

**NEGOTIATING HOUSING RECOVERY:  
WHY SOME COMMUNITIES RECOVERED WHILE OTHERS STRUGGLED TO  
REBUILD IN POST-EARTHQUAKE URBAN KUTCH, INDIA**

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Negotiating Housing Recovery: Why Some Communities Recovered While Others Struggled to  
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## **Abstract**

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The 2001 Kutch earthquake, in Gujarat state in western India, destroyed 230,000 houses and damaged another 1 million. In Bhuj and Bachhau, urban centers close to the epicenter of the earthquake, single-family houses, squatter settlements, and high-rise apartments were destroyed, and public and private housing reconstruction programs were introduced to help communities rebuild their houses. However, five years after the disaster, in spite of interventions by local and global, public and private entities, many communities in both towns continued to struggle towards housing recovery. This dissertation examines why some communities were able to rebuild and improve their overall housing conditions after the disaster, as opposed to others who struggled to achieve even pre-disaster housing standards.

The research is based primarily on in-depth field interviews conducted with 38 caste-based communities in Bhuj and Bachhau. Communities were identified based on their caste because field observations showed that rather than spatial proximity, households in both towns define their sense of group and community identity based on their caste affiliation. The research is designed as a comparative study around three components. The first two components examine the impact of World Bank funding, government policies, NGO interventions, and community

resources on final housing recovery outcomes in both towns. The third uses the findings from the first two to compare and contrast the housing recovery process and outcomes between Bhuj and Bachhau for homeowners, renters, and squatters.

Study findings show that the key reason why some communities could rebuild in Bhuj and Bachhau while others struggled to recover is due to the difference in availability of appropriate public assistance that matched community needs and capacities. The research also demonstrates that while social capital theory can help conceptualize community-based recovery efforts, it is also important to consider how social capital is produced because the socio-economic capacities of communities impact their ability to produce and use social capital after disasters. The study expects to contribute to future public policy debates on post-disaster housing recovery, in India and beyond, by providing a deeper understanding of the impact of public programs, private interventions, and community initiatives on housing recovery outcomes.

*For the people of Kutch*

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# CHAPTER ONE: RESEARCH STATEMENT AND APPROACH

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## 1. INTRODUCTION

### **The Research**

“Earthquake hits India”, shouted out news headlines across the world during the week of January 27th, 2001. A 7.7 Mw<sup>1</sup> earthquake with its epicenter in Kutch, a little known, remote region close to the Pakistan border, had hit the state of Gujarat in western India a day earlier, while the country was celebrating its Republic Day<sup>2</sup>. As state and national government agencies struggled to cope with the scale of death and destruction, rescue workers, citizen groups and non-governmental organizations from around the world poured into Kutch within days to provide immediate relief. The quake had flattened about 230,000 houses and damaged another 970,000<sup>3</sup> in Kutch. The Gujarat government moved fast to secure reconstruction finance, and in February 2001, just one month following the earthquake, the World Bank consented to finance the first phase of a 704 million US dollars<sup>4</sup> loan to the national (federal) government of India to fund reconstruction activities in Gujarat. A sum of 380 million US dollars or 54 percent of the loan was allocated to support urban housing recovery in Kutch<sup>5</sup>. Two years after the earthquake in 2003, the United

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<sup>1</sup> Mw stands for Moment Magnitude, it measures the total energy released during an earthquake, and is considered a more accurate measure of earthquakes than the Richter Scale, which measures the intensity of shock waves. For the Gujarat earthquake, an intensity of 6.9 on the Richter Scale was reported by the Indian Meteorological Department, while the US Geological Survey put the figure at 7.7 Moment Magnitude (Lahiri, et.al. 2001).

<sup>2</sup> The day when the Indian constitution came into effect and India became a republic. The Republic Day is celebrated every year in India on January 26<sup>th</sup>.

<sup>3</sup> Gujarat State Disaster Management Authority, Government of Gujarat. *Gujarat Emergency Earthquake Reconstruction Project-An Overview*, July 2004

<sup>4</sup> World Bank Internal Document. *Memorandum and Recommendation of the President of the Internal Development Association to the Executive Directors on a Proposed Credit of SDR 356.0 Million (US \$442.8 Million Equivalent) to India or a Gujarat Emergency Earthquake Reconstruction Project*, Report No. P7516-IN, April 10<sup>th</sup> 2002, p.23.

<sup>5</sup> Ibid.

Nations awarded the UN Sasakawa Award<sup>6</sup> to GSDMA, the Gujarat State Disaster Management Authority<sup>7</sup>, and pronounced the Gujarat government's reconstruction efforts in Kutch a success. The World Bank followed suit in 2004, awarding the GSDMA its prestigious Green Awards of the World Bank<sup>8</sup>. But ground realities were different, and albeit rural housing recovery in Kutch had progressed rapidly, urban housing reconstruction, bogged down by urban town planning processes, had only just started in 2004, the year I began my field research. So the idea of a successful recovery in urban Kutch was somewhat premature at that point.

How then did urban housing reconstruction and recovery happen in Kutch? Were public and private housing recovery programs effective? Who was able to rebuild and who was not? Not surprisingly, these questions often remain unanswered after disasters because, as past disasters have shown, recovery work in devastated areas usually begins long after the news and media crews have left, and most of the work happens outside of public or media scrutiny. In Kutch, just nine months after the earthquake, as the people and the government pulled up their sleeves and got down to the nitty-gritty of rebuilding, the world attention had shifted to the horrors of 9/11. Moreover, researchers (Berke and Beatley, 1997) note that, historically post-disaster housing recovery has received the least amount of attention from hazard researchers, and is the least understood area of study within the hazards field. This dissertation attempts to address this gap in knowledge by examining post-disaster urban housing recovery processes in Kutch.

The study looks at Bhuj and Bachhau, two towns close to the epicenter of the earthquake, where houses located in the old town and squatter settlements as well as high-rise apartments were

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<sup>6</sup> An award presented by the United Nations for outstanding work in the field of disaster management and risk reduction (<http://www.gsdma.org/awards.htm>, November 2007).

<sup>7</sup> This is a state level government agency authorized by the Gujarat government to oversee disaster recovery efforts in the state and design policies relevant to natural hazards.

<sup>8</sup> The Green Awards is given by the World Bank for promotion and maintenance of environmental concerns in the implementation of the projects funded by the World Bank (<http://www.gsdma.org/awards.htm>, November 2007).

destroyed and public and private housing reconstruction programs were introduced to help people rebuild their homes. However, five years after the disaster, in spite of interventions by local and global, public and private entities, many homeowners, renters and squatters in Bhuj and Bachhau continue to live in temporary shelters or tents and struggle financially to rebuild their homes or buy a house. This dissertation compares housing recovery processes in the towns of Bhuj and Bachhau, to examine why some communities have been able to rebuild and improve their overall housing conditions after the disaster, while others have been unable to achieve even pre-disaster housing standards.

Hazards research has explained the difference in post-disaster recovery, at the household and community levels, primarily in socio-economic terms (Enarson & Morrow, 1998; Berke & Beatley, 1997; Blaikie et al, 1994; Bates & Peacock, 1993; Oliver-Smith, 1990; Anderson & Woodrow, 1989). Factors such as class, caste, ethnicity, gender, age and health can render a person or a group more vulnerable to disasters, and affect their capacity to recover from it. This literature also points to problems that exacerbate these socio-economic inequalities and hinder recovery after a disaster. These include aid programs not suitable to local needs; poor coordination among aid agencies; lack of integration with local development goals or centralized approach to rebuilding; and the absence of local involvement.

To address these problems, disaster researchers (Berke & Beatley, 1997; Blaikie et al, 1994) particularly stress the importance of local community involvement as the key to successful recovery, and have increasingly emphasized greater local participation within long-term development as a strategy for recovery planning. Based on these arguments within the hazards field, that emphasize a localized understanding of post-disaster recovery, this dissertation conceptualizes the difference in post-disaster housing recovery through the perspective of local

communities, using Sen's (1999; 1993) capabilities approach as its analytical framework. The capabilities framework argues for an approach that focuses on people and looks at human functions such as, being adequately nourished, being in good health, and well sheltered, and the capability of people or the freedom a person has to achieve those functions (Sen, 1999; Nussbaum & Sen, 1993). The capabilities framework not only allows for an approach that looks at post-disaster housing recovery from the perspective of the local population, but it also provides a useful theoretical tool to analyze the aspects that enhanced and strengthened the actual ability or the capability of communities to rebuild their houses in Bhuj and Bachhau. The framework is thus a powerful instrument to help examine the difference in post-disaster housing recovery levels among various communities in the two towns.

The research is designed as a comparative study. Bhuj and Bachhau, the towns chosen for this comparative analysis, are both located within Kutch district<sup>9</sup> in Gujarat state, and share basic characteristics such as demographic composition and the scale of earthquake damage. However, the approach to housing recovery in both towns is very different. In Bhuj, which is the administrative headquarter of Kutch, the local district government under the district collector<sup>10</sup> office had tight control over the housing recovery process with limited public participation in the decision-making process from citizen groups and local NGOs. In Bachhau, the Bachhau Area Development Authority (BhADA), a government agency appointed by the Gujarat state government after the earthquake to rebuild Bachhau, controlled the housing recovery process and BhADA officials were more open to participation from local NGOs, though involvement from citizen groups was very limited. The study compares final housing recovery outcomes between both towns to ascertain the impact of their differing approaches on levels of housing recovery.

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<sup>9</sup> Districts in India are akin to US counties

<sup>10</sup> Highest authority and the most powerful public office at the district level

The research is organized around three components. First, the dissertation examines how World Bank funds, distributed as part of public housing assistance primarily to urban households with property titles, impacted housing recovery outcomes among homeowners in Bhuj and Bachhau. Second, it looks at the two towns individually to understand the difference in final housing recovery outcomes among various communities within each town, based on a community's resources, on NGO interventions, and on government reconstruction programs that each community had access to. The communities were identified based on their caste<sup>11</sup> identity because rather than spatial proximity, people in Bhuj and Bachhau define their sense of group and community identity based on their caste affiliation. Third, the research compares and contrasts the housing recovery process and final housing recovery outcomes between Bhuj and Bachhau.

The study makes two main contributions to the housing recovery scholarship. First, while the literature suggests that a community's assets, capacities, and its socio-economic position dictates the difference in recovery outcomes among various communities (Vatsa, 2004; Berke, Kartez, & Wenger, 1993; Siembieda, 2002; Blaikie et al, 1994; Bates, Killian & Peacock, 1984), this research argues that these factors actually played a limited role in impacting housing recovery. Instead, the research argues, that the key reason why some communities were able to rebuild in Bhuj and Bachhau while others struggled to recover is due to the difference in the availability of appropriate public assistance designed to match community needs and capacities.

Second, the research argues that while social capital theory<sup>12</sup>, an approach that has in recent years gained traction among scholars and practitioners in the hazards field can help conceptualize community-based recovery efforts, at the same time it is important to consider how social capital

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<sup>11</sup> Caste in India is broadly defined as a social group where members are related by birth and are traditionally associated with and specialize in a certain occupation (Dumont, 1980)

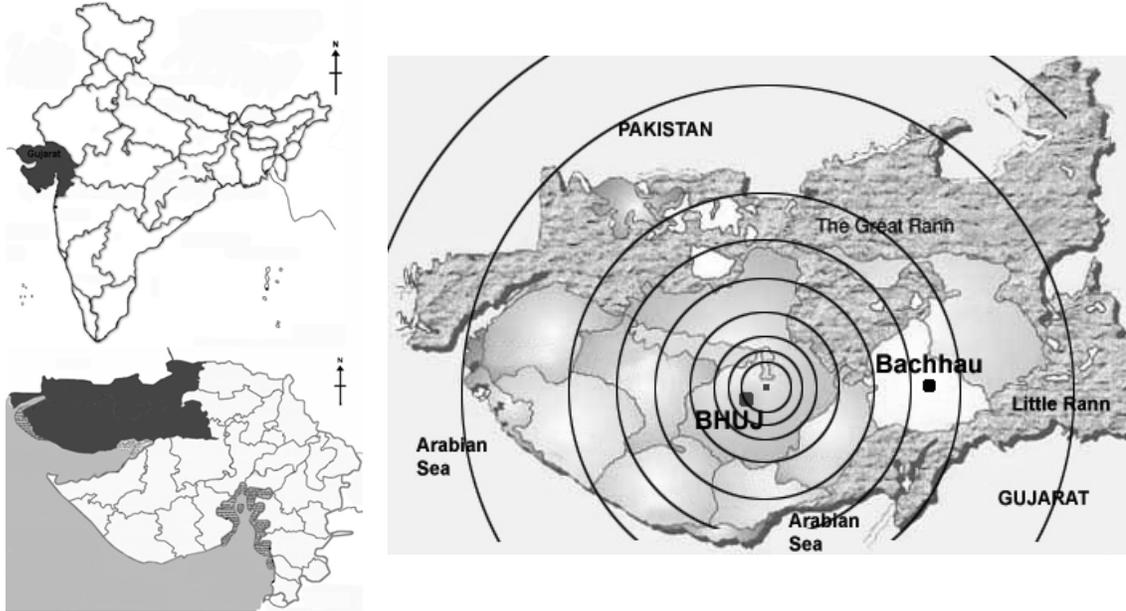
<sup>12</sup> Social capital according to Putnam (2000) refers to the collective value of all social networks and the tendency of these networks towards collective action for their own benefit.

is produced among communities. This is because the social and economic capacities of communities impact their ability to produce and use social capital after disasters. Failure to understand the process of social capital production means a failure to realize the difference in socio-economic capacities among communities. This in turn can lead to policies and programs that ignore these capacity differences, which was a key reason why some communities were able to rebuild while others struggled to recover in Bhuj and Bachhau.

The significance of this project also lies within its larger empirical scope. The study expects to contribute to future public policy debates on post-disaster housing recovery, in India and beyond, by providing a deeper understanding of the impact of government policies, NGO interventions, external funding from organizations like World Bank, and community resources, on housing recovery outcomes.

### **Impact of the 2001 Gujarat Earthquake**

On the morning of January 26<sup>th</sup> 2001, as India was celebrating its 51<sup>st</sup> annual national republic day, an earthquake measuring 7.7 Mw hit Gujarat state in western India. The epicenter was 20 kilometers (12 miles) northeast of Bhuj city, the administrative headquarters of Kutch district, located in northwest Gujarat (see figure 1 below). The quake was followed by more than 500 aftershocks. The tremors were felt up to Mumbai about 500 kilometers (300 miles) to the south, and in Calcutta about 1900 kilometers (1100 miles) to the east. The loss of lives stunned the nation. Approximately 13,800 people died and 167,000 were injured. The earthquake was devastating for Kutch district, but also caused extensive damage in the adjoining districts of Rajkot, Jamnagar, Surendranagar, Patan and Ahmedabad.



**Figure 1: Kutch location map: Maps on the left show location of Gujarat state in India (top left) and Kutch district in Gujarat (bottom left). Enlarged map of Kutch (right) shows location of Bhuj city, and the epicenter of the earthquake. (Source: Maps Reworked, Base maps from [www.mapsofindia.com](http://www.mapsofindia.com))**

Bhuj, the district administrative headquarter of Kutch, was in complete disarray since most civic facilities, such as school, hospitals, health centers, public buildings and government offices had suffered extensive destruction, with utility infrastructure, such as water supply, electricity and telecommunications, completely disrupted<sup>13</sup>. Overall, the earthquake severely impacted the local economy of Kutch. More than 10,000 small and medium industrial units stopped production after the earthquake<sup>14</sup>. Thousands of saltpans, part of salt-manufacturing units and one of the primary industries in Kutch, were affected, while cottage and handicraft industries, such as weaving, suffered major setback since many craftsmen and artisans lost their workshop and tools. The quake also took a heavy toll on livestock in the region, where rain-fed agriculture and animal husbandry are the chief occupations.

<sup>13</sup> Government of Gujarat Policy Document, [www.gsdma.org](http://www.gsdma.org), Accessed on November 2002

<sup>14</sup> Government of Gujarat Policy Document, [www.gsdma.org](http://www.gsdma.org), Accessed on November 2002

Along with the damage to its economy, the earthquake flattened about 230,000 houses and damaged another 970,000 units<sup>15</sup> in Gujarat state. In districts surrounding Kutch, the worst hit was the heavily populated and highly urbanized city of Ahmedabad, where 70 high-rise apartments collapsed, followed by the city of Jamnagar. In Kutch, a district primarily composed of small remote villages and half a dozen towns, most of the damage to housing and infrastructure was in the four talukas<sup>16</sup> of Bhuj, Bhachau, Rapar, and Anjar (see figure 2 below).



**Figure 2: Kutch Talukas: Taluka sub-divisions in Kutch district. (Source: Maps Reworked, Base maps from [www.mapsofindia.com](http://www.mapsofindia.com))**

Since villages house more than seventy percent of Kutch's population, the impact of earthquake was predominantly rural. Table 1 below shows that about 97 percent of total housing units in Gujarat state that were completely destroyed were located in Kutch district, mostly concentrated in rural area. But the quake also affected urban centers in Kutch such as the port city of Gandhidham, and the towns of Bhuj, Anjar, Bachhau, Rapar, where many houses were destroyed or damaged.

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<sup>15</sup> According to the Gujarat State Disaster Management Authority, Government of Gujarat. *Gujarat Emergency Earthquake Reconstruction Project-An Overview*, July 2004, the earthquake destroyed 233,660 houses and damaged another 971,538 housing units.

<sup>16</sup> Talukas are administrative sub-divisions of district, similar to US townships

Town	Housing Units Destroyed	Housing Units Damaged	Total Units Destroyed & Damaged	Total Units in Town	Total Units Destroyed		Total Units Damaged	
					In Gujarat State			
Bhuj	9762	26601	36363	49879	233660		971538	
Bachhau	9061	181	9242	10924	In Kutch District			
Anjar	5261	9781	15042	17502	Urban	Rural	Urban	Rural
Rapar	1400	4756	6156	6127	25484	201235	41319	113580
<b>Total</b>	<b>25484</b>	<b>41319</b>	<b>66803</b>	<b>84432</b>	226719		154899	

**Table 1: Housing damage data for four towns of Kutch: Housing units damaged in Bhuj, Bachhau, Anjar, and Rapar<sup>17</sup> and total units damaged in Gujarat state and Kutch district. (Source: Government of Gujarat documents<sup>18</sup>)**

This dissertation focuses on the towns of Bhuj and Bachhau, where housing damage was most severe. According to the post-disaster housing damage survey, about seventy five percent of houses in Bhuj were either destroyed or damaged in the earthquake<sup>19</sup>. In Bachhau the housing damage was more severe, the town lost nearly ninety percent of its housing stock<sup>20</sup>. The magnitude of housing damage in Bhuj and Bachhau meant that the scale of post-disaster recovery and reconstruction efforts needed in both the towns was quite large, which enabled the towns to be suitable sites for this study on post-disaster urban housing recovery.

## Dissertation Organization

The dissertation is comprised of six total chapters. Chapter One titled, Dissertation Structure and Approach, introduces the research study. Chapter One first gives a brief description of the

<sup>17</sup> There is some discrepancy (between 1 to 5 percent) in housing damage data between GSDMA and the local administrative office (Mamlatdar or deputy collector). Though fieldwork indicates that local figures are more accurate, GSDMA data has been presented here because the discrepancy is small and GSDMA numbers give an accurate picture of the overall urban housing damage in Kutch.

