether food, water or shelter are interlinked with livelihoods. Investment in reducing risks to livelihoods will deliver benefits on the other three. Better livelihood opportunities reflect on the type of food that is bought. In many slums of Bhuj, drinking water is bought. Municipal supplies are non-existent due to the illegal nature of the tenure. The poor are known to take rational decisions in the face of disasters. They are ready to invest in disaster-proofing techniques that will make their houses safer. However, every step they take towards security is hinged on their income.

This study has provided an in-depth knowledge of the livelihood recovery of slum dwellers in 14 earthquake affected slums in Bhuj. The scope and the range of areas covered by this study included the study of different influences of a wide range of factors that come into existence in post disaster scenario. These include a combination of micro factors and impacts that jointly affects the human security of the disaster prone urban slums. On the basis of what goes wrong, action steps can effectively protect livelihoods from disaster risks, and simultaneously speed up recovery has been formulated.

1. Literacy is a crucial link between poverty and disaster risk reduction. When people in a community have the freedom to develop and the capacity to grow in the direction they chose then we say that the society is empowered. The awareness of rights and the confidence in their ability to manage crisis in their stride is the greatest contribution that literacy can provide to poor people affected by sudden disruptions to their lives. Programs for skill and versatility development must be developed for those whose occupations and livelihoods remain unprotected, uncompensated and vulnerable in low-income areas of cities. Spread of education across low-income and at risk population can reduce recovery time and efforts. The demographic profile, geography and diversity of the people demand a need based capital building.

2. When livelihood tools are given, market links should not be missed out. When incomes are generated, sustainability beyond

project life should be thought of. When livelihood needs are supported, the measures should be down-top, inside out, sustainable, with links to the market, timely and in suitable scale. Impact of relief on local markets of the poor among the victims has to be better understood. Relief and rehabilitation should not strain the local livelihoods.

3. Fortification of human security has to be undertaken in consultation, communication and co-operation between the different micro and macro agencies, in the process expanding partnerships and synergy for effective and efficient implementation. There is a need to develop a symbiotic relationship between the community and outside actors. The target community should be the agents of preparedness and focal points of information dissemination to the community. Once this is achieved, the community feels sense of ownership of the process, which helps the two partners (community and the intervening agency) to maintain a direct and transparent relationship.

4. Relief, gender issues and development have to be linked. Access to low interest credit and insurance to women can raise their asset base and improve their coping mechanisms in the short and long term. Increase in livelihood opportunities with matching access to infrastructural resources for the women in urban slums must be a priority. Special work and business areas for the poor women must be developed now within the framework of the town-plan for reconstruction of Bhuj.

5. Any relief that reaches cities should reach slums. Rehabilitation and mitigation that reaches towns should include low income-habitats. Relief agencies should take effort to find out what the beneficiaries want and take account of their skills prior to any disaster and support and augment them accordingly. It would be unjust and unnecessary to give less or more.

Donors need to (a) to augment the benefits of their existing institutional investments such as LRF; (b) support up-scaling and wide-scaling the reach and impact of their investments; and (c) support experimental activities through venture funds. There are

many reasons in favour of an initiative like LRF to be capitalized. It has achieved much in terms of smooth recovery of poor livelihoods and protecting them from future disasters. LRF has a strong database of urban livelihoods and developed indicators that govern their recovery and sustainability in the face of disasters. The LRF process is institutionalized and ready for replication elsewhere.

5 CONCLUSION:

Livelihood security is an important agenda item if we are interested in security of development, cities, and the poor among vulnerable citizens. Reducing risks to their livelihoods is an effective and innovative measure to (a) speed up recovery and (b) mitigate disaster risks. Providing better living and working conditions for the slum dwellers and better chances for livelihood and education should be a priority for most urban rehabilitation agenda actions.² The slum dwellers have to be empowered to exercise their rights and realize opportunities in the rehabilitation, relocation and poverty alleviation schemes. Any risk reduction measure when reaching the grassroots of the community it works for has to simultaneously be able to empower them. Every step that is taken in the selected area should be in consultation with the community that the intervening agency seeks to serve.

The convergence of the urban developmental initiatives taken by various governmental and non-governmental agencies on livelihood regeneration and protection has been forthcoming but far from adequate. More needs to be done, and as soon as possible.

Disasters repeatedly undermine human security of the poor. This is a major concern for not only India, but for the entire South Asian region. An individual, a family and the community can be secure

The Gujarat Town Planning and Urban Development Act define what a development plan in a city shall provide. The town-planning scheme has provided reservation of 10 percent land for the socially and economically backward classes. Another important provision that the administration has on offer is the Slum Rejuvenation Fund that relates to keeping 10 percent of the municipal budget for schemes, which may benefit the weaker sections.

only when the environment and future is conducive for a productive life. Investment in protection of livelihoods can in fact fortify the human security of the urban poor. The poorest in the society can benefit from the advantages of security only when they are insulated from the debilitating impacts of the threat-hazard-disaster continuum. The risk to livelihood has to be mitigated for sustaining human security.

It works and it is effective.