<sup>18</sup> Data Based on 2001 Census of India; Damage Survey Data from Deputy Collector's Office in Bachhau and Bhuj; Internal Report on Rural Reconstruction from District Development Officer, District Panchayat, Bhuj, Kutch; Government of Gujarat, GSDMA Power-point Presentation, *Gujarat Relief and Rehabilitation Measures*, August 2<sup>nd</sup> 2001, www.gsdma.org, Accessed on April 2005; and Gujarat State Disaster Management Authority, Government of Gujarat. *Gujarat Emergency Earthquake Reconstruction Project-An Overview*, July 2004.

<sup>19</sup> It is not quite clear whether the post-disaster damage survey data includes the total number of squatter residences in Bhuj and the ones that were damaged or destroyed, which leaves out a large percentage of housing stock in the city.

<sup>20</sup> The census and damage survey data together indicate that out of 10,000 residences in Bachhau, approximately 4600 houses belonged in the legal housing market, and the rest 5400 were squatter houses.

research, explains the significance of the study, gives an overview of the January 2001 Gujarat earthquake, and lays out the dissertation organization. Second, it gives an overview of the scholarship on post-disaster housing recovery through a review of the hazards literature, lays out the context of the study through a review of the development and housing scholarship, discusses the theoretical approach of the research, and develops a research hypothesis. Finally, the chapter explains the comparative study design and the research methods used in the dissertation.

Chapter Two titled, *Following the Money*, examines the impact of external funding from the World Bank, which was distributed as public housing assistance primarily to urban households with property titles, on final housing recovery outcomes among homeowners in Bhuj and Bachhau. First, it looks at the amount of funds Kutch district received from the World Bank after the earthquake and discusses the reasons for the large inflow of funds into Kutch for urban housing recovery. Next, it examines how World Bank funds were used for housing recovery in the towns of Bachhau and Bhuj and attempts to understand its impact on final housing recovery outcomes in both towns.

Chapters Three and Four look at housing recovery in Bachhau and Bhuj respectively to examine the impact of community resources, NGO interventions, and government housing reconstruction programs, on final housing recovery outcomes within various communities in both towns. Each chapter comprises of three main parts titled similarly. First, both chapters establish the context by focusing on the socio-economic composition of the towns, the scale of housing damage, and the pre-disaster housing status of various communities. Housing status is important because the Gujarat government used the pre-disaster housing status of a household as a basis to decide the amount of post-disaster financial aid for that household. Next, the chapters attempt to understand the difference in final housing recovery outcomes among various communities, based on a

community's resources, on NGO interventions, and on government reconstruction programs that each community had access to. Finally, it analyses the reasons for the difference in final housing recovery outcomes among homeowners, squatters, and renters from various communities.

Chapter Five titled, *Negotiating Housing Recovery in Bachhau and Bhuj*, compares and contrasts the government's housing recovery approaches at the state and local level in Bachhau and Bhuj to ascertain the impact of its different approach in the towns on the final housing recovery outcomes in both towns. First, the chapter examines the difference in the government's approach at the state and local levels towards housing recovery in Bachhau and Bhuj, and the resulting impact on housing recovery processes in the two towns. It then compares housing recovery outcomes between Bachhau and Bhuj while using the capabilities approach as an analytical tool to conceptualize housing recovery among homeowners, squatters, and renters in both towns. The chapter wraps up with a discussion on the findings of its comparative analysis and concludes with a brief critique of the Gujarat government's housing recovery policy.

Chapter Six, the final chapter titled, *Statement of Findings and Conclusion*, lays out the research findings of the dissertation. It first explains the critical factors at various levels of the housing recovery process that affected housing recovery in Bhuj and Bachhau. Based on the study findings it also makes suggestions for a broad-based housing recovery policy that can better capture the needs and capacities of various socio-economic groups. It then states how these findings contribute to the larger hazards scholarship and in particular to the housing recovery literature.

## 2. EXISTING PARADIGM AND THEORETICAL FRAMEWORK

This second part of this chapter establishes a theoretical framework for the dissertation. To establish the context, it first looks at the need to examine post-disaster housing recovery, a field that is largely understudied and which lacks an understanding of the effectiveness of housing recovery policy and programs particularly in the context of urban India. It then lays out various approaches in the hazards literature towards post-disaster housing recovery, to show that the differences in the levels and rates of housing recovery not only depends upon a community's or household's own resources and capacities, its social class or ethnicity, but also on the type of public or private financial assistance programs it has access to (Bates, Killian & Peacock, 1984). Next, it looks at the literature on economic development and housing in developing countries, to anchor the post-disaster housing recovery efforts in Gujarat within the larger context of housing policy and development scholarship. Finally, it discusses a theoretical framework for the dissertation and develops a research hypothesis.

### **Why Housing Recovery?**

Hazard research findings show that post-disaster recovery planning is often plagued with problems such as government officials unprepared to deal with housing aid recipients; housing aid that does not meet the needs of socio-economically weak groups; outside donor programs (private or public) that exclude local involvement; and poor co-ordination and conflicting demands between various government agencies (Berke & Beatley, 1997; Blaikie et al, 1994; Bates & Peacock, 1993; Anderson & Woodrow, 1989). Kreimer (1984) also points out that housing recovery programs are usually concerned with provision of shelter, which usually means rapidly constructed housing units, rather than a holistic approach to housing that looks at factors

such as location, access, services and land tenure. Researchers in the field of hazards (Drabek, 2002; Comerio, 1998; Berke and Beatley 1997) agree that this is due to a lack of understanding of housing recovery processes, a field that is largely understudied. Among the various components of a disaster policy (pre-disaster mitigation, emergency preparedness, emergency response, and recovery), post-disaster recovery has received the lowest amount of attention (Berke and Beatley, 1997), and has been the least investigated and least understood component of post-disaster aid (Comerio, 1998). Moreover, there is very limited research that has evaluated the effectiveness of programs designed to assist households and communities in rebuilding their homes and businesses (Comerio, 1998).

Thus, as a critical component of the overall economic recovery of a community or household after disasters, there exists a clear need for a deeper understanding of housing recovery processes. Housing recovery can be described as a process where communities or individual households rebuild, repair, and replace their housing, using personal funds, private loans, insurance payouts, or financial assistance from the government. Looking at housing recovery can not only help build upon the existing knowledge in the field of hazards, but more importantly it can shape future housing recovery policies, by providing a more in-depth understanding of the impact of government policies and programs, NGO interventions, and community resources, on housing recovery outcomes.

Housing constitutes the largest portion of built structures in any community (Comerio, 1998: 15). In India, a country of 1.03 billion<sup>21</sup> people, there are about 249 million<sup>22</sup> dwelling units. Every year a large percentage of these units are affected or are at risk from floods, cyclones, and earthquakes. About 60 percent of the Indian landmass, a country one third the size of the entire

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<sup>21</sup> Census of India, 2001

<sup>22</sup> Census of India, 2001

United States with a total area of 1.3 million square miles, is prone to earthquakes; 8 percent is vulnerable to cyclones; and 12 percent of the land area is susceptible to floods<sup>23</sup>. As an illustration of the resulting impacts, Table 2 below gives a list of disasters within the past two decades in India that have impacted housing on a large scale.

Disaster	Year	Magnitude	Housing Units	
			Damaged	Destroyed
Uttarkashi Earthquake	1991	6.8 Mw <sup>24</sup>	No Data	42,400
Latur Earthquake	1993	6.2 Mw	No Data	30,000
Jabalpur Earthquake	1997	5.8 Mw	52,690	8546
Chamoli Earthquake	1999	6.6 Mw	10,861	2595
Orissa Super-Cyclone	1999	Category 5 Hurricane	No Data	275,000
Gujarat Earthquake	2001	7.7 Mw	971,538	233,660
Indian Ocean Tsunami	2004	9 Mw	No Data	110,829
Kashmir Earthquake	2005	7.6 Mw	No Data	32,723

**Table 2: List of major disasters in India: Disasters in the past two decades that has impacted housing in India. (Source: Reconnaissance Reports, [www.nicee.org](http://www.nicee.org); [www.eeri.org](http://www.eeri.org))**

Since the early 1990s, disasters have occurred with higher frequency in India causing increasing damage and destruction to housing (see Table 2 above). This in turn has led to a greater focus on housing recovery. There are three primary reasons why housing recovery after disasters is critical in India.

First, due to rapid urbanization and a growing economy, the demand for housing has grown explosively in India. Housing supply however, has fallen short of the existing demand, and according to the Confederation of Indian Industries' (CII) the current housing supply-to-demand

<sup>23</sup> Disaster Management in India – A Status Report, National Disaster Management Division, Ministry of Home Affairs, Government of India, August 2004

<sup>24</sup> Moment magnitude (Mw) measures the amount of energy released in an earthquake and is considered more precise than the Richter scale, which measures the surface waves of an earthquake (United States Geological Survey, USGS; <http://earthquake.usgs.gov/learning/topics.php>, August 2007).

ratio in India stands at 1:3. Based on the results of the Census of India 2001, CII estimates that the total housing shortfall in India is approximately 24.7 million units, of which 14.1 million units is in rural areas and 10.6 million units is in urban areas<sup>25</sup>. With such acute shortage of housing, India can ill-afford to lose its existing housing stock to disasters.

Second, a house is more than a shelter. As a socio-economic unit (Rapoport, 1990) around which a household's daily activities are organized, the house becomes not just a gathering place for the household, or a place to share food and other basic resources, but is also used for economic activities. For example, for farming communities and artisans in rural areas, or small business owners operating from home in urban areas (such as a vehicle repair shop or a grocery store on the first floor of a house), the dwelling unit is a place for storage of production tools, finished consumer products, domesticated animals, harvested crops, as well as a place for production activities. Under these circumstances, the loss of a house deeply impacts the earning capacity of a household. The economic recovery of the household is thus critically and inextricably tied to its housing recovery. Moreover, a house reflects the owner's identity, power, status, and wealth in society (Rapoport, 1990). The status of housing recovery can thus indicate the status of the overall economic recovery of a household or a community from a disaster. According to Comerio (1998: 161), "timely housing recovery is a component of economic recovery", and communities who cannot recover their housing standards after a disaster have fallen back economically.

Third, "housing is the single greatest component of all losses, in terms of economic value and in terms of buildings damaged" (Comerio, 1998: 195), and the loss of housing on a large scale can sometimes produce housing shortage crises in some communities. For example, Bachhau lost

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<sup>25</sup> India needs to build 2 million units per year to meet its housing shortfall and reach its goal of 'Shelter for all' by 2012, based on its 1998 Housing and Habitat Policy (Confederation of Indian Industries, CII; <http://www.ciionline.org/sectors/61/default04b7.html?Page=Introduction.htm>, August 2007).

more than 90 percent of its housing stock after the Gujarat earthquake, leading to a severe housing crunch, which in turn paralyzed the economy of the town. Alternative temporary housing and eventual housing recovery was crucial to the overall economic recovery of the town. Post-disaster housing recovery is thus particularly critical in urban areas in India that have lost a large percentage of its housing stock in a disaster.

Overall, given the acute shortage of housing supply in India, the role of housing in the economic recovery of an individual household, and the importance of housing in the economy recovery of urban regions, housing recovery is a critical aspect of post-disaster recovery that India can ill-afford to ignore.

### **Housing Recovery Paradigm: A Review**

Researchers have defined a typical post-disaster situation through three primary overlapping phases: first, an emergency response period that can last from one to eight weeks after the disaster and includes rescue operations, provision of medical aid, food and emergency shelter; second, a relief or restoration phase from between eight weeks to nine months that includes cleaning up of debris, restoration of public services, and provision of temporary housing; and third, a recovery phase that can last up to three years or more and includes repair and reconstruction of damaged buildings along with overall economic recovery of the region (Comerio, 1998; Hass, Kates, & Bowden, 1977).

Hazards research however, has increasingly critiqued this linear recovery model and its orderly representation in which a community goes through a series of fixed stages, pointing out that post-disaster recovery and decision-making is an uncertain process (Berke, Kartez, & Wenger, 1993),

where the stages do not necessarily follow a sequential pattern, but rather blur and merge into one another, while occurring simultaneously or in different sequences among different communities (Rubin, Saperstein, & Barbee, 1985). These studies show that depending on extent of damages, availability of resources within a community, and the process of aid delivery, recovery level among different communities hit by the same disaster was different. For example, a study of post-disaster housing recovery in two Jamaican communities following Hurricane Gilbert<sup>26</sup> found that powerful interest groups with influence and control over local institutions were able to take advantage of recovery aid, and pressure public authorities to rebuild in areas favored by the interest groups. As a result, some households were able to completely rebuilt within seven months after the hurricane, whereas households in other locations that had similar levels of damage were still clearing debris from the streets and had only made temporary repairs to their homes during the same time (Berke et. al., 1992).

Early studies (Davis, 1982; Oliver & Aysan, 1987) on housing recovery however, focused its attention mostly on the construction of socio-culturally appropriate housing for disaster-hit communities, criticizing the highly centralized housing reconstruction programs controlled by national or state governments, that designed and rebuilt housing with little understanding of socio-cultural factors, climatic requirements, materials, local housing needs, and community concerns.

It was only later that hazard researchers began to examine the difference in post-disaster housing recovery at the household and community levels, and agreed that post-disaster recovery does not happen evenly across a population (Enarson & Morrow, 1998; Berke & Beatley, 1997; Blaikie et.

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<sup>26</sup> Hurricane Gilbert was a Category 5 storm that hit the Caribbean and the Yucatan peninsula on September 1988. More than 300 people died in the entire region. In Jamaica, the cost of damage was 2 billion US dollars (National Hurricane Center, <http://www.nhc.noaa.gov/pastall.shtml>, August 2007).

al., 1994; Bates & Peacock, 1993; Winchester, 1992; Oliver-Smith, 1990, Anderson & Woodrow, 1989). These studies pointed to factors such as housing and business location, condition of the house, and access to resources and information, that can render a household or a community more vulnerable to the loss of life, livelihood, assets and income, and make it difficult for them to cope with and recover after a disaster (Vatsa, 2004; Blaikie et. al., 1994). For example, people living in houses that use low-quality materials and are located in crowded and unsafe areas like flood plain or steep hillsides are more likely to suffer damage and loss than people living in safer environments (Kreimer, 1980). According to Blaikie et. al. (1994), at a macro-level people are vulnerable to losses during disasters when distant root causes such as limited access to power, resources, and existing socio-economic systems, lead to dynamic pressures such as rapid population growth and urbanization, foreign debt, and environmental degradation. This in turn exposes people to unsafe conditions where a fragile physical environment combines with existing socio-economic structures to create vulnerability to loss from disasters.

Comerio (1990) has observed that vulnerability to loss during disasters is not only seen in the Third World, but also exists in wealthier countries like the United States, particularly among low-income immigrant groups. For example, in the state of California, there are 20,000 seismically unsafe tenement units in San Francisco and another 44,000 in Los Angeles, which are inhabited mostly by low-income immigrant communities. Since making these homes safer would increase the rents and push the inhabitants out of the units and quite possibly into homelessness, the units remain vulnerable to heavy losses during earthquakes.

Hazards research (Vatsa, 2004; Bolin & Stanford, 1998; Blaikie et. al., 1994) shows that while the wealthy also suffer losses in a disaster, the fact that they often hold resources such as home insurance, personal savings, financial assets, and stable employment makes them more secure and

able to recover faster than low-income groups, who have fewer assets, usually no insurance, no access to secure financial resources such as bank loans, and less diversified sources of income. Vatsa (2004) argues that assets play a central role in the housing recovery of households and communities. The lack of access to resources and the loss of a relatively proportion material assets during disasters in low-income households is especially significant because a household or a community's resilience and ability to cope with and recover from the impact of a disaster is based on the assets they can mobilize during extreme events (Vatsa, 2004; Blaikie et. al., 1994). These assets include financial assets, such as cash, savings, loans, and pensions; physical assets such as house, land, livestock, tools and equipment, gold, and household appliances; human assets such as skills and knowledge, labor, and health; and social assets such as kinship networks, group memberships, relations based on trust, and access to wider institutions of society (Vatsa, 2004)<sup>27</sup>. The more assets people have, the less vulnerable they are to the long-term negative impacts of a disaster and better able to cope with and rebuild after a disaster (Vatsa, 2004). This means that even though the middle class and the wealthy experience greater absolute loss than the poor during disasters, in relative terms however, the poor lose a larger portion of their material assets and suffer longer lasting negative effects, making it more difficult for them to recover after a disaster (Bolin & Stanford, 1998; Wisner, 1993).

Recognizing the importance of assets in post-disaster recovery, in a study of the 1976 Guatemalan earthquake (Bates, Killian & Peacock, 1984), the researchers created an instrument called the Domestic Assets Scale to measure the domestic material assets of a household at several points in time prior to and after the disaster, in order to determine housing recovery and the overall recovery levels of a household. The assets included shelter (assessed by type of construction materials), water and electric supply, equipment for food preparation and

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<sup>27</sup> Cited by Vatsa (2004) from Sebstad, Jennefer & Cohen, Monique (1999) and Siegal & Alwang, (1999)

preservation, waste disposal, and transportation. By measuring the changes in available assets used in performing essential household activities before and after a disaster, the researches used the scale as an index of housing recovery (Bolin & Stanford, 1991). Another study (Bolin, 1985) looked at post-disaster recovery as a combination of income recovery, which measures the success of households in regaining their pre-disaster income levels, and home-size recovery, which measures the success in re-establishing housing equivalent to that occupied prior to the disaster. In this approach to post-disaster recovery, the amount of financial aid received and access to social support networks were significant predictors of housing recovery outcomes at the household level (Bolin & Stanford, 1991).

Other studies have argued that the internal and external capacities of a community prior to a disaster is also important in determining the post-disaster housing recovery levels of a community (Berke, Kartez, & Wenger, 1993). A high degree of internal capacity can provide a community with a tightly knit social network of local organizations, through which people can organize and have the opportunity to collectively participate in local decision-making processes, thus strengthening its internal capacities even further. A high degree of external capacities links a community with larger political, social, and economic institutions, which in turn helps the community to expand its resources, such as funding, credit, or other forms of public or private assistance during post-disaster housing recovery (Berke, Kartez, & Wenger, 1993; Siembieda, 2002). A study of fifteen communities in Mexico, El Salvador, Honduras, and Nicaragua (Siembieda, 2002) showed that the internal and external capacities of communities played a key role during post-disaster reconstruction. While some communities focused on returning to pre-disaster levels of socio-economic and physical conditions, other communities used their internal and external capacities to strengthen their relations with outside agencies and organizations in order to achieve some type of socio-economic or physical transformation beyond simply

rebuilding their homes, such as designing an emergency response system for their community (Siembieda, 2002).

Yet even within a community factors such as class, caste, ethnicity, gender, age, and health often influence access to resources like stable employment, types of income, savings, education levels, and ties to local institutions (Blaikie et. al., 1994). This in turn determines housing recovery outcomes at the household level. For example, studies in Peru after the 1970 Yungay earthquake showed that upper-class elites, who had strong pre-disaster control over local institutions and links to public authorities, could take advantage of recovery aid and rebuild quickly as opposed to other members of the community (Oliver-Smith, 1990). Hazard research shows that instead of an aberration such cases are the norm (Berke et. al., 1992; Oliver-Smith, 1990; Bates et. al., 1984). To address these issues, hazards research (Berke & Beatley, 1997; Anderson & Woodrow, 1989) has begun to acknowledge the importance of local community involvement as the key to successful recovery, and has increasingly emphasized greater local participation with a long-term development approach as a strategy for recovery planning.

While pointing out that post-disaster recovery should be linked to development efforts, Cuny (1981) first suggested that issues such as housing, land tenure, and urbanization should be part of disaster recovery planning. Historically though, there has been a failure to understand disasters in the greater context of development. Disasters have consistently been regarded as once in a while phenomenon, while development practices have been considered as slow and long-term processes (Cuny, 1981). Anderson (1985) points out that emergency personnel working on disaster relief mostly view disasters as interruptions of development and believe that the provision of material and resources for disaster relief represents a diversion of these resources from development projects. As a result, they focus their task on getting things back to normal and interventions for

housing recovery after disasters is largely seen by government officials and some private NGOs, as a specialized set of time-bound strategies that are separate from ongoing development processes (Cuny, 1981).

This narrow approach to post-disaster housing recovery often creates problems particularly when inadequately designed public or private recovery assistance programs exacerbate socio-economic inequalities, or marginalize certain communities from the recovery process, and hinder housing recovery after a disaster. The problems usually include aid programs not suitable to local needs; poor coordination among aid agencies; lack of integration with local needs or development goals; and the absence of local involvement (Berke & Beatley, 1997; Bates et. al., 1984; Oliver-Smith, 1990, Anderson & Woodrow, 1989). Oliver-Smith (1990) also points out that urban planning efforts following disasters often have a highly centralized approach to rebuilding, controlled by national or state governments, that relies heavily on expert knowledge and rarely incorporates the values and requirements of local people. This approach often gives highest priority for housing reconstruction to upper-income groups with land and property, and lowest priority to low-income groups, such as renters or squatters (Comerio, 1998; Oliver-Smith, 1990). The differences in the levels and rates of housing recovery thus not only depends upon a community's or a household's own resources, its social class and ethnicity, but also on the type of public or private financial assistance program it has access to (Bates, Killian & Peacock, 1984).

For example, in order to relocate the completely destroyed villages and rebuild them on new sites following the 1993 Latur earthquake in Maharashtra, a state in western India, the government of Maharashtra decided to acquire land from 33 villages. Under a highly centralized program, controlled by the Maharashtra state government, the state fixed a certain percent of land to be acquired from every landed villager for resettlement purposes. This system did not take into

account the size of the landholdings with individual farmers and the process of land appropriation transformed the status of a number of small farmers, mostly belonging to lower caste and tribal communities, into that of marginal farmers or farmers without land (Kirpes, 2000)<sup>28</sup>. Moreover, to redistribute land and housing after the earthquake, the government decided to fix the relocation plot size and the house size based on the size of a villager's registered farmland holdings. This process automatically eliminated the lower castes and tribal communities, where 78 percent of households were landless and supplemented their income through agricultural labor and seasonal wage employment<sup>29</sup>.

Similarly, in the United States, federal assistance programs for post-disaster housing is directed primarily towards property owners, and often fails to cover other groups that may require financial aid for housing such as renters. As a result, the policy tends to privilege middle class single-family homeowners over low-income renters (Comerio, 1998).

The allocation of post-disaster financing for housing recovery and its capture by the middle and upper classes has come under increasing scrutiny in recent years (Freeman, 2004; Comerio, 1998). Comerio (1998) argues that given the fact that future disasters are likely to have an enormous impact on urban housing and that housing represents the largest segment of the cost of post-disaster recovery, neither governments nor insurance companies can provide unlimited funds to replace individual or community losses. As a result, the limited government funds should be targeted primarily for public infrastructure rebuilding projects and for temporary housing

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<sup>28</sup> The largest landholders, those with 6.5 or more hectares (16 acres) of land and belonging to upper caste communities like the Marathas, experienced the least landlessness and marginalization; those owning 2.5 to 6.4 hectares (6 to 16 acres) of landholding and belonging to lower caste communities, became marginal farmers; and the smallest landholders, with up to 2.4 hectares (6 acres) of land and belonging to lower caste or tribal communities, many of whom were already marginal farmers, became landless to the greatest extent (Kirpes, 2000).

<sup>29</sup> Mukherji, Anuradha. 2002. "Disaster reconstruction or caste reconstruction: A look at the Marathwada earthquake in India". Unpublished graduate course paper

assistance to low-income renters, while various types of insurance should be used to finance private property recovery (Comerio, 1998).

Unlike in the United States, where the bulk of post-disaster housing reconstruction finance is through private insurance and to some extent from the federal government (Comerio, 1998), poorer countries often rely on external financial assistance from international organizations like the World Bank to fund their housing reconstruction needs (Freeman, 2004)<sup>30</sup>. With almost 50 percent of the World Bank's post-disaster reconstruction loans used for housing, Freeman (2004) similarly questions the use of limited government funds to finance private housing, especially because the funds are captured mostly by socio-economically advantaged groups through existing power structures, than the poor. Since post-disaster financial aid is often based on loss, as owners of existing housing, the middle and upper classes capture assistance that rebuilds pre-existing housing stocks (Freeman, 2004). Freeman (2004) argues that public funding directed to rebuild private housing after disasters, diverts public monies away from much needed infrastructure projects, and fails to meet the housing needs of the poor.

At the same time it is important to note that excess provision of external assistance can often produce dependency among disaster survivors. For example, in the 1985 Armero Disaster, when the Nevado del Ruiz volcano erupted near the town of Armero in Columbia, NGOs from around the world flooded the region to provide relief assistance. However, the number of survivors (8000) was small compared to the millions that the NGOs were ready to spend on reconstruction efforts, and the survivors learnt to shop for the most advantageous package of benefits for

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<sup>30</sup> The general misperception in the hazards field is that external aid picks up a greater portion of the recovery tab in developing countries. The fact is that 60-70% of expenditures incurred during disasters are usually on the house while the rest is covered by international aid. The in-house funds are obtained by either dipping into resources allocated towards existing development projects or increasingly by restructuring existing loans from international banking organizations. For example, during the 1985 earthquake, Mexico obtained recovery funds by restructuring its existing loan from the World Bank (Berke & Beatley, 1997; Anderson & Woodrow, 1989; Cuny, 1981).

housing grants and loans. In other words, survivors had access to more external assistance than they needed or could use. Anderson and Woodrow (1989) point out that this created a situation where the survivors began to depend solely on external financial assistance. Researchers (Davis, 1981; Cuny, 1981) call this a dependency relationship where external assistance harmed rather than helped the local population because it prevented them from relying upon and strengthening their own coping mechanisms. In other words, excess NGO assistance crushed local community initiatives that could have emerged to help the community rebuild themselves, which in turn precluded the community from strengthening their own capacities.

The hazards literature discussed above provides the context for this dissertation, emphasizing four main points to consider when looking at the difference in post-disaster housing recovery levels. First, personal or community assets, such as cash, savings, land, livestock, knowledge, health, and kinship networks, play a central role in the housing recovery of households and communities. The more assets people have, the less vulnerable they are to long-term negative impacts of a disaster and are better able to cope with and rebuild after a disaster (Vatsa, 2004). Second, the internal and external capacities of a community prior to a disaster are important in determining the post-disaster housing recovery levels of a community. Internal capacity can help a community to organize well and participate in the local decision-making processes, whereas external capacities can help the community to expand its economic or material resources through its larger social and economic links during post-disaster housing recovery (Berke, Kartez, & Wenger, 1993; Siembieda, 2002). Third, it is important to recognize that within a community factors such as class, caste, ethnicity, gender, age, and health often influence access to resources like stable employment, types of income, savings, education levels, and ties to local institutions (Blaikie et al, 1994), which in turn can determine housing recovery outcomes. Finally, the difference in the levels and rates of housing recovery not only depend upon a community's or household's own

resources, its internal and external capacities, or its social class and ethnicity, but also on the type of recovery assistance programs it has access to (Bates, Killian & Peacock, 1984).

It is within the context of this last point that my study is situated. Freeman (2004) notes that since post-disaster financial aid policies and programs are often based on housing loss, public funding directed to rebuild pre-existing housing stocks after disasters is mostly captured by middle and upper classes, and fails to meet the housing needs of the poor such as low-income renters or squatters. This in turn often exacerbates socio-economic inequalities and hinders equitable housing recovery for all socio-economic groups (Oliver-Smith, 1990). Following the 2001 earthquake, the Gujarat government borrowed 380 million US dollars from the World Bank for urban housing recovery. However, in contrast to Freeman (2004) and Oliver-Smith's (1990) arguments, along with middle-class homeowners, renters in Bhuj and squatter communities in Bachhau also had access to these public housing recovery funds borrowed from the World Bank. This dissertation thus investigates that apart from its own resources or aid from NGOs, how did a community's access to and the use of government housing assistance program impact final housing recovery outcomes in Bhuj and Bachhau?

### **Anchoring Housing Recovery: The Development and Housing Context**

In the early 1980s, hazard researchers (Cuny, 1981) began emphasizing that issues such as housing, land tenure, and urbanization should be part of disaster recovery planning. Nevertheless, there has been little attempt to understand disasters in the larger context of development and housing policy not only among policy makers and professionals engaged in recovery efforts on the ground but hazard researchers alike. Indeed, the scarce discussion of housing, urbanization, and development issues within the hazards scholarship and vice-versa have contributed to a

situation where housing policy and development issues are largely divorced from post-disaster housing recovery literature particularly in the context of developing countries. This section attempts to address this oversight within the hazards literature by anchoring the post-disaster housing recovery efforts in Gujarat within the larger context of housing policy and development scholarship.

Housing policies in the developing world has mirrored the shifting paradigms within development discourse and practice. In other words, it is within the context of development that housing policies have been created and pursued in the developing world. Prior to a discussion on housing, it is thus important to delve into the development discourse first. This section provides a brief review of the shifts in the development paradigm before going on to a discussion of housing and housing policies in developing countries.

### *Economic Growth and Development*

Development as a concept is rooted within Western European ideas of modernity, which dates from eighteenth century Enlightenment thinkers, who saw human reason and rational behavior as the basis of social progress. Modernity is a product of this Enlightenment school, which held its belief in linear progress, absolute truth, rational planning of social orders, and standardization of knowledge and production. According to this school of thought, modernity is an idea of progress, where all societies advance along a singular route, leading from primitive societies to a European-style rationalized democracy (Peet, 1999). By the twentieth century this school of thought had evolved into a theory of modernization. The theory underscored differences between societies in terms of their positions on various indices of modernity or development. These indices were based on the model of a modern industrial society (Eisenstadt, 1973). In the economic sphere,

modernization proposed specialization of economic activities and growth of markets; in terms of socio-spatial organization, it emphasized urbanization, mobility, flexibility and high levels of literacy; in the political sphere, modernization stressed the spread of democracy (Peet, 1999). Development was equated with linear progress towards modernization through industrialization, urbanization, agricultural mechanization, infrastructure provision, and literacy.

Between 1950s and through the 1990s, development strategies have undergone a major shift in paradigm within developing regions. This shift has been from a model that emphasized heavy government involvement in the economic growth of nations through rapid industrialization to one that reduces government's role and shifts the onus of economic growth on to private market mechanisms with a focus on export-oriented economic growth strategies. These shifting strategies reflect the shifts within the development discourse. The post-world war II period of late 1940s and 1950s saw the emergence of a specialized body of economic theory aimed specifically at Third World<sup>31</sup> development. The use of the term development within these theories was synonymous with economic growth. This new specialized field of development economics could be framed within two major paradigms. The first is an orthodox discourse derived from classical and neoclassical economics that originated from European Enlightenment and assigned priority to social and institutional action. The second critical discourse evolved from Marxism and emphasized class tensions and structural arrangements in production<sup>32</sup>. The shifts in development

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<sup>31</sup> The economically poor countries of Asia, Africa and Latin America were clubbed as an entity with shared characteristics such as poverty, high birthrates, and economic dependence on the advanced countries. The French demographer Alfred Sauvy coined the expression "Third World" ("tiers monde" in French) in 1952, by analogy with the "third estate". They were the commoners of France before and during the French Revolution as opposed to priests and nobles who comprised the first and second estates respectively. The term implied that the third world is exploited much as the third estate was exploited, and that like the third estate its destiny is a revolutionary one. It conveys a second idea, also discussed by Sauvy, that of non-alignment. The third world belonged neither to the industrialized capitalist world nor to the industrialized Communist bloc ([www.thirdworldtraveler.com](http://www.thirdworldtraveler.com), March 2004)

<sup>32</sup> The modernization theories and development economics were subjected to intense political and intellectual criticism especially from dependency theorists (critical discourse evolved from Marxism that emphasized class tensions and structural arrangements in production) such as Andre Gundur Frank (1969). Frank's thesis, based within the Neo-Marxist tradition (neo-Marxist theory is more concerned with the production and transfer of a physical surplus rather than with class relations), argued that development and underdevelopment are two sides of the same capitalist coin. He

strategies and models within developing countries however, are based primarily on development economics rooted within the classical and neoclassical traditions. This review thus focuses mainly on the debates that are rooted within this orthodox discourse.

The classical tradition began with Adam Smith (1937) who argued that economic growth depended on capital accumulation through savings, and a system of natural liberty<sup>33</sup> with no artificial impediment to trade. He emphasized the division of labor and specialization to increase production and diversity in products, which in turn could be exchanged through trade (Peet, 1999). Smith's argument was later taken up by neo-liberals in 1970s and 80s, albeit selectively and is discussed later in greater detail. During the beginning of twentieth century, economics moved from social concerns and a political economy approach to one based on scientific disciplines such as calculus or algebra. This neo-classical perspective asserted that given certain conditions such as preferences of consumers, production techniques and transport networks, the market forces of supply and demand allocated resources efficiently by minimizing costs and maximizing consumer utilities (Peet, 1999). These principles were extended to non-industrialized countries or colonized regions with emphasis on comparative advantage<sup>34</sup> through export of primary products.

After World-War II, economic development outside Europe and United States began in the political context of decolonization, the cold war, and competition to shore up capitalist or

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pointed out that the world was dominated by a few neo-colonialist capitalist powers, which led to unequal exchanges between advanced and Third World nations. Underdevelopment in the periphery was due to loss of surplus that was expropriated for investment in the center. The center thus developed at the expense of periphery. He concluded that development of the Third World was incompatible with capitalism and required separation and autonomy from the global capitalist system. Cardoso & Faletto (1979) however, criticized Frank for his failure to explain the differences in economic growth and varying standards of living among Third World countries. They questioned his tendency to obscure class inequities by portraying Third World as a homogenous entity at the mercy of a homogenous First World.

<sup>33</sup> "Natural liberty implied free competition, free movement of workers, free shifts of capital, and freedom from government intervention" (Lekachman, 1959: 89).

<sup>34</sup> Comparative advantage means that a country should export products in which it is relatively stronger.

communist ideology with Third World support (Peet, 1999). Proponents of classical and neo-classical economics argued for the need to transfer economic, political, and cultural guidelines from industrialized to poor countries, which were expected to lead the later to the levels of economic growth found in the former (Singer, 1992)<sup>35</sup>. Rosenstein-Roden (1943), one of the earliest proponents of development economics, advocated for rapid industrialization in the Third World but argued that neo-classical economics based on competitive markets was inapplicable for this process. He instead proposed an economic model based on Keynesian principles<sup>36</sup> and introduced the idea of Big Push. The Big Push proposed that governments should set up a number of labor-intensive consumer goods industries at the same time. These labor-intensive consumer industries would mop up the surplus labor who in turn would also be the consumers and the key source for rapid industrialization.

In 1950s, neo-classical economics was further contested by the structuralism school. They questioned conventional economic theories of development based on comparative advantage arguing that it favored industrial countries over agricultural countries and produced an International Division of Labor<sup>37</sup>. Seers (1962) pointed out that development could not be

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<sup>35</sup> An international conference was held at Bretton Woods, New Hampshire in 1944. It established the International Monetary Fund to regulate the global economy, and the International Bank for Reconstruction and Development (The World Bank) to help finance the economic recovery of Europe. Third World development was also tagged on to World Bank objectives. Lord Keynes dismissed the Bretton Woods conference as a “monstrous monkey house” (Moggridge, 1980, vol.2: 42). The reason being that Bretton Woods was a very top-down effort with racist and elite undertones. Global economic regulations were in the hands of rich European countries and United States (Peet, 1999: 40).

<sup>36</sup> John Maynard Keynes (1936) argued against neo-classical economic ideas saying that growth was not fully created by the free market system. His arguments in the book *General Theory of Employment, Interest and Money* coincided with the onset of the Great Depression in 1930s, which gave them an added urgency. He advocated for government intervention in order to create full employment and stable prices (Lekachman, 1966).

<sup>37</sup> A Latin American perspective on development economics was formulated in the United Nations Economic Commission for Latin America (ECLA), by Raul Prebisch, Gunnar Myrdal, Celso Furtado, Osvaldo Sunkel and Dudley Seers. According to the ECLA, the world economy was composed of two poles, a center and a periphery. Production structure at the center was homogenous as opposed to the periphery. Here the production was through a heterogeneous dual economy, comprised of an export sector and a subsistence sector. The export sector was confined to primary products with few forward or backward linkages and could not be an engine of growth (McMichael, 1996). The Prebisch-Singer (1972) thesis contended that benefits of technology change on supply side remained in the rich nations due to an increase in their labor costs. On the demand side, as incomes rose there was more demand for manufactured goods than for primary products and so prices of manufactured goods increased. Hence poor countries faced

approached just in terms of economic growth, but that there was a need to address poverty, inequality and unemployment through structural changes such as land reform, import substitution, increased educational opportunities and improved fiscal systems.

Based on these arguments import substituting industrialization (ISI) strategy was proposed as a development model by the structuralism school. The ISI model aimed at “replacing industrial imports with domestic production under the cover of tariff protection” (Peet, 1999: 42). Using the idea of backward linkages the model proposed a cumulative process of domestic industrialization. For example, a consumer goods industry such as automobile manufacture could generate intermediate goods industry such as machinery and parts manufacturing, in addition to capital goods industry such as steel, rubber and paint (McMichael, 1996). The implementation strategies of ISI model were generating income from primary exports (for capital goods import), use state supervision of industrialization, subsidize domestic infant industries, and adopting protectionist policies such as tariff barriers, import quotas, exchange controls and licensing systems. This model was widely adopted in Latin America and other Third World countries. It showed high industrial growth initially but over time, high-costs, low-quality industrial output, agricultural neglect and explosive urbanization contributed to an overall disillusionment with the ISI model (Peet, 1999).

Beginning in the 1960s and gaining momentum through the 1970s-80s, two critiques of the entire development discourse emerged. One was a neo-liberal critique and the other a post-development critique. Both were united in their thought that the very idea of development was an

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deteriorating ‘terms of trade’, since they paid more for imports when prices of primary products (exports) fell and that of manufactured goods (imports) rose.

interventionist approach. Following the 1970s debt-crises<sup>38</sup> neo-liberal critique of development started taking hold. Deepak Lal (1980, 1983) argued that fundamentals of growth applied equally to the developed and developing countries, and that development economics denied this principle. He said this was a racist vision, which believed that people within developing nations needed their governments to look after them. Lal (1980, 1983) asserted that imperfect markets or market failures would always do better than bureaucratic imperfections or planning failures. He contended that states were not always benevolent and though development economics tried to redress poverty and inequality, these were essentially Eurocentric notions. He insisted upon a return to free trade policies through the removal of all state interventions and by liberalizing financial and trade controls. These neo-liberal arguments essentially go back to the classical economics of Adam Smith (1937). But it is important to note that the neo-liberal critique separated out the economic liberalization elements of Smith's argument from that of political liberalization. Smith's critique of large scale landholdings, his emphasis on the importance of agriculture, and his argument for decent labor wages were ignored within this framework<sup>39</sup>.

Due to the debt crises and disillusionment with import substituting industrialization, these critiques led to an export-oriented industrialization (EOI) model. The EOI model was based on market-oriented open economy and geared towards export production. The basic elements of the model were that of rule of the market, free trade without state intervention, no restrictions on manufacturing, no barriers to commerce and no tariffs (McMichael, 1996). Recommended by International Monetary Fund and World Bank, the EOI model was implemented by restructuring the economy through deregulation (removing tariffs and trade barriers), privatization (market

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<sup>38</sup> The debt crisis is directly linked to the 1973 and 1979 rise in oil prices. Flushed with petrodollars, US and European banks looking for investment opportunities, lent huge sums of money to various governments, but especially to Latin American countries of Brazil and Mexico. A subsequent sharp increase in interest rates, made it difficult for governments to meet the increased balance of payments, leading to the debt crisis.

<sup>39</sup> Smith was critical about the effects of the division of labor and stressed the need for decent labor wages. He discussed the importance of agriculture and food production and heavily critiqued large-scale land holdings, saying that "they (the landlords) love to reap what they never sowed" (Smith, ed. 1937: 49).

principles for wage, price and trade), cutting public expenditure for social services and elimination of public subsidies such as for food (Williamson, 1990). This neo-liberal<sup>40</sup> model of development became known as the shock therapy<sup>41</sup> and was applied to parts of Latin American in the early 1970s from which it spread to the rest of Third World and post-communist countries.

The second assessment of the development discourse was through a post-development critique, put forth by Arturo Escobar (1995). He argued that the concept of development was a historically produced discourse and a construction. It was a hegemonic form of representation, which related forms of knowledge and techniques of power. Large development organizations in the west exercised power by controlling money flows, whereas western academic institutions created forms of knowledge through dominant ideas, representations and discourses (Peet, 1999).

According to Escobar (1995:44) “development thus continues to be a top-down, ethnocentric, and technocratic approach, which treats people and cultures as abstract concepts and statistical figures to be moved up and down in the charts of progress.” Post-development theorists (Rahnema, 1997; Esteva, 1996; Escobar, 1995; Sachs, 1992; Shiva, 1989), have instead argued for a localized approach, where people are empowered to make their own decisions regarding their social and economic betterment, without being imposed upon by dominant ideas of development that originate elsewhere.

The discussion here shows that development discourses that were rooted within classical and neo-classical development economics have produced two primary models of development, the Import Substituting Industrialization (ISI) Model and the Export-Oriented Industrialization (EOI) Model.

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<sup>40</sup> Jeffrey Sachs (1991), a Harvard University economist, summarized the neo-liberal approach to development as – ‘liberal’ in the classical sense of lack of state control and reliance on markets and price mechanisms, ‘liberal’ in the contemporary sense of concern for victims, but ‘neo’ in the sense that suffering was accepted as an inevitable consequence of reform and efficiency (Peet, 1999: 53).

<sup>41</sup> The term shock-therapy was due to the virtually overnight process of economic restructuring using structural adjustment loans under the supervision of World Bank and IMF. But these loans, borrowed for implementing economic reforms, led to massive debt problems within many Third World nations.

The ISI model emphasized the role of the government in ushering in development through investment in industries and strict regulations on imports to protect the burgeoning industries. The EOI model was geared towards export production and insisted upon lessening government role by removing import regulations and letting markets operate without state intervention. In other words, there was a shift from the idea that the state was central to the economic development of developing countries to the notion that the state should let private markets operate freely without restrictions to produce economic development. Housing policies in the developing world have seen a similar shift and the provision of housing has moved from the realm of public and the idea of the government as a provider of affordable public housing to private market-based housing solutions to meet housing demand, which is the topic of discussion in the next section.

### *Housing in the Developing World*

Between 1950 and 1970 developing nations experienced rapid urbanization, i.e. transformation from a predominantly rural society to an urban one. The urban growth during this period was particularly high due to higher birth rates, increased mortality with better health care, and large migration of population from rural areas to urban centers. The economic growth theories and in particular the import substitution industrialization development model discussed previously emphasized an urban-based industrialism that contributed to the movement of large populations from rural to urban regions. Migration from rural areas increased because of push factors such as increased agricultural mechanization, which required less labor, along with better transport and communications. Moreover, industrialization unified the internal market within developing nations and acted as the pull factor drawing remote regions into direct economic dependence on major urban centers (Roberts, 1995). But the rise in birth rates, higher mortality, and rural to urban migration led to an increase in urban labor supply, where about 35 million people join

urban labor markets each year in developing countries. Urban centers found it difficult to absorb this surplus labor into the formal economy, which is characterized by institutional regulation and usually fair working conditions. Instead, millions of people were pushed into the informal economy<sup>42</sup> where incomes are low, irregular, and often uncertain. A majority of this urban poor population could not afford to pay much for housing since most of their income went towards food, clothing, transportation, and medical expenses (Pugh, 2001).

A growing urban population with limited and unreliable income meant a huge demand for affordable low-cost housing close to job opportunities. Historically, in the late 19<sup>th</sup> and early 20<sup>th</sup> century, rental rooms in tenement houses in central districts were the most important source of cheap affordable housing for low-income groups. These tenements were also one of the most profitable investment avenues for local firms and wealthy individuals. Not surprisingly, private investment flowed into subdividing existing buildings or constructing new tenements to increase supply of low-cost rental units. For example, in Mexico City, starting in 1850s existing family dwellings were converted into multi-family tenements to supply low-cost housing. In the 1900s, due to a rising population and limited number of existing buildings that could be converted to tenements, privately funded tenements were constructed, and in the 1950s about three quarters of the city's housing stock was rental tenement accommodation (Hardoy & Satterthwaite, 1986).

However, by the mid-20<sup>th</sup> century, tenements were replaced by other more profitable sources of investment, such as commercial, high-income residential, or industrial developments. State

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<sup>42</sup> Castells and Portes (1989) describe informal economy not as a marginal phenomenon but a fundamental politico-economic process at the core of many societies. They argue that informal economy is not a set of survival strategies performed by destitute people on the margins of society and cannot be a euphemism for poverty. Instead it is a specific form of relationships of production. While individuals engaged in informal economic activities are mostly poor, particularly in the developing world, informal economic processes cut across the entire social structure. It is thus important to focus on the logic of the process than on social conditions in order to understand the dynamics that underlie the production of these conditions. Moreover, informal economy is not an individual condition but a process of income generation, and is characterized by the fact that it is institutionally unregulated, while similar activities within the legal and social environment are regulated.

regulations to improve building standards and introduce rent control laws also contributed to lower investment in tenements. The number of existing buildings that could thus be profitably sub-divided became fewer while the demand for low-cost housing increased. Moreover, changes in the location of employment, new income sources, and new modes of public transport systems shifted the importance of tenements as a main source of low-cost housing. Instead, illegal housing either on illegally occupied land (squatting) or illegally sub-divided land instead became the new source of low-cost accommodation. The difference between the two is that while squatter land is illegally occupied, in illegal sub-divisions the land is occupied with the consent of the landlord but not of the city government<sup>43</sup> (Hardoy & Satterthwaite, 1986).

These illegal housing developments are now the primary source of cheap accommodation for low-income groups or the urban poor in rapidly urbanizing regions within the developing world. Hardoy & Satterthwaite (1986) suggest multiple reasons for the lack of legal solutions for low-cost housing. First, the cost of a minimum quality housing with minimum standard of services is too high for the urban poor. Low-income groups lack the purchasing power to enter the legal housing commodity market because it is too expensive for them. Second, the urban poor do not have sufficient income to create effective demand for low-cost housing within the legal housing market. Since it is not profitable, urban land markets do not make any provision to legally sub-divide plots for low-income groups. Third, while governments have intervened in commodity markets before, such as to subsidize basic food items, yet they are hesitant to intervene in housing and land markets (Hardoy & Satterthwaite, 1986). This is because governments view investment in housing as a consumer good or welfare measure as opposed to investment in industry, which they believe will generate economic growth (Perlman, 1986). These reasons combine to ensure

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<sup>43</sup> The terms *slums* and *squatter settlements* are often used loosely and interchangeably to depict all urban housing that is illegal or deficient in quality. However, slums refer to buildings constructed with legal approval but are of poor quality in terms of materials, services, or overall building conditions. In contrast, squatter settlements refer to all illegal housing developments (Hardoy & Satterthwaite, 1986).

that illegal housing solutions have become the only choice for cheap housing for the urban poor within developing nations.

Peatite (1981) however observes that apart from a place to live, eat, and sleep a dwelling is also used as a base for income-generating activities other than rental income. Indeed, Fass (1977) describes housing as a piece of productive infrastructure rather than a product for consumption. Perlman (1986) identifies several economic functions of a dwelling unit such as a shop, a factory, a rental unit, a financial asset, and an entry point into the urban economy. Yet, regardless of these arguments, there has been a general lack of government intervention within developing regions to ensure supply of low-cost housing to meet the growing demand (this point is discussed in further detail later in this section). As a result, to access cheap shelter the urban poor have mostly turned to illegal housing developments, particularly squatting, which make up about 30 to 70 percent of the housing stock in developing countries (Pugh, 2001; Hardoy & Satterthwaite, 1986).

It is however a mistake to assume that low-income groups who need housing are homogeneous. The housing needs of groups who migrate temporarily, seasonally, or commute, such as agricultural workers or small farmers who migrate to the city for short periods of time, are different from people who live and work permanently in the city. Other groups such as a single person, a family with several children, households headed by women, all have different needs (Hardoy & Satterthwaite, 1986; Turner, 1968). Moreover, since the 1970s, there has been a proliferation of economic growth policies based on the neo-liberal model in developing regions that promote privatization, unregulated markets, and free trade without tariff barriers. Gilbert (2004) argues that this neo-liberal model of economic growth has produced periods of economic instability and high levels of sudden unemployment, resulting in surplus labor that could not be absorbed within the informal economy. This has created a situation where individuals, not

necessarily from the urban poor class or rural migrants, move between formal and informal economy everyday. For example, lower and middle class households such as state employees, who work in the formal economy but cannot afford a shelter within the legal housing market, are also looking for low-cost illegal housing options (Gilbert, 2004). Not surprisingly, low-cost housing needs in rapidly urbanizing regions of the world vastly differ in terms of location, space, price, and land tenure. Yet, at the same time, a common factor among low-cost illegal housing developments is that because low-income groups choose land for squatting based on aspects such as costs, possibility of forceful eviction, and access to income opportunities, squatter areas are frequently located on hazardous places such as steep unstable hillsides or coastal flood plains, the cheapest sites in tight urban land markets (Hardoy & Satterthwaite, 1986).

Beginning in the 1960s, numerous studies (Turner 1966; Angel & Benjamin, 1976; Portes & Walton, 1981; Peatite, 1981; Hardoy & Satterthwaite, 1986; Perlman, 1986; Castells & Portes, 1989; De Soto, 2000) began to look at illegal squatter housing and their living conditions, particularly in the context of rapid urbanization and development in Latin America. Based on his research in Peru, John Turner (1966) argued that rather than the physical completion of the housing unit, urban services such as water supply, electricity, roads, sewerage, and public transport are more critical to a squatter. Later researchers like Perlman (1986: 42)<sup>44</sup> observed that, “shelter is an ongoing process of incremental improvement ...rather than a finished product.”

Perlman (1986) further noted that there is a huge diversity in squatter settlements in terms of the size and material of the housing units; that not all housing units are owner occupied, instead more than half the houses are rental units; and that squatter settlements are closely connected to the

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<sup>44</sup> In a seminal research drawn from her study of the favelados in Rio de Janeiro, Perlman (1986) explained that there are multiple misconceptions about squatters and squatter settlements. Earlier stereotypes described squatters as a lazy group of people who were uprooted from the countryside and excluded from the formal housing and job market, and thus living on the margins of modern urban life. Perlman (1986) argued that contrary to these stereotypes squatters were socially well-organized, culturally optimistic, economically hard working, politically involved, and had the same aspirations to a better life and patriotic values as the rest of the society.

formal housing markets and any fluctuations in the price of land, capital, labor, or building materials in the formal sector has a trickle-down effect on the price and availability of shelter in these settlements. Multiple studies (Hardoy & Satterthwaite, 1986; Perlman, 1986; Fass, 1977) along similar lines also show a diverse range of low-cost housing sub-markets, informal land markets, and types of squatting in squatter areas. Some examples of squatting types are owner squatters who build their own house on a squatter plot, tenant squatters who rent a room or a plot in a squatter location, landlord squatters who rent out multiple squatter properties, and storage squatter who use squatter plots for making, selling, and storing goods.

The urban poor however have different motivations and strategies for selecting an existing squatter area or a new piece of urban land for illegal housing development. John Turner (1966) observed that the proximity of illegal squatter settlements to income opportunities is the most critical factor in the initial stages of squatting when a squatter is trying to gain a foothold in the urban economy, while in the later stages land and housing security becomes more important. Furthermore, Portes & Walton (1981) identified that the urban poor apply three major informal strategies to acquire land for squatting. First are the spontaneous settlements that are formed gradually on illegally occupied land. These settlements are not by deliberate collective action, but instead grow gradually as a few households set up residence first and are slowly joined by others until the entire land is occupied. Second are the land invasions that are planned and organized by a group of people, sometimes with outside political and economic support. Land invasion involves a large number of participants and is the most drastic strategy to acquire urban land. The land is surveyed beforehand and lots are allocated to participating households prior to invasion. The third are clandestine sub-divisions delineated by landowners to sell cheap lots to the urban poor. Owners can offer comparatively low prices by not following public regulations on plot sizes

and basic infrastructure. Buyers receive a plot with a tenuous title and without any services, such as water, electricity, or transport (Portes & Walton, 1981).

The discussion till now shows that research on Third World housing largely attributes the root causes of the urban housing problem (lack of adequate low-cost housing options) on a complex set of inter-connected economic and social factors. De Soto (2000) however, frames this problem as a property rights issue. He argues that the urban poor in developing regions cannot participate in the private market because they do not have access to a legal property rights system. As a result, their land and housing assets are dead capital that cannot be used as collateral or traded in liquid form in the market. De Soto (2000) suggests legalizing the assets of the poor through a system of property entitlement to stimulate economic development through private market forces. De Soto's (2000) approach is based on the neo-liberal economic model that advocates smaller governments (less bureaucracy) that lets the private market take care of housing, and instead focuses mainly on law and order, defense, infrastructure, and protecting private property. Bromley (2004) however, critiques this approach by pointing out that De Soto does not give evidence on whether the financial costs of legalization at such a large scale would be worth the exercise. Also, while De Soto (2000) insists that his model can be applied because local leaders would recognize the importance of capitalism, he fails to recognize that local economic and political elites who would be in charge of this transformation (legalizing land and housing assets of the urban poor) often have vested interests in maintaining the status quo (Bromley, 2004).

Indeed, informal housing<sup>45</sup> processes, according to Castells (1988; 1989), are highly politicized, particularly in the context of Latin America. Land invasions by squatters are given political protection in exchange for political support of the urban poor. For example, political pressure is

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<sup>45</sup> Informal housing is a term often used interchangeably with illegal housing development because it lies outside the formal housing market mechanisms.

brought upon municipal governments to sanction land invasions on municipal land especially before municipal elections. Also while squatters can be mobilized around political ideologies, they move their loyalty from one political ideology to another in exchange for the delivery of land, housing, and services. Castells (1985) thus notes that access to urban land is not exclusively regulated by market mechanisms but is also a political issue, and carries the added dimension of conflict and struggle for scarce urban space. Roy's (2004) study of urban informality in Calcutta, India, supports this point by demonstrating that as part of the local communist government's urban revitalization efforts, squatter colonies on the city's fringes are being demolished to make way for middle-class housing developments. Yet, while some evicted squatters are resettled on new lands, not all are rehabilitated. Roy (2004) argues that the uncertainty of this process has meant that the local government ensures the political loyalty of the urban poor, while continuing to conduct violent demolitions of squatter areas under its urban development policies.

By comparing the Middle East and Latin America, AlSayyad (1993) however notes, that the process of informal housing is distinct in both these contexts not just because of different land-market mechanisms, but primarily due to different cultural contexts. While squatting in Latin America usually happens through political affiliation and reciprocal relations between the State and the squatters, in the Middle East the squatting process is relatively de-politicized. In some Latin American context, political participation was rewarded by gains in the squatting process. But in the Middle East it was the opposite. For example, in Egypt an avoidance of formal mechanisms and an attempt towards political invisibility was used as strategies to illegally subdivide agricultural land and sell it for informal urban housing. While supporting this argument, Bayat (1997) suggests that rather than a highly visible politicized process, squatting in the Middle East is about ordinary people going through a quiet daily struggle for redistribution of resources.

The urban poor here prefer silent small-scale actions with the awareness that visibility during land encroachment can be counter-productive (Bayat, 1997).

This brings the discussion to the point that how have governments in developing nations reacted to illegal housing developments. Starting in the 1950s, Hardoy & Satterthwaite (1986) have identified four broad shifts in the attitude of the State and in state action towards squatter housing. These can be termed as the Ignore phase, the Removal phase, the Provision phase, and the Hands Off phase. During the Ignore phase, in 1950s and early 1960s, governments in developing countries did not pay much attention to housing issues. This was because most governments believed that diverting scarce resources to housing was a waste since economic growth would create the conditions for improved housing and the resources to invest in services. As a result, there were no public resources allocated to improve housing conditions and no documentation or mapping of illegal urban housing developments (Hardoy & Satterthwaite, 1986).

During the Removal phase, governments became increasingly concerned as illegal housing developments, particularly in the form of squatter settlements, began to grow rapidly. Public officials deemed these squatter areas as cancers on the cityscape that needed to be eradicated. Governments thus responded to widespread squatting by bulldozing squatter settlements and deploying the police to forcefully evict squatters, even applying strategies such as causing fire or riots in squatter areas to remove squatters. However, as squatters were removed from one area, they would move and resettle in another location. This situation and the political realization that squatters comprise a key vote block that can swing elections, led to the Provision phase. As city officials became aware that an increasing proportion of the city's electorate were living in low-cost housing in squatter settlements, States attempted to respond to squatters' housing needs by

setting up institutions to build or fund public housing projects for low-income groups (Hardoy & Satterthwaite, 1986; Angel & Benjamin, 1976).

Yet, public housing by itself could not become a solution to the urban housing problem due to multiple reasons. First, squatter removal programs usually destroyed more housing units than public agencies could build. Second, most governments perceived the urban housing problem in quantitative rather than in qualitative terms. In other words, instead of improving conditions in existing low-cost illegal housing, governments characterized the problem as a deficit of housing units. This led States to embark upon public housing programs aimed at providing sufficient housing units. But in spite of government subsidies, these units were usually too expensive for low-income groups. Third, public housing units were typically designed as multistoried (4 to 5 stories) housing blocks and were not suitable to the housing needs of squatters. This is because for low-income squatter groups, a house is not only a shelter but is also often used for economic pursuits, such as a vehicle repair shop or a grocery store, and multi-storied housing blocks were not conducive to these income generating activities. Fourth, public housing projects were built on land located away from the city, which inhibited the access of low-income groups to jobs or sources of income. Fifth reason was the sheer scale of the problem. By late 1970s, every Third World mega-city (city with a population of 10 million or more), such as Sao Paula, Bogota, Lima, Manila, Karachi, Mumbai, Lagos, Cairo, and Bangkok, had more than a million people living in squatter settlements. Most of the new housing construction in these cities was taking place in the illegal squatter settlements. This created a situation where public housing efforts were quickly overwhelmed and unable to match the rapid increase and the magnitude of the low-cost squatter housing developments (Hardoy & Satterthwaite, 1986; Turner, 1977; Angel & Benjamin, 1976).

The inability of governments to cope with the complex problem of squatting in rapidly urbanizing regions led to the Hands-Off phase where public officials allowed illegal squatter developments to occur. States realized that squatter removal programs were simply destroying the cheapest housing options available to the urban poor, and began to reduce emphasis on squatter eradication programs. While recognizing that public housing projects were having a limited impact on the urban housing problem, governments also became increasingly aware that people in these rapidly expanding illegal settlements were an integral part of the city's economy, because they provided the city with inexpensive labor, and cheap goods and services. Faced with these realities, most governments shifted their focus from ambitious public housing projects, and instead began to concentrate on site and services schemes and squatter upgrading. Under the sites and services schemes, the State gave squatters access to sub-divided housing plots, sometimes with basic services, on government acquired land. However, similar to public housing projects, site and services schemes were often ill matched with the needs of the urban poor in terms of location and costs. Consequently, States began to focus their policy emphasis mostly towards self-help strategies, an approach first advocated by Turner in the 1960s to harness the efficiency of the informal housing process in terms of unit costs and land use (Hardoy & Satterthwaite, 1986; Angel & Benjamin, 1976).

Turner (1977) emphasized squatter upgrading as a way to offer flexible and affordable housing options to the urban poor by physically improving existing squatter settlements. As part of this policy, States would intervene in illegal housing development only during its final phase through regularization or legalization of land or by initiating squatter upgrading through provision of basic infrastructure such as paved roads, electricity, and water supply. This approach reversed the typical housing sequence in which city governments' first draw urban development plans and provide services before housing units are built on a site and then occupied. In the self-help

process, squatters first occupied urban land and proceeded to build their housing units on it, and the State only came in later to provide basic services like water supply, electricity and paved roads or grant land tenure. The goal of this policy was to reduce the role of the government in building housing units and instead help the consumer who was building the house, and create a market system to support the process. Overall, the policy signaled two major changes to the governments approach towards urban housing. First, the emphasis on squatter upgrading rather than on provision of completed housing units as a finished product, showed a shift in governments' approach towards the idea of the State being a *facilitator* of low-cost housing rather than the State being a *provider* of low-cost housing. Second, instead of looking at squatter units solely as illegal housing developments that needed to be removed, this approach institutionalized the informal housing process in developing countries (Ward & Macoloo, 1992; Turner, 1977).

Self-help strategy became popular in developing countries, particularly as governments realized the complexity of planning, building and maintaining urban housing and the limitations and inefficiencies of government bureaucracies in providing housing units. The policy did face problems in terms of allocation of financial resources and the choice of projects. But because of strong support from the World Bank, it gained wide acceptance in developing nations. Yet, by 1970s the self-help approach faced multiple criticisms. The first critique was that while Turner's model of self-help gave primacy to the use value of a house for its residents, it did not consider its exchange value. The model did not account for the transformation of self-help housing into a commodity that appreciates in value due to the building efforts of its residents and the delivery of infrastructure, services, and land tenure, and could thus be bought and sold in the market. The main implication of this critique was that how could States support self-help housing and create market mechanisms while at the same time preserving the low-cost nature of this housing. The second critique was that the self-help approach de-politicized housing policy by not taking into

account the political considerations that usually impact urban housing processes. As discussed earlier, access to urban land is not just regulated by market mechanisms but is also a political issue, and carries the added dimension of conflict and struggle for scarce urban space (Castells, 1985). A third critique of the self-help model was that since residents contributed to building their house using their own labor, the process led to the exploitation of the urban poor because it ended up using their unpaid labor (Ward & Macoloo, 1992; Ward, 1982; Burgess, 1982; Harms, 1982).

In the 1980s, the World Bank began to increasingly adopt a neo-liberal economic philosophy and looked at ways to create low-cost housing through interventions in the private market instead of direct government involvement, in order to increase the supply of low-cost housing units. As the Bank, a key source for funding development loans and a sponsor of self-help strategies in Third World nations, withdrew from the self-help policy, many governments in developing countries followed suit. In alignment with the Bank's new economic approach, these States began to look at private market mechanisms to provide low-cost housing solutions. This emphasis on private markets led to the exclusion of alternative public, community based and informal modes of housing provision from serious policy consideration. The change in urban housing policy was part of an overall shift in developing countries from an economic development model that required heavy government involvement to a model that emphasized development based on market-oriented open economy and free trade without state intervention. As developing countries moved towards this neo-liberal economic development model (discussed in detail in the earlier section), urban housing policies were also impacted. Most significantly, the provision of low-cost urban housing moved from the realm of public and the idea of the government as a provider or facilitator of affordable public housing to that of private market-based housing solutions as a way to meet the rising demand for low-cost urban housing (Ward & Macoloo, 1992).

It is within this changing paradigm in urban housing that post-disaster housing recovery policies are situated. In other words, existing housing policy plays a critical role in shaping governments' approach to post-disaster housing reconstruction in developing nations. The neo-liberal housing policy that gives priority to private home-ownership and market based solutions for low-cost urban housing, has implications for the use of public funding for housing recovery and the role of the state in post-disaster housing recovery, particularly among low-income groups. Moreover, the housing review here also shows that while housing policies impact who can build, where housing can be located, and to what extent should it be developed, these questions are better answered by looking at socio-economic and political factors. Since post-disaster housing recovery is no exception to such dynamics, these are precisely some of the issues that are examined in this study.

### **Theoretical Approach**

This section of the chapter lays out the theoretical approach of the dissertation. Since the theoretical framework of this study is situated within the post-development literature, this section first explores the commonalities between the current paradigm within the hazards scholarship and the post-development discourse. In doing so, the section emphasizes a research approach that straddles both the hazards and the post-development scholarship by examining post-disaster housing recovery in Bhuj and Bachhau from the perspective and experiences of local communities.

Based on the literature reviewed in the earlier section, it is clear that hazard researchers (Berke & Beatley, 1997; Blaikie et al, 1994; Oliver-Smith, 1990) have increasingly called for greater local participation within long-term development as a strategy for a more successful recovery planning. But Cuny (1981) points out that historically interventions for post-disaster housing recovery has

been largely seen by government officials and some private NGOs, as a specialized set of time-bound strategies that are separate from ongoing development processes. Yet, in recent years, government bodies, public agencies, and private organizations involved in post-disaster recovery efforts have increasingly worked towards policies that integrate larger economic development plans as a strategy for recovery planning. Hazard researchers however, have opposed public and private recovery approaches that although present post-disaster planning programs within the framework of development, but rely exclusively or predominantly on expert knowledge and do not incorporate the values or requirements of the local people. This approach largely coincides with the current paradigm within the post-development literature that argues for a localized approach, where people are empowered to make their own decisions regarding their social and economic betterment, without being imposed upon by dominant ideas of development that originate elsewhere.

Indeed, among hazard researchers, Hewitt (1983), Watts (1983), and White (1974) point out that a disaster itself is deeply imbedded in the socio-economic structures of a society and is shaped by everyday development practices. As an example, the Metropolitan Manila region suffers an acute housing shortage due to a combination of development practices and socio-economic factors. Some of these factors are: the concentration of urban land ownership in the hands of a few individuals or institutions, failure of the government to adopt a national housing policy, and the limited authority and resources of local governments. The lack of housing infrastructure has particularly impacted the urban poor and resulted in a proliferation of squatter settlements within the capital region<sup>46</sup>, where forty percent of Metropolitan Manila's 10 million residents live in squatter settlements that lack land-tenure security. Most of these settlements exist on public

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<sup>46</sup> The proliferation of squatter settlements has happened primarily because many industrial plants and manufacturing locations are concentrated in and around Metro Manila, and the convergence of economic activities in Manila has led to massive migration from rural areas to the capital. Moreover, the scarcity of land and housing shortage has reduced housing options for the urban poor who need to locate near livelihood activities.

owned government land<sup>47</sup> or hazardous sites such as houses built on stilts above creeks (*esteros*), along edges of creeks, along railway tracks and on reclaimed land extending into the Manila Bay (Shatkin, 2003). The squatter areas are extremely vulnerable to frequent cyclones that hit the Philippines coast every year causing severe damage. Government proposals for relocation, enforcing building codes, or other measures have not sat well with the urban poor who not only need to remain near their livelihood activities but also do not want to invest their limited resources into housing without land tenure security. As a result, the houses on these hazardous sites face recurring loss and damage from hurricanes and floods, and the loss of limited resources further weakens the capacity of the squatter communities to recover from the disaster.

Scholars (Berke & Beatley, 1997; Blaikie, 1994; Anderson & Woodrow, 1989) and practitioners note that cases like the Metropolitan Manila region are the norm and that they clearly illustrate that development processes often increase the level of vulnerability to loss during disasters and the capacity to recover among the majority of the urban poor, both in developing and developed countries. This strengthens Hewitt's (1983) point that disasters are deeply imbedded in socio-economic structures and that development practices focused on material security and prosperity for some takes place at the systematic production of greater exposure to hazards risk for others.

However, the neo-Marxist approach by Hewitt (1983) has been criticized for privileging economic class while failing to identify the importance of individual agency in the production of vulnerability (Pelling, 2003). Furthermore, Bankoff (2001) argues that "tropicality, development, and vulnerability form part of one and the same essentialising and generalising cultural discourse that denigrates large regions of the world as disease-ridden, poverty-stricken, and disaster-prone" (Bankoff, 2001: 19). This dominant perspective treats local populations as incapable of taking

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<sup>47</sup> Land owned by national government agencies, such as the Philippines Ports Authority, Department of Public Works and Highways, and Philippine National Railways.

decisions themselves and as Oliver-Smith (1990) points out, urban planning efforts following disasters are often centralized in the hands of national and state governments, rely on expert knowledge, and do not incorporate the values or requirements of the local people.

Thus the overarching view within the post-development scholarship (discussed in the earlier section) coincides to some extent with that of hazards researchers, who reject post-disaster planning and development approaches that do not incorporate the values or requirements of local communities. In order to achieve more equitable recovery among various communities, hazard researchers (Berke & Beatley, 1997; Bates & Peacock, 1993; Oliver-Smith, 1990, Anderson & Woodrow, 1989; Bates, Killian & Peacock, 1984) instead stress on a localized understanding of post-disaster recovery planning and housing reconstruction efforts, based upon local public participation and decision-making, local goals, and suitable to local needs. The assumption here is that local people judge and understand the needs and requirements of their own communities the best, and can thus prioritize their needs and better inform post-disaster housing recovery efforts given the opportunity and the freedom to make decisions within their communities.

Based on the arguments within the hazards field, that emphasize a localized understanding of post-disaster recovery, this dissertation examines post-disaster housing recovery in Bhuj and Bachhau from the local community perspective. Instead of looking at housing recovery merely as a function of government recovery programs or private NGO interventions, the study attempts to understand the process and outcomes of housing recovery through the experiences of local communities in Bhuj and Bachhau to examine why some people have been able to rebuild and improve their overall housing conditions after the 2001 earthquake, while others have been unable to achieve even pre-disaster housing standards.

Using social capital theory to conceptualize and explain community-based disaster recovery, recent studies have argued that disasters can trigger the formation of new social capital among impacted communities through the emergence of civic networks (Ganapati, 2005), and that social capital increases the ability of communities to recover after disasters through collective action (Nakagawa & Shaw, 2004). Social capital according to Putnam (2000) refers to the collective value of all social networks and the tendency of these networks towards collective action for their own benefit. While hazard researchers (Nakagawa & Shaw, 2004) suggest that community-based collective action through social networks can enhance the ability of communities to recover after disasters, there is no consensus among researchers on how to measure social capital, and some (Ben Fine, 2001) have pointed out the limits in the validity and reliability in the measurement of social capital. This is a vital drawback because as Edwards and Foley (1998) argue, social capital is not created equally but rather depends on the socio-economic position of the source, which is the community here. In other words, the approach does not provide answers to the question that how does one measure the difference in the strengths and capacities of communities that may impact their ability for collective action and eventual housing recovery outcomes.

The above point leads to another important critique of social capital theory, that it fails to consider the impact of class and historically embedded power relations within a society on the capacities of communities to participate in or take collective action (Harriss, 2002), which in turn leads to a lack of emphasis in social capital theory for social change (Fine, 2001). In other words, while collective action among communities is an important component of housing recovery, at the same time it is vital to consider the difference in the capacity of communities for collective action based on their socio-economic position within the society. What this means is that while social capital approach conceptualizes a community's ability to organize and take collective action, based on common values, shared interests, trust, and reciprocity within the community, it

does not offer a framework or go beyond to explain the importance or the role of public policies, government actions, or private interventions to produce social change by using post-disaster recovery as an opportunity to strengthen the capacities of socio-economically weak communities to participate in or take collective action that in turn could increase their ability to recover.

Lastly, social capital theory renders the question of difference in post-disaster housing recovery outcomes in terms of the ability of communities to take collective action through social networks in order to rebuild their houses. This approach shifts the conversation from an overall broader focus on a community based perspective, which considers all possible factors that can impact a community's capacity and ability to rebuild and recover, such as public policies, community resources, government programs, and private NGO efforts, to a more narrow examination that is limited to how community-based collective action impacts housing recovery. As a result, to engage in a broader approach that conceptualizes the difference in post-disaster housing recovery through the experiences of local communities, this dissertation uses Sen' (1999; 1993) capabilities approach as its analytical framework.

Although an economist, Sen's (1999; 1993) work addresses the underlying argument within post-development literature that instead of being passive recipients of development programs, people should be actively involved and have the opportunity to shape their own future. He has put this argument of post-development theorists into a useful theoretical framework called the *capabilities approach*, which looks at development as a process that expands the freedoms and capabilities of the people (Sen, 1999). According to Sen (1999), narrow definitions of development that focus on the growth of gross national product, or the rise in personal incomes, or on industrialization and technological growth, do not adequately represent human well-being and deprivation. He instead argues for an approach that focuses on people and looks at human functionings and the capability

of people to achieve those functionings. Sen defines functioning as various things that a person may want to do or to be, and can range from being adequately nourished, being in good health, and well sheltered to complex functionings such as achieving self-respect and being socially integrated (Sen, 1999; Nussbaum & Sen, 1993). Capability refers to the actual ability or the freedom of a person to achieve a given functioning or a combination of functionings (Sen, 1999; Nussbaum & Sen, 1993). Sen's (1999) capabilities approach thus argues that the primary objective of development is the expansion of human capability rather than economic growth, and that development should be assessed in terms of the capability of a person to achieve the functionings that the person values.

Yet, the capabilities approach framework has been criticized for failing to provide a coherent list of important capabilities (Clark, 2005). But Sen argues against forming a pre-determined list of capabilities, which is chosen by theorists, and instead prefers to put the discussion of what should be included and why in such a list into the public domain where it can be based on public participation (Clark, 2005). Though the capabilities approach has not yet been applied to research in the hazards field, most empirical studies<sup>48</sup> that have used this framework fall into three broad categories (Clark, 2005). First, it has been used to measure poverty and well-being, an example being the human development index (income opportunities, life expectancy, and education); second, it has been used to study the links between income and various capabilities, for example to understand whether higher income translates into higher capability; and third, it has been used to highlight inequality within various groups in terms of life expectancy, nutrition and literacy along the lines of gender, race, class, caste, and age (Clark, 2005).

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<sup>48</sup> The capability approach has provided a useful framework to investigate poverty, inequality, social justice, gender, health, human rights and human security (Clark, 2005).

The capabilities approach provides a strong theoretical framework to address the main research question posed in this dissertation, which is to understand why some people were able to rebuild and improve their overall housing conditions in Bhuj and Bachhau after the Gujarat earthquake, while others have not been able to achieve even pre-disaster housing standards. The usefulness of the capabilities approach rests on three main reasons. First, by emphasizing the enhancement of people's capabilities, the framework allows for an approach that looks at post-disaster housing recovery from the perspective of the local population by focusing on aspects that impacted people's capability to rebuild their houses after the disaster. Although the capabilities framework considers individuals as active agents of change and focuses primarily on individual capabilities, the framework can be extended to understand the capabilities of larger groups or communities such as caste-based groups, homeowners, renters, or squatters. While such groups are not homogenous entities, the capabilities approach offers a framework that can understand the difference in the needs of various groups and the corresponding difference in the capability of various groups and communities to rebuild their houses.

Second, by using this framework, the research, rather than focusing on various factors that may or may not have impacted housing recovery, can instead analyze the aspects that enhanced and strengthened the actual ability or the capability of communities to rebuild their houses in Bhuj and Bachhau. This is an important aspect of this research. The measure of housing recovery after disasters among policy makers and government officials is often reduced to the number of houses rebuilt. The capabilities approach shifts this narrative from its focus on housing recovery itself to the people who rebuild their houses by making the capability of people and communities central to its argument.

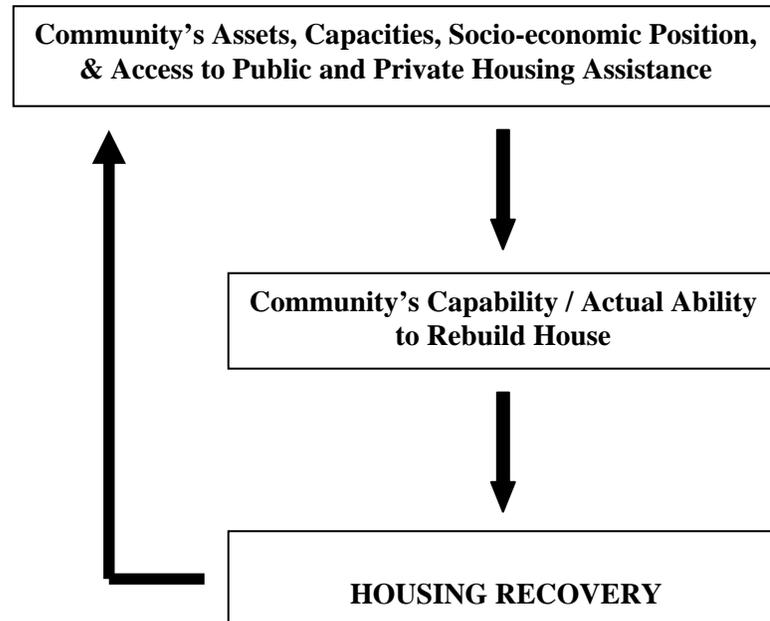
Third, the capabilities approach can give valuable insights into the difference in capability among various communities in the two towns to rebuild their houses. This difference may have impacted the ability of various groups and communities to rebuild their homes and can thus account for the difference in housing recovery levels among various communities. Such an insight could be useful in guiding future public policy, which rather than focusing on financial assistance programs that aim to replace lost housing stock, can instead be designed with the aim of increasing the overall capability of communities to rebuild their houses during post-disaster situations. The capabilities approach thus provides a useful theoretical approach to not only understand the difference in post-disaster housing recovery levels among various communities, but also to examine post-disaster housing recovery within the framework of the post-development scholarship, which emphasizes a local community-based understanding of any planning efforts.

### **Developing a Research Hypothesis**

This dissertation examines why some people have been able to rebuild and improve their overall housing conditions in Bhuj and Bachhau after the 2001 Gujarat earthquake, as opposed to others who have not been able to achieve even pre-disaster housing standards. According to the literature and as shown in the conceptual diagram presented on figure 3 below, the difference in housing recovery outcomes among different groups in Bhuj and Bachhau is primarily due to the community's own resources and assets, its internal and external capacities, the type of public or private recovery assistance programs it had access to, and the community's socio-economic position in relation to its class and caste within the socio-economic structure of the two towns.

This study argues that the capabilities or the actual ability of a community to rebuild their houses was based on a combination of two or more of these reasons, and that these aspects were

instrumental in enhancing or decreasing the actual ability of a community to rebuild their houses. For example, communities who might have had their own resources and assets, but did not have access to public recovery assistance may have struggled to rebuild their houses. Conversely, those communities, that might have had strong internal and external capacities and access to recovery assistance along with their own resources, may have been very successful in being able to rebuild and improve their houses. Successful housing recovery would in turn add to a community's assets through land title or access to housing. Conversely, the socio-economic position of a community could be negatively impacted if their members were not able to rebuild their homes. This is because a house not only reflects the owner's identity, status, and wealth in society (Rapoport, 1990), but the loss of a house deeply impacts the earning capacity of a household. Since housing is a component of economic recovery (Comerio, 1998), communities who cannot recover their housing standards after a disaster have fallen back economically.



**Figure 3: Conceptual diagram: Community based housing recovery in Bhuj and Bachhau, India.**

The arrows in Figure 3 above show the direction and the progression of each step. The first arrow pointing downward shows that certain aspects like a community's assets, capacities, socio-economic position, and access to public or private housing assistance or a combination of these aspects leads to the actual capability of a community to rebuild their house. The second downward arrow shows that the actual ability of a community to rebuild their houses leads to housing recovery, which in turn, as shown by the upward pointing arrow, adds back to a community's assets through land title or access to housing.

### 3. RESEARCH DESIGN

This third and final part of chapter one lays out the research design for this study, and is divided into two sections. The first section explains the comparative study design of the research. The second section describes the data collection process and the various problems faced during data collection. It also lays out an analysis plan for the study.

#### **Community Based Comparative Study**

This dissertation examines why some communities have been able to rebuild and improve their overall housing conditions in Bhuj and Bachhau after the 2001 Gujarat earthquake, as opposed to others who have not been able to achieve even pre-disaster housing standards. Based primarily on in-depth interviews conducted with 38 communities in Bhuj and Bachhau, the research is designed as a comparative study around three components. The first looks at the impact of World Bank funds on post-disaster housing recovery outcomes in both towns. The second component looks at Bhuj and Bachhau individually to examine final housing recovery outcomes among various communities within each town. The third component uses the research findings from the

first two components in order to conduct a comparative analysis that compares and contrasts the housing recovery process and final housing recovery outcomes between Bhuj and Bachhau.

The first component examines how the monies for urban housing recovery in Kutch, a sum of 380 million US dollars<sup>49</sup> that the Gujarat state government borrowed from World Bank, impacted post-disaster housing recovery outcomes in Bhuj and Bachhau. Based on data from World Bank and Government of Gujarat documents, this component shows that the Gujarat state government gave housing reconstruction funds in either two or three installments depending on the total amount, to homeowners whose houses were severely damaged or completely destroyed.

However, the number of homeowners who received the second and third installments was significantly lower than the numbers who successfully received their first installment in Bhuj and Bachhau. This meant that while a high number of homeowners got the first housing installment, many could not access their second and the third housing reconstruction installments. This component of the study attempts to demonstrate that the gap between the number of approved applicants for the first installment and the second and third installment crucially impacted overall housing recovery outcomes in Bhuj and Bachhau.

Using data from in-depth interviews, the second component of the research looks at housing recovery among various communities within Bhuj and Bachhau, to understand the difference in final housing recovery outcomes among communities in each town. In doing so, the study addresses two main objectives. First, it aims to understand how various communities in Bhuj and Bachhau used their resources for housing recovery. Second, it investigates how government housing recovery programs and NGO interventions for housing reconstruction impacted the final

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<sup>49</sup> World Bank Internal Document. *Memorandum and Recommendation of the President of the Internal Development Association to the Executive Directors on a Proposed Credit of SDR 356.0 Million (US \$442.8 Million Equivalent) to India or a Gujarat Emergency Earthquake Reconstruction Project*, Report No. P7516-IN, April 10<sup>th</sup> 2002, p.23.

housing recovery outcomes among communities in Bhuj and Bachhau. To understand how communities used their own resources for housing recovery, the study gathered interview data on financial or material assistance provided by individual communities for temporary shelters or permanent housing to their community members. Second, to examine the impact of government housing recovery programs and NGO interventions for housing, the study gathered interview data on the amount and type of housing assistance received by individual communities from public programs and private aid.

The third component uses the findings from the earlier two study components in order to conduct a comparative analysis that compares and contrasts the housing recovery process and final housing recovery outcomes between Bhuj and Bachhau. The comparative approach is to examine how public and private assistance programs interacted or responded to local community conditions in Bhuj and Bachhau, and how did it impact final housing recovery outcomes in the two towns.

Bhuj and Bachhau are appropriate sites for a comparative study because of two reasons. First, though they are similar in basic characteristics such as demographic composition, socio-economic structure, building techniques, and the scale of housing damage, the housing recovery process in both towns however, is fundamentally different. In Bhuj, which is the district (county level) administrative seat, the housing recovery process was tightly controlled by the district collector's office, the highest and most powerful administrative office in the district, and the Bhuj Area Development Authority (BHADA), a government agency appointed by the Gujarat state government after the earthquake to rebuild Bhuj. There was limited participation from non-governmental organizations (NGOs), private entities and citizen groups in the decision-making process. The collector's office invited select NGOs primarily as contractors, to rapidly construct

housing units for low-income renters on the new housing relocation sites on the outskirts of Bhuj. In contrast, in Bachhau, a minor town in terms of its size and economy, the Bachhau Area Development Authority (BhADA), a government agency put in place by the Gujarat state government after the earthquake to rebuild the town, and the highest taluka level (civil township level) office, known as Mamlatdar office, were in charge of housing recovery and urban reconstruction. Though BhADA and the Mamlatdar in Bachhau had complete control over housing recovery, unlike Bhuj, they were willing to engage NGOs and other private bodies in the recovery process. As a result, local NGOs had a higher level of participation in the decision-making process in Bachhau.

The second reason for the comparative study between Bhuj and Bachhau is that, the overall housing recovery outcomes in both towns are very different. Research in the hazards field has pointed out that post-disaster housing recovery often gives the highest priority for housing reconstruction to upper-income groups with land and property, and lowest priority to groups such as low-income renters or squatters (Freeman, 2004; Comerio, 1998; Oliver-Smith, 1990). In both Bhuj and Bachhau, single-family housing, renter apartments, and squatter settlements were destroyed, and homeowners, renters, and squatters were equally rendered homeless. In Bhuj however, six years after the earthquake, not just homeowners but renters have also been able to build houses for themselves, but many squatters have struggled to rebuild their homes. In contrast, in Bachhau, along with homeowners, squatters have also been able to rebuild their houses, but renters have not been able to achieve even pre-disaster housing standards. As a result, though Bhuj and Bachhau are similar in many ways, the housing recovery process and the final housing recovery outcomes in the two towns was uniquely different. The comparative research thus compares and contrasts the difference in housing recovery processes and outcomes in Bhuj

and Bachhau, in order to map the impact of their differing approaches on the final recovery outcomes.

The communities in Bhuj and Bachhau were identified based on their caste identity. This is because initial site visits revealed that rather than spatial proximity, people in Bhuj and Bachhau define their sense of group and community identity based on their caste affiliation. Caste in India is broadly defined as a social group where members are related by birth and are traditionally associated with and specialize in a certain occupation (Dumont, 1980). For example, the Suthar caste community is traditionally carpenters, the Sonis are jewelers, and Nagars are associated with administrative work. Some communities like the Jains however, who follow the Jain religion, are defined as a caste based on their religious beliefs rather than their occupation. Caste structures are stronger in small towns (like Bachhau) and medium-size urban areas (like Bhuj) in India as opposed to larger urban metropolitan regions. In the small and medium-sized urban areas, caste groups, called *jatis* (literally means birth) in India, maintain separation among themselves by practicing endogamy and following their own customs, traditions, religious practices, and food habits (Dumont, 1980)<sup>50</sup>. In Bhuj and Bachhau, each household forms social and economic networks within its own caste community. For example, during religious or social functions such as weddings, households invite guests from only within their own caste community. Similarly, business and other economic links are formed through community networks among people belonging to the same caste. It is important to note however, that within each caste-based community the economic position of individual households can vary greatly. For example, in the Thakkar caste community in Bachhau consisting of 450 households, about 80

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<sup>50</sup> These endogamous and occupationally specialized caste-based communities have a social hierarchy among them (Dumont, 1980), however, there is considerable disagreement regarding the rank orders (Gupta, 2004). The rank positions are often highly contested, and the social hierarchy is constantly being questioned and weakened through political and economical interactions among the groups (Gupta, 2004). Caste can thus be seen in terms of discrete identities and in terms of multiple and contesting hierarchies (Gupta, 2004).

percent households own land, businesses, and properties, while 10 percent are low-income renters, and another 10 percent are squatters on public land.

Caste played an important role during post-disaster housing recovery in Bhuj and Bachhau, when communities used their caste-based network to lobby their community members at the larger national (i.e. caste members residing in other parts of India) or even international level (i.e. caste members residing abroad) to arrange for financial or material assistance for members of their own group. Due to this empirical reality combined with the fact that both Bhuj and Bachhau are socio-economically structured along caste lines, the caste based community evolved as a unit of observation and analysis for this study.

### **Data Collection and Analysis Plan**

In-depth semi-structured interviews were used for collecting data from different communities. Lists of caste-based communities in both towns were made through consultations with local NGOs and citizen groups. Bachhau and Bhuj listed 20 and 30 caste-based groups respectively. Using an emergent sampling technique, whereby groups are interviewed until no new insights or information are obtained, 18 caste groups in Bachhau and 20 in Bhuj were interviewed. For each caste group one or two leaders were identified, and in-depth interviews lasting from half hour to one hour were conducted with each person.

During the interviews, the data collected was of two types. First, data was gathered on the housing status of communities prior to the earthquake. This is because the Gujarat state government used the pre-disaster housing status of a household, as a basis to decide the amount of post-disaster financial housing compensation the household was eligible for. So households

who were homeowners had better chance of receiving adequate financial aid based on their property titles, as opposed to renters and squatters who could not produce property titles. Moreover, the data on housing status of each caste community is crucial because housing in Bhuj and Bachhau is a key indicator of the overall social and economic position of a community. For example, in economically wealthier caste communities like Thakkar and Jain, the percentage of homeowners is significantly higher than economically weak communities like Prajapati, who have a higher percentage of squatters or renters, or the Dalit community where all households are squatters. Consequently, the data collection process paid particular attention to the housing status of communities prior to the earthquake. Second, data was gathered regarding the financial or material assistance provided by individual communities to their member households, as well as on the amount and type of housing assistance received by individual communities from public programs and private aid.

To capture perspectives of key entities working for housing recovery, interviews were also conducted with government officials, NGOs, religious groups, and local politicians. Secondary data including public records from Government Census office in Ahmedabad; archival documents from Gujarat State Disaster Management Authority, a government body in Gandhinagar (the state capital) appointed by Gujarat state government after the earthquake to oversee urban and rural reconstruction; as well as digital data of maps, housing damage and compensation lists from the Deputy Collector in Bhuj and *Mamlatdar* (revenue officer) in Bachhau were used to supplement and support the primary interview data.

There were several problems encountered during the data collection process. First, the 2001 Census of India data on housing differs from the post-earthquake housing damage survey data conducted in Bhuj and Bachhau by the Gujarat state government. For example, according to the

census, Bachhau urban area has a total of 7925 built structures out of which 4642 properties are residences. These figures are well below the damage survey data, which records a total of 13,000 built structures and more than 10,000 residences in Bachhau. Fieldwork observations however, indicate that the damage survey data is more realistic in its figures and has thus been used in the study instead of census numbers.

The data analysis plan is divided into two phases. In the first phase of the analysis, all interviews were translated and transcribed into textual format. The interview texts were coded to identify, describe and categorize the data according to the research objectives using MS Excel data sheets. The coded information was used to analyze how individual communities used public government housing programs, private NGO aid, and community resources for housing recovery in Bhuj and Bachhau. In the second phase of the analysis, findings from the initial phase was used to compare and contrast the housing recovery approaches between Bhuj and Bachhau, in order to understand the impacts of their different approaches on the final housing recovery outcomes.

The research had initially planned to employ spatial data analysis using Geographic Information Systems software to analyze housing damage and housing financial compensation data and map this data on the city plans. This was intended to show the type and percentage of housing damage within different communities in Bhuj and Bachhau, and to spatially illustrate the percentage distribution of public financial assistance and private aid among different communities in the two towns. This analysis could have spatially demonstrated the link between public and private aid interventions with the final housing recovery outcomes among different communities in each town. However, the planned analysis could not be carried due to problems with the raw data. First, the data tables on housing damage and housing compensation obtained from government offices in Bhuj and Bachhau could not be linked to each other or mapped in GIS because they did

not share any common denominator data column. This is because the housing damage survey was conducted using municipal plot numbers, while the housing compensation data table was based on serial numbers allotted to individual recipients by the data entry technician at the government disbursement office, whereas survey maps of the city were constructed using a different system of plot numbers. This made it impossible to join the data tables with the maps. Second, the housing compensation data table obtained from Bhuj was highly incoherent because the MS excel data sheets were constructed using different styles and format, which changed every time a new data entry technician was brought in, with five to six data entry technicians working on the data sheets at different points in time. Third, the data tables were constructed in different language platforms. For example, the data entry for the housing compensation table for Bachhau was done partly in Gujarati (official language in Gujarat state) and partly in English (one of the official languages of India).

Finally, it is important to note here that the fieldwork for this study was conducted from August 2004 to May 2005, and since that time period until the completion of this dissertation in August 2008 this research did not have the opportunity to follow up with further visits to the field. Because post-disaster recovery is an ongoing effort that happens over a long period of time, there could have been new developments in the housing recovery situation among various communities in Bhuj and Bachhau after the fieldwork period that have probably not been recorded. While this research provides a valuable insight into the impact of government policies, NGO interventions, external funding from organizations like World Bank, and community resources, on housing recovery outcomes, it would be worthwhile to conduct a follow up study in the future in order to better understand how various communities, particularly low-income squatters and renters, have fared with housing recovery in the long run.

## CHAPTER TWO: FOLLOWING THE MONEY

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This chapter looks at the use of funds from the World Bank for urban housing recovery in Kutch, in order to understand how the funds impacted final housing recovery outcomes in Bhuj and Bachhau, towns close to the epicenter of the 2001 earthquake in Gujarat. Following the quake, the World Bank approved a reconstruction loan of 704 million US dollars to India, of which 380 million US dollars was allocated for urban housing recovery in Kutch<sup>1</sup>. This huge inflow of funds is a core aspect of the Gujarat state government's urban housing recovery program in Kutch. The government used the World Bank funds to give financial assistance for housing reconstruction to homeowners in urban areas of Kutch, whose houses were severely damaged or destroyed.

The Gujarat government released these public assistance funds for housing reconstruction to homeowners in three installments. In Bhuj and Bachhau however, while most homeowners successfully received their first installment, the number of homeowners who received the second and third installments in both towns was significantly lower than the numbers who received their first installment. This chapter demonstrates that there are three main reasons for this gap, reasons that shaped the impact of World Bank loan funds on urban housing recovery in Bhuj and Bachhau.

First, there was a lack of co-ordination among different recovery processes, such as World Bank funding, housing recovery assistance, and urban planning. For example, the World Bank's timetable for disbursing housing recovery assistance to homeowners was incompatible with the

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<sup>1</sup> World Bank Internal Document. *Memorandum and Recommendation of the President of the Internal Development Association to the Executive Directors on a Proposed Credit of SDR 356.0 Million (US \$442.8 Million Equivalent) to India or a Gujarat Emergency Earthquake Reconstruction Project*, Report No. P7516-IN, April 10<sup>th</sup> 2002, p.23.

slower pace of a complex urban reconstruction project work on the ground in Bhuj and Bachhau, leading to a gap between the number of approved applicants for the first installment and those approved for the second and third installment.

Second, the World Bank's need to follow its project schedule and deadlines competed with the need for a more flexible approach towards a highly complex urban reconstruction program in Kutch. Since the World Bank prioritized discipline in terms of project cost, time schedule and government accountability, it could not take a flexible approach in terms of its timetable for disbursing housing assistance based on the changing ground realities in Bhuj and Bachhau.

Third, Gujarat government officials were more focused on how to spend or disburse the World Bank funds on time rather than the housing recovery needs of the people, and this approach decided the orientation of the government's policy implementation. The Gujarat government's policy for disbursing public financial assistance required homeowners to comply with certain eligibility guidelines in order to avail public housing assistance. But many homeowners, who were successful in obtaining the first installment of public housing assistance, were unable to access later installments because of their inability to satisfy government procedures particularly for the third installment. With public officials focused primarily on disbursing housing assistance, there was no attention paid towards the problems that homeowners were having in accessing their financial assistance checks. This contributed to the gap between large numbers of approved applicants for the first installment and the smaller numbers of applicants approved for the later installments of public housing assistance. The chapter argues that these three aspects fundamentally decided how the World Bank funds impacted housing recovery outcomes in Bhuj and Bachhau.

The chapter is divided into two sections. The first section focuses on the question of why did the Gujarat government borrow 380 million US dollars from the World Bank for urban housing recovery following the 2001 Gujarat earthquake. This question addresses the government's motivations for getting a loan from the World Bank and sketches the circumstances that led to the massive inflow of funds into Kutch. The second section in this chapter deals with the question of how did the Gujarat government use the World Bank funds for urban housing recovery in Kutch, and specifically how did the funds impact housing recovery in Bachhau and Bhuj? To answer these questions the section focuses on three parallel processes that were happening after the earthquake. One, the Gujarat state government was working to secure a World Bank loan to fund urban housing recovery in Kutch. Two, the government was putting together a policy to provide public assistance for housing recovery. Three, the Gujarat government was looking at urban planning as a solution to increase seismic safety in the earthquake impacted cities and towns by redesigning public infrastructure such as street layouts. This section looks at these three processes to examine how lack of co-ordination among these processes along with the Bank's need to follow its own project schedule and deadlines, and the Gujarat government's emphasis on disbursing housing assistance rather than understanding community needs, shaped the impact of World Bank funds on final housing recovery outcomes in Bachhau and Bhuj.

### 1. THE FLOW OF MONEY INTO POST-EARTHQUAKE KUTCH

Urban housing recovery in Kutch following the 2001 Gujarat earthquake is characterized by massive spending of international dollars on urban infrastructure<sup>2</sup> and housing, with funds largely borrowed from international banks such as the World Bank and the Asian Development Bank. For example, in the five years prior to 2001, the city of Bhuj received about 1 million US dollars

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<sup>2</sup> Transportation, water supply and sewage, public buildings, and solid waste management.

for infrastructure expenditure from the Gujarat state government, whereas within just two years after the earthquake, it received 51 million US dollars<sup>3</sup> for infrastructure. Similarly, Bachhau received about 0.2 million US dollars in the five years before 2001, but within two years after 2001 the town received 15 million US dollars<sup>4</sup> for infrastructure (see Table 3 below).

Town	Infrastructure funding by Gujarat Government for five years prior to 2001 (US dollars in Million)	Infrastructure funding by Gujarat Government within two years after 2001 (US dollars in Million)
Bhuj	1.2	51.2
Anjar	0.6	20.9
Bachhau	0.2	15.1
Rapar	0.3	10.4

**Table 3: Infrastructure expenditure in Kutch: Money spent by Gujarat Government in four towns of Kutch, for five years prior to 2001, and within two years after the 2001 earthquake. (Source: Data from NGO Unnati, Government of Gujarat documents<sup>5</sup>)**

Though India has experienced a series of disasters since the early 1990s (see Table 2 in Chapter 1, p.14)<sup>6</sup>, Gujarat is only the second state in India after Maharashtra to have received such a large World Bank loan for post-disaster reconstruction. Indeed, according to World Bank report (2006), the Gujarat Emergency Earthquake Reconstruction Loan following the 2001 earthquake and the Maharashtra Emergency Earthquake Rehabilitation Project Loan after the 1993 Maharashtra earthquake, are among the Bank's ten largest loans for disasters. This part of the chapter thus examines the government's motivations for negotiating such a large loan from the World Bank and sketches the circumstances that led to the massive inflow of funds into Kutch. It takes a detailed look at the economic and political pressure points that enabled the Gujarat government to

<sup>3</sup> Gujarat State Disaster Management Authority, Government of Gujarat, Internal Document. *Kachchh – Status Report*. July 2002.

<sup>4</sup> Gujarat State Disaster Management Authority, Government of Gujarat, Internal Document. *Kachchh – Status Report*. July 2002.

<sup>5</sup> Ibid

<sup>6</sup> About 66 percent of the Indian land mass is prone to disasters, such as droughts, floods and earthquakes, and about 10,000 kilometers (6,200 miles) of the country's coastline is vulnerable to hurricanes. In the past ten years alone, the country has taken multiple hits by hurricanes on its western and eastern coastlines; a tsunami struck the southern coast in December 2004; high rainfall in some parts of the country have caused massive floods whereas some regions are reeling under drought conditions due to low annual rainfall; and in October 2005 an earthquake struck Kashmir state (Source: Disaster management policy likely by year-end' in *The Hindu*, Online Edition of India's National Newspaper, Thursday, September 15<sup>th</sup> 2005).

mobilize a large amount of international funds particularly for urban housing recovery and infrastructure building in Kutch following the 2001 Gujarat earthquake.

### **The 1993 Maharashtra Earthquake Context**

This section gives a brief history of the Indian government's foreign aid policy and its link to natural disasters in India, in order to draw out the context in which Gujarat was highly successful in attracting international dollars after the 2001 earthquake. Due to the closed nature of India's economy in early 1990s, foreign aid policy in India at that time had restricted the amount of money that a state could receive from international organizations. But India's foreign aid policy experienced a vital shift during the 1993 Maharashtra earthquake, which opened up the country to international funding. During the Maharashtra earthquake in September 1993, the state government of Maharashtra lacked funds for post-earthquake relief and rehabilitation measures. To make more funds available to Maharashtra, the national government, which until then placed severe restrictions on funds from international organizations, opened up the country to unlimited foreign aid, allowing Maharashtra to accept financial assistance from international entities and get a World Bank loan for housing reconstruction. The change in India's foreign aid policy in 1993 proved crucial for housing reconstruction in Kutch because the new policy allowed international aid dollars to flow into Gujarat after the 2001 Gujarat earthquake.

The Gujarat state government was under immense public pressure following the 2001 earthquake to meet the needs and demands of disaster-affected communities. The intense media scrutiny of state government actions was part of the pressure, which raised public awareness and kept recovery issues alive. Under such acute public pressures, the state government promised to take

immediate steps to help the affected communities and carve out a generous financial compensation policy for housing recovery in Kutch.

To fulfill its promise of a financial compensation package for Kutch, the state government in Gujarat needed to borrow funds from the World Bank. But international lending agencies do not sign loan agreements directly with state governments since such loans are approved and signed only at the national level. Thus, to borrow funds from international banks, it is critical for a state government to have the support of the national government in New Delhi. In the year 2001, the Bhartiya Janata Party (BJP)<sup>7</sup> held political power in Gujarat state and was also the party in power at the national level. Having the same political party in power at both the state and national level made it relatively easy for the Gujarat state government to garner support from the Indian government for its loan proposal from the World Bank and the Asian Development Bank.

Though the national government fully supported Gujarat's proposal for borrowing international monies, the loan would not have been possible without the existence of a favorable national foreign aid policy in India in 2001. In 2005, four years after the Gujarat earthquake, the Indian Parliament enacted the National Disaster Management and Mitigation Bill to address disaster related issues in India. But prior to 2005 the national government operated a Calamity Relief Fund as part of its financial policy for disaster recovery situations. Every year, each state was given a fixed amount from this relief fund for relief and recovery efforts in the event of a natural calamity. The amount given to a state was based on the number of disasters, such as hurricane, drought, or flood, it had faced in the past decade. This financial policy was aimed at a long-term post-disaster situation, ensuring that a state would continue receiving funds for ten years after a disaster had struck that state.

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<sup>7</sup> Indian Peoples Party

Yet, the way the policy was designed meant that the national government could not send immediate funds to a state to provide relief during the actual year of the disaster. In this sense the policy was inherently flawed in its logic because future disasters could not be predicted based on the frequency of past disasters. For example, if State A experienced ten disasters in the decade prior to a given year it did not mean that it would face another disaster in that same year, whereas State B may not have had any disaster in the past decade but could face a series of floods and hurricanes in that given year. However, the structure of the policy was such that, State A would receive more funds than State B in the beginning of that fiscal year. Consequently, in the event of a disaster occurring during that fiscal year, State B would be seriously strapped for funds and would not be able to provide adequate relief and rehabilitation to its people, whereas State A would have surplus funds. Ironically, the policy designed to disperse funds with the aim of ensuring long term relief for a disaster hit state, would now hamper State B from receiving much needed funds when a disaster actually occurred.

It was in the context of this policy that the September 1993 earthquake in Maharashtra occurred, and this disaster was instrumental in pushing the national government in India to open alternative sources of emergency relief funds, particularly from international sources. During the 1993 earthquake the state government of Maharashtra lacked financial resources for post-earthquake relief and rehabilitation measures. Since Maharashtra did not have a previous history of disasters, like State B in the example above, the calamity relief fund had not allocated enough funds to the state in the beginning of the 1993 fiscal year. When the earthquake struck in September that year, the national government could not change its calamity relief policy to accommodate the state and give it the desperately needed funds. Only the national Finance Commission<sup>8</sup> had the authority to

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<sup>8</sup> The Finance Commission is a Constitutional body set up every five years to make recommendations relating to the distribution of the net proceeds of taxes between the Indian Union (national level) and the States, the principles that

recommend such policy changes, and its next policy report was not scheduled for release until 1995. Consequently, to make more funds available to Maharashtra, the national government decided to instead look for alternative funding from international sources.

However, to receive international monies, the national government had to first modify its foreign-aid policy. Up until 1993, due to the earlier nature of India's closed economy that began liberalizing in 1991, India's foreign-aid policy severely restricted the amount of funds the country could receive from international organizations. But following the 1993 earthquake, under immense political pressure to help the Maharashtra state government arrange for urgently needed relief funds, the Indian government decided to change its foreign-aid policy and open up the country to unlimited foreign aid. This policy change allowed Maharashtra to accept financial assistance from international NGOs and get a World Bank loan for housing reconstruction. The shift in the foreign aid policy in 1993 also helped to provide crucial financial assistance for housing reconstruction in Kutch, after the 2001 Gujarat earthquake. The new foreign-aid policy opened the floodgates of international aid dollars for Gujarat in 2001 and played an important role in the huge inflow of money into Kutch. Foreign funds poured into Gujarat from Indian diaspora overseas, international NGOs, the World Bank, and the Asian Development Bank. These monies, especially the loan from the World Bank, were critical in shaping urban housing recovery outcomes in Kutch.

While the role of the foreign-aid policy is important, at the same time there were political and economic motivations that led the BJP government in Gujarat to acquire a World Bank loan for urban recovery in Kutch. This is the topic of discussion in the following sections.

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govern grants-in-aid of revenues to the States out of the consolidated fund of India, and measures required to augment the consolidated fund of a State to supplement the resources of village level Panchayats and the urban Municipalities (Source: Tribune News Service. *Vijay Kelkar to Head 13<sup>th</sup> Finance Commission*, November 14, New Delhi).

## **From Crisis to Opportunity: Kutch Reconstruction as a Political Solution**

On the political front, with the recent by-election<sup>9</sup> losses in Gujarat fresh in their minds, the BJP national government in New Delhi was highly concerned about retaining support from its political base in Gujarat. BJP (Bhartiya Janata Party), one of the two national political parties in India (the other being Indian National Congress), is a religious conservative political party on the center-right, rooted in a strong ideology of Hindu nationalism. The party enjoys robust political support from the urban middle class and upper classes in Gujarat, and has governed the state with a comfortable majority since the early 1990s. When the earthquake struck the state in January 2001, the BJP government in Gujarat was concerned about the political impact it could have on the state legislative elections scheduled in December 2002, just two years away. The state government was especially concerned because the earthquake had hit BJP's primary political base in Kutch, the urban middle class.

To help its urban middle class constituency in Kutch and to show the people that it was taking decisive action, within just a couple of weeks after the earthquake, the Gujarat government declared that it would provide public financial assistance to homeowners to help them rebuild. In order to acquire the large amount of cash required for such an exercise, the state government turned to the World Bank for an Emergency Reconstruction Loan, the first phase of which was approved within just one month after the earthquake. The state government's actions were not surprising when also considering that there was increasing political pressure from the public and the media strongly in favor of state government spending for reconstruction. Moreover, the sheer scale of destruction in Kutch had ensured that all political groups in Gujarat were trying to outdo

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<sup>9</sup> By-election is a special election held to fill a political office that has become vacant between general elections, when the incumbent has died or resigned.

each other in calling for immediate reconstruction efforts in the region. In the prevailing situation, with strong public support, lack of political opposition, and a desire to build infrastructure in Kutch to attract private industrial investment (an economic motivation that is discussed in greater detail later), the BJP government moved rapidly to secure reconstruction loans for Kutch from the World Bank<sup>10</sup>.

Yet, the BJP's concerns turned into a crisis within the party when few months after the earthquake, the BJP lost two important by-elections in Gujarat<sup>11</sup>. The primary reason for the losses was the people's dissatisfaction towards the Gujarat government regarding its inability to adequately respond to the damages caused by natural disasters in the state. The economy of Gujarat, one of the most industrialized states in India, was not doing well since prior to the earthquake due to a series of natural calamities. In 1998, a strong cyclone<sup>12</sup> (hurricane) landed on the coast of Gujarat near the Kandla port, devastating the saltpan industry; and in 2000, Gujarat had its worst drought in the past hundred years with almost twenty million people facing severe water crisis. The water crisis in the state had become a political issue with widespread public unhappiness over Gujarat state government's handling of the water shortage. Public anger was evident during the 2000 general elections in India when L.K.Advani, the home minister of India and a BJP candidate from the Gujarat state capital Gandhinagar, was greeted with the slogan, "*Pehle Pani, Phir Advani*", meaning "First Water, Then Advani"<sup>13</sup>, during his campaign.

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<sup>10</sup> The Gujarat government also borrowed funds from the Asian Development Bank, which according to World Bank documents agreed to a loan of 350 million US dollars, of which 235 million US dollars was for infrastructure reconstruction in Kutch.

<sup>11</sup> One was a national parliament by-election from Sabarkantha district, and the other was a state legislative assembly by-election from Ahmedabad district.

<sup>12</sup> 100 to 125 miles per hour

<sup>13</sup> Cover Story Article. "Standing the test of drought" in *Down to Earth*, Issue: January 15, 2000, <http://www.downtoearth.org.in/>, Accessed on April 2007

While Gujarat was going through this political and economic turmoil, the 2001 earthquake struck the state. Along with Kutch, the earthquake had also impacted both Sabarkantha and Ahmedabad districts, and there was a general sense of public dissatisfaction regarding the government's pace of relief and reconstruction work. Consequently, the BJP lost both the Sabarkantha and the Ahmedabad by-elections in 2001. With the by-election loss, the chief minister of Gujarat state, Keshubhai Patel, was forced to resign in October 2001, just nine months after the earthquake and the BJP brought in a new candidate, Narendra Modi, as Gujarat's chief-minister. With economic and political crisis in Gujarat and the state legislative assembly elections looming large, the newly appointed chief minister, Narendra Modi, realized that it was critical for the BJP state government to move rapidly on housing reconstruction in Kutch in order to satisfy its urban middle class constituency.

However, in view of the political context of Gujarat, a state dominated by Hindu nationalist politics, it is important here to consider the impact of state politics on the use of World Bank funds and on the state government's response towards housing reconstruction in Kutch. This is because Gujarat has seen both the BJP and the earlier Congress led governments exploiting religious divisions since the 1980s for political gains during state and national elections<sup>14</sup>. Given the economic and political turmoil in Gujarat in 2001, the public anger against BJP government, and the upcoming state legislative elections in December 2002, there was a higher chance that Hindu nationalism and religion-based politics would be the tools, deployed by the BJP government, to win the 2002 elections. In the post-disaster context of Kutch it also meant that religious politics could come into play while distributing housing recovery assistance.

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<sup>14</sup> Dugger, Celia W. 2002. "Religious riots loom over Indian politics" in *The New York Times*, July 22, 2002

The BJP's core ideology of Hindu nationalism is based on the concept of Hindutva (being a Hindu) and on Cultural Nationalism. Savarkar<sup>15</sup> defined Hindu as a person who considers the land that extends from the Indus River in the north to the seas in the south as his Fatherland (a common nation, common civilization), Motherland (a common race, common origin by blood) and his Holy land<sup>16</sup>. Cultural Nationalism views the Indian social formation as one regulated by Hindu dharma or the Hindu ethical code. This concept is based on the idea that Indian state, social formation and civil society should be organized exclusively along Hindu nationalist ideology. Muslims and Christian minorities have to accept a subordinate status and assimilate within this Hindu Nation, live without any special privileges, and demonstrate unconditional love and devotion towards the Hindu Nation (Bhatt & Mukta, 2000).

Since the 1980s the BJP national party, along with affiliated Hindu nationalist organizations like the Vishwa Hindu Parishad (World Hindu Council), has campaigned for the appropriation of mosques and other Islamic monuments, including the Taj Mahal, claiming them to be historically

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<sup>15</sup> Though there is a significant amount of scholarly debate and controversy over the actual beginnings of the Hindu nationalist movement in India, Vinayak Damodar Savarkar's book on Hindutva has largely defined the concept of being a Hindu and has become fundamental to the political ideology of Hindu nationalist movements in India. Savarkar wrote this book in the 1920s, when as an Indian revolutionary he was jailed by the British on the Andaman Islands, off the western coast of India. His theory, which had racial overtones, was influenced by the ethnic nationalist discourses in Germany during the late 19<sup>th</sup> century and finds significant mention in the present Hindu nationalist movement in India (Bhatt & Mukta, 2000).

<sup>16</sup> Muslims and Christians could not belong to the Hindu nation according to Savarkar's definition, because their Holy land is physically outside India. Savarkar's writings considerably influenced an Indian Independence activist, Keshav Baliram Hedgewar, who founded the first Hindu nationalist organization in 1924, called the Rashtriya Swayamsevak Sangh (RSS, the National Volunteers Corps). The RSS till today is a highly authoritarian, centralized and Paramilitaristic organization and is based on the recruitment and training of young, pre-adolescent boys for service to Hinduism and the Hindu Nation. The RSS gained significant support for its relief activities towards the Hindu refugees during the Partition in 1947, which they saw as something completely against the RSS ideology of an 'Akhand Bharat', an 'undivided India'. The anger at Partition led to the rejection of all Gandhian methods of national liberation by the Hindu nationalists and eventually to the assassination of Gandhi by Nathuram Godse who was a member of Savarkar's organization, the Hindu Mahasabha and the RSS. As a result, these national organizations were banned in 1948-49 by the new Congress government. Following the lifting of the ban a couple of years later, the RSS which till then had been apolitical, realized the need for political clout and created several organizations under its umbrella, which include the Vishwa Hindu Parishad (VHP, World Hindu Council) in 1964; the Jana Sangh political party in 1951 which later became the Bhartiya Janata Party in 1980 (BJP, Indian Peoples Party); the Akhil Bharatiya Vidyarthi Parishad (All India Students Federation); and the Bharatiya Mazdoor Sangh (Indian Trade Union Federation). These organizations are collectively called the 'Sangh Parivar' (Family of Organizations) or just the "Sangh" (Organization) (Bhatt & Mukta, 2000).

Hindu sites. These efforts were meant to expand the Hindu nationalist movement and in turn the political strength of the party. However, the BJP's political strategy, which plays upon Hindu-Muslim religious divisions, has often culminated in large scale Hindu-Muslim violence<sup>17</sup>. For example, in 1992, L.K. Advani led a movement to build a Hindu temple in Ayodhya on the site of a 16th-century mosque, the Babri Masjid<sup>18</sup>, said to be the birthplace of the Hindu deity Ram. While the movement was critical to the party's rise to power, it culminated in the mosque's demolition by Hindu activists and led to widespread Hindu-Muslim violence in the country, leaving more than 1,100 people dead, most of them Muslims<sup>19</sup>. Similarly, in 2002 religious violence in Gujarat state sparked by an incident in which a Muslim mob stoned a train car loaded with Hindu activists from the Vishwa Hindu Parishad, then set it on fire, killing 59 people, mostly women and children<sup>20</sup>. The incident triggered extensive violence primarily against Muslims by Hindu mobs for over two months, killing more than 1000 people and displacing another 100,000 from their homes. The violence impacted more than 150 towns and cities and 900 villages in 15 of the state's 25 districts. Northern and central Gujarat regions where Hindutva mobilization

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<sup>17</sup> But the Hindu nationalist movement has always been plagued by the issue of caste divisions. Caste structure and divisions are an integral part of the Hindu community, which has created tensions among the Hindu lower-caste communities and the Hindu nationalist movements in the past. The Hindu nationalists who would like to represent the entire Hindu community are at a loss when it comes to the reality of the differential caste interests and the strong hierarchy of privilege and exploitation that the caste structure maintains. Most of the intellectuals and leaders of the Hindu nationalist movement have been from upper-caste or Brahmin communities and the RSS (an umbrella organization for the BJP and other Hindu nationalist parties) itself was founded by upper-caste Maharashtrian men. This factor has resulted in the Hindu nationalists' trying to rally the entire Hindu community in the name of religion. These attempts were at its foremost during December 1990. The National Front government in the 1990's decided to implement the recommendations of the Mandal commission, which would reserve 27 percent of public sector jobs and places in higher education for lower caste Hindu communities. This decision, which was based on National Front's own electoral politics, had wide-spread protests in India especially from the upper-caste college going youth in Delhi. The Hindu nationalists interpreted these events as a threat to the consolidation of a unified Hindu community, which could be torn apart on basis of caste divisions. Then on December 1990 L.K. Advani, one of the BJP political stalwarts backed by the VHP, in a strategic political move undertook a national ceremonial procession from the temple of Somnath in western India to Ayodhya in north India in order to 'reclaim' the Babri Masjid in the name of Lord Rama, the mythological warrior prince. This event shifted the public consciousness from the agitation on affirmative action for backward castes to that of a communal agitation seeking to unite the entire Hindu community towards the defense of Lord Rama birthplace. These strategies have brought lower-caste Hindu communities into the Hindu nationalist movements with active participation in communal violence against the Muslim communities (Bhatt and Mukta, 2000).

<sup>18</sup> The Babri Masjid was a convenient target, since it was located in the RSS stronghold of the northern state of Uttar Pradesh. In addition, the site had a history of sporadic conflicts and was associated with the renowned Mughal Emperor Babur as well as the popular god Rama (Bhatt and Mukta, 2000; Bacchetta 2000).

<sup>19</sup> Dugger, Celia W. 2002. "Religious riots loom over Indian politics" in *The New York Times*, July 22, 2002

<sup>20</sup> Ibid

efforts have been strong were the worst affected, while Saurashtra region in the southwest and Kutch region in the northwest remained largely peaceful<sup>21</sup> (Oommen, 2005).

While it is difficult to pin point the exact reasons for the lack of Hindutva mobilization and the absence of Hindu-Muslim tensions in Kutch, a part of the reason can be traced to Kutch's history. Field research indicates that historically, Kutch was an independent kingdom, which never came directly under colonial rule, and did not experience the politics of Hindu-Muslim divisions during that period. Moreover, after India's independence in 1947, though Kutch ceased to be a princely state and administratively became a part of Gujarat, the people of Kutch still consider the region a separate entity from Gujarat in geographical, political, cultural and economic terms<sup>22</sup>. This sense of a distinct identity in Kutch has meant that the Kutch people do not align themselves with what they term as the politics of the mainland (Gujarat), and unlike the middle class in large parts of Gujarat, the Kutch people are not very receptive to the Hindutva ideology. Indeed, in 2002, following the Hindu-Muslim violence in Gujarat, the BJP won the state legislative elections in a landslide in most parts of the state, but in Kutch, where there was widespread anger with the state government's pace of recovery efforts, the BJP won only two out of the six assembly seats.

This brings the discussion to the question that given the BJP's Hindu Nationalist politics and the raging violence against Muslims in large parts of the state, how did these circumstances impact the

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<sup>21</sup> The Gujarat state government and Chief Minister Narendra Modi were widely criticized by the Indian Parliament, the Supreme Court, local, national and international NGOs, national news media, and human right groups for failing to stop the violence and indeed for using the state apparatus and the state police to perpetuate systematic violence against the Muslim community. Regardless, the BJP won the Gujarat state legislative elections that year in a landslide (Oommen, 2005).

<sup>22</sup> The sense of a distinct identity among the Kutch people is especially strong due to its peculiar geography. Kutch has remained a very isolated region. It is surrounded by the Arabian Sea to its south and west, whereas the Great Rann and the Little Rann borders it on the north and east respectively. Great Rann and Little Rann are huge salt plains that fill up with water during monsoon rains, and when the water recedes it leaves a dry barren desert, cracked and coated with white salt and dotted with mud flats and salt marshes. This feature has effectively cut off Kutch from the rest of Gujarat, and it's only link to the mainland are the rail and road bridges at Surajbadi, spanning the salt flats of Little Rann.

BJPs led state government's response to housing recovery in Bhuj and Bachhau, towns where 15 to 20 percent of the population is Muslim. Field observations and interviews with local NGOs and communities show that there was no violence, intimidation, or discrimination against Muslims or any other minority community in both towns by the State or private groups during distribution of immediate relief or long-term housing assistance. Local accounts suggest, that in fact things were quite the opposite. People from different religious backgrounds were able to receive short-term relief from various religious organizations, based locally or outside of Kutch, without any sign of organized efforts by the State or private agencies to help or discriminate against one community or the other. Indeed, public policy analysis indicates that the state government's reconstruction assistance in Kutch following the earthquake was driven more by economic considerations than by party ideology, and housing recovery policy was based upon homeownership rather than religious affiliations. This point is discussed in further detail in the following sections.

### **Economic Motivations for Kutch Recovery**

The most persuasive reasons for the inflow of massive funding into Kutch can be attributed to the economic development goals of the Gujarat government in Kutch. Historically, Kutch has seen low levels of industrial growth, and Kutchis generally believe<sup>23</sup> that in contrast to other parts of Gujarat, that have experienced industrialization and economic prosperity, the state government has economically neglected the Kutch region. However, since early 1990's after the economic liberalization of India, the Gujarat government has pursued a policy of rapid industrial growth in Gujarat. Kutch, the only district in Gujarat with large tracts of barren unproductive public revenue land and home to the second largest port in the country, is an attractive option for the state government to locate new industries.

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<sup>23</sup> Based on field interview data

Consequently, in contrast to a mere 25 million US dollars invested in the region prior to 1991, between 1991 and 1996 alone, the state government approved private investments worth 1.7 billion US dollars for industries in Kutch<sup>24</sup>. Moreover, in 2000, the state government approved a special economic zone (SEZ) at the Kandla port in Kutch offering tax breaks and economic sops to attract industries. The state government also proposed a second SEZ at Mundra over an area of 10,000 hectares (approximately 24,000 acres) along the Kutch coastline and committed plans to upgrade the region's road and rail network to boost the region's connectivity to the rest of the country<sup>25</sup>.

The 2001 Gujarat earthquake came initially as a blow to the state government's economic and industrial ambitions in Kutch. However, the state government soon realized that not only could the disaster kick start Gujarat's sluggish economy through construction contracts for Kutch rebuilding projects, but it also offered the state government infrastructure investment opportunities in the region. Prior to the earthquake, the infrastructure of Kutch, such as power, port facilities, road and rail network, water supply, and urban amenities like housing, school, hospital, and entertainment facilities, needed urgent upgrading on a large scale in order to attract private industrial investment to the region from outside. According to a land development report<sup>26</sup> for Kutch commissioned by the state government, industrial growth in Kutch not only needed better road and rail transport links to its ports and raw material sources, but also serious attention to urban infrastructure in the towns situated on the main transport corridor and poised for rapid urbanization, such as Bhuj, Anjar and Bachhau. This required the state government to invest a large amount of public infrastructure funds in Kutch.

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<sup>24</sup> Mahadevia, Darshini and Hirway, Indira. 'Impact of structural adjustment program on land and water resources of Gujarat', paper presented at National Workshop on Land Use Planning, organized by Planning Commission and the National Centre for Agricultural Economics and Policy, New Delhi, India, November, 1998.

<sup>25</sup> Government of Gujarat website, <http://www.vibrantgujarat.com/index.htm>, Accessed on April 2007

<sup>26</sup> Environmental Planning Collaborative. *Sub-Regional Plan, Lakhpat-Mundra-Mandvi, Land Development Plan*, prepared for Urban Development and Urban Housing Department, Government of Gujarat, March 2000

But in India the population density of a region primarily determines the proportion of public funds for infrastructure investment it receives. According to this distribution policy for public infrastructure funds, since Kutch has a low population density<sup>27</sup>, the Gujarat government could only allocate low levels of public infrastructure funds to Kutch. These funds were not enough to upgrade Kutch's highways, railroads, water supply, and power, or urban facilities like schools, hospitals, and public buildings.

The 2001 earthquake changed this status quo, albeit temporarily, because the post-earthquake situation offered the government a window of opportunity, in which it was politically acceptable to spend large amounts of public money to build public infrastructure in Kutch without facing opposition from other regions of Gujarat. The government had the moral ground to silence detractors, by pointing out that Kutch needed a vast inflow of funds to reconstruct the large-scale destruction and damage to housing and public infrastructure, and any suggestion to do otherwise would mean ignoring the suffering of Kutchi people. Narendra Modi, the chief minister of Gujarat, evidences the Gujarat government's approach in the following statement where he suggests that<sup>28</sup>,

“Gujarat’s vision goes beyond the physical reconstruction and aims to rebuild an economically vibrant and industrially competitive state with a higher quality of life, in the true entrepreneurial spirit of converting a crisis into an opportunity...”

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<sup>27</sup> With an area of 17630 square miles, roughly the size of Costa Rica in Central America, Kutch is the largest district (districts in India are akin to US counties) in Gujarat state, but the region is sparsely populated. With 1.5 million people, it accounts for only three percent of the state's population of 50 million (according to 2001 Census of India). As a result, the population density of Kutch district is much lower than the rest of the state. In contrast to 668 people per square mile in Gujarat, which is higher than New York State's density, Kutch has only about 72 people per square mile, which makes the district similar to Vermont in terms of its density.

<sup>28</sup> Government of Gujarat, GSDMA Publication. 2002. *26th January, 2001, Gujarat-epicenter of earthquake, 26<sup>th</sup> January, 2002, Gujarat-epicenter of progress*, p.2

The government thus began immediate negotiations with the World Bank for a reconstruction loan. The Bank sanctioned a loan of 704 million US dollars, of which 380 million US dollars was allocated for urban housing recovery in Kutch. The loan was planned in two phases, and urban housing recovery was allocated 203 million US dollars in Phase I, and 177 million US dollars in Phase II<sup>29</sup>. To arrange immediate funds for Phase I of the World Bank loan, called an Emergency Reconstruction Loan, then Gujarat government and the World Bank decided to reallocate money from twelve other ongoing development projects in Gujarat<sup>30</sup>, which were also funded through World Bank loans. For example, the World Bank redirected funds from the Gujarat State Highway Project and the Reproductive and Child Health Project to Kutch<sup>31</sup>. Under normal conditions, such a move would trigger serious opposition from various public and private entities, making it politically difficult for the state government to redirect money from other development projects in the state. The Gujarat earthquake however, offered the state government a small window in which political or public opposition was non-existent, and the state government could swiftly restructure its infrastructure investment priorities in the state.

The Gujarat government dusted up and brought out a wish list of proposed long-term infrastructure projects, such as upgrading road and rail networks to connect Kutch to other economic centers in the country, improving airport facilities in Bhuj, establishing the Kutch University for science and engineering subjects, and building pipelines to bring adequate water supplies from the Narmada dam to the drought prone region of Kutch. All these projects were implemented as part of the urban reconstruction program in Kutch.

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<sup>29</sup> World Bank Internal Document. *Memorandum and Recommendation of the President of the Internal Development Association to the Executive Directors on a Proposed Credit of SDR 356.0 Million (US \$442.8 Million Equivalent) to India or a Gujarat Emergency Earthquake Reconstruction Project*, Report No. P7516-IN, April 10<sup>th</sup> 2002, p.23.

<sup>30</sup> *Ibid.*, at p. 4

<sup>31</sup> *Ibid.*, at p. 4

Overall, the BJP government in Gujarat clearly wanted to have a housing compensation policy that would satisfy its urban middle class constituency, hoping that a political success in Kutch would translate into electoral gains during the upcoming state legislative elections in December 2002. But with the political need there was also a desire on the part of the state government to further its own industrial development goals in Kutch. It can be argued that the 2001 earthquake occurred at an opportune moment for the government and is a story of the Gujarat government's adaptation to new circumstances, in the face of new opportunities presented by the earthquake. Instead of a fifteen to twenty years time frame, the state government could achieve its public infrastructure goals for the industrial growth of Kutch within a period of just five years. Not surprisingly, since 2002, Kutch district has attracted new private investment worth 3.5 billion US dollars for industries, and the state government expects to clear another 12.7 billion US dollars in private industrial investment within the next two years in Kutch<sup>32</sup>.

## 2. IMPACT OF WORLD BANK FUNDS ON URBAN HOUSING RECOVERY

Following the 2001 earthquake, the Gujarat state government began to negotiate for a World Bank loan to fund urban housing recovery in Kutch, while putting together a policy to provide public assistance for housing recovery, and at the same time looking at urban planning as a solution to increase seismic safety in the earthquake impacted cities and towns. Among these three parallel processes happening at the same time, the World Bank funding came first. The government began negotiating with the World Bank for a reconstruction loan immediately after the earthquake, and the first phase of the loan was approved within one month after the disaster. At this time, however, the Gujarat government was still in the process of figuring out the policy

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<sup>32</sup> Government of Gujarat official website for 'Vibrant Gujarat Global Investors' Summit January 2007', Archive News, <http://www.vibrantgujarat.com/LatestNews.aspx?archive=true>, Accessed on April 2007

framework for public assistance and had also just begun the bidding process for urban planning contracts. While these processes were occurring simultaneously, they were taking place at their own individual pace and there was no attempt to co-ordinate decision-making among them. This part of the chapter first looks at these three processes individually before moving on to examine how the lack of co-ordination among them along with the Bank's need to follow its own project schedule and deadlines, and the Gujarat government's emphasis on disbursing housing assistance rather than understanding community needs, shaped the impact of World Bank funds on final housing recovery outcomes in Bachhau and Bhuj.

### **A Complex Urban Reconstruction**

Within one month after the earthquake, the Gujarat government set up the GSDMA<sup>33</sup> in February 2001 at Gandhinagar, the Gujarat state administrative capital. The GSDMA board was comprised of secretaries to cabinet ministers, highest-ranking officials in the state bureaucratic hierarchy, and was headed by the chief minister himself, giving it immense decision-making powers. While state agencies usually follow their own institutional process of policy formation and decisions are made at various levels of bureaucratic hierarchy, policies can be pushed through faster during periods of high political will. After the earthquake, the GSDMA board members were under immense political pressure from the public and the media to act rapidly to respond to the crises. As a result the reconstruction policy for Kutch was approved and pushed through swiftly by the board within just two months after the earthquake. The presence of state level secretaries and the chief minister himself on the GSDMA board, helped shorten the bureaucratic process and speed up decision-making.

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<sup>33</sup> The GSDMA is a state level public agency in Gujarat formed after the 2001 earthquake to co-ordinate, design, and implement post-earthquake reconstruction in the state, and to design hazard mitigation policies.

The GSDMA worked on three aspects simultaneously to achieve urban reconstruction in Kutch. The first was to negotiate with the World Bank for a loan to finance urban housing recovery in Kutch. The second was to work with planning consultants to prepare and implement urban redevelopment plans in order to increase seismic safety and rebuild public infrastructure such as roads, water supply, and sewage in the destroyed towns<sup>34</sup>. The third aspect was to put together an urban housing recovery policy to provide a framework for disbursing public assistance (financed with funds from the World Bank loan) and direct the implementation of housing reconstruction. The implementation of the third aspect, housing reconstruction, was possible only once the second aspect, urban planning and infrastructure rebuilding, was complete. This point is important because urban planning was the most time consuming aspect of the rebuilding process that delayed infrastructure rebuilding and housing reconstruction in all urban areas of Kutch for more than two years after the disaster. This section looks at each of the three aspects in order to understand the complexity of the GSDMA's urban reconstruction program in Kutch.

### *World Bank Loan*

Following the 2001 earthquake, the Gujarat state government began to negotiate immediately for a World Bank loan to finance urban housing recovery. The government successfully obtained a loan of 704 million US dollars from the World Bank, of which 54 percent was for urban housing

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<sup>34</sup> This was mostly financed with money from an Asian Development Bank (ADB) loan. The Gujarat government had acquired a loan of 350 million US dollars from the Asian Development Bank (ADB), from which 29 percent was allocated towards rebuilding urban infrastructure in the towns of Kutch. The lion's share of the ADB loan, about 67 percent went towards urban and rural infrastructure such as transport, water supply and sewage, public buildings, solid waste management, and power. About 7 percent of the funds were allocated for rural housing recovery (World Bank Document, Report No. P7516-IN, April 10<sup>th</sup> 2002).

recovery, while the rest was allocated to rebuilding infrastructure (see Table 4 below)<sup>35</sup>. This means that the majority of the loan from the World Bank was invested in urban housing recovery in Kutch. The World Bank loan was thus crucial for the state government's plans to finance urban housing reconstruction with public monies. Table 4 below illustrates the percentage allocation of World Bank reconstruction funds to various sectors in Kutch. Of the World Bank loan, 54 percent was used for urban housing recovery and 34 percent for urban and rural infrastructure. A tiny part of these funds was allocated to social needs such as education (2.9 percent) and community participation goals (1.5 percent).

<b>World Bank Loan: Breakdown</b>			
<b>Funded Sectors</b>	<b>Sub Sector</b>	<b>Funding Amount (US \$ Million)</b>	<b>Percentage Allocation (%)</b>
Housing (Urban)	Permanent Housing Reconstruction	380.7	54
Infrastructure	Public Buildings	76.8	11
	Roads and Bridges	67.8	9.6
	Dams and Irrigation	74.5	10.6
	Retrofitting	23.1	3.3
Education		20.7	2.9
Support	Community Participation	10.5	1.5
	Multi-Hazard Disaster Preparedness	41.5	5.9
	Consultancy and Administration	8.8	1.2
<b>Total</b>		<b>704.4</b>	<b>100</b>

**Table 4: World Bank loan breakdown: Percentage allocation of World Bank reconstruction funds to various sectors in Kutch (Source: World Bank Internal Document<sup>36</sup>).**

The World Bank funds came with an implementation schedule plan with strict conditions. The Bank uses programmatic conditions as tools to follow the progress of a loan-based program in a borrower country, and to decide upon the disbursement of future funds. Yet, the World Bank has increasingly grappled with how to design a balanced set of conditions that would address the intrinsic tensions between the need for flexibility during the implementation of complex urban

<sup>35</sup> World Bank Internal Document. *Memorandum and Recommendation of the President of the Internal Development Association to the Executive Directors on a Proposed Credit of SDR 356.0 Million (US \$442.8 Million Equivalent) to India or a Gujarat Emergency Earthquake Reconstruction Project*, Report No. P7516-IN, April 10<sup>th</sup> 2002, p.23.

<sup>36</sup> Ibid.

projects and the Bank's priority to maintain discipline in terms of project cost, time schedule and government accountability (World Bank Report, 2005).

In the case of the Gujarat Emergency Reconstruction Loan, in order to ensure a smooth flow of funds, the Bank had specified a loan disbursement schedule for the GSDMA. The loan schedule meant that the GSDMA had to abide by the time frame specified by the World Bank while implementing its urban reconstruction program. But this approach faced immediate problems because the Bank's schedule did not necessarily match the slow pace of work on the ground. The primary reason for this was that prior to housing reconstruction, the Gujarat state government decided to design and implement new urban redevelopment plans in the towns destroyed by the earthquake. However, the state government had vastly underestimated the timeframe required for the urban planning process, which can take anywhere from two to ten years in India. The difference between the World Bank's timetable for loan disbursement and the slow pace of a complex urban planning process and housing recovery in the towns of Kutch put severe pressure on the state government to hasten the urban reconstruction program to meet the World Bank's deadlines.

This impacted the ability of homeowners to rebuild their houses because though most of them received their first housing assistance installment from the Gujarat government, many could not qualify for their second and third installments. One of the reasons was that in order to meet the World Bank's loan disbursement deadlines, the GSDMA decided to release the first installment of funds for housing reconstruction to homeowners prior to the completion of its urban planning program<sup>37</sup>. But without the new urban development plans in place, people did not know where

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<sup>37</sup> Field interviews show that there might have been formal or informal requests made by GSDMA to the World Bank to change the loan disbursement time frame in order to accommodate the town planning process. However there is no

their plot lines were located, nor could they get building permissions to begin construction work on their houses. The lack of co-ordination between urban planning and the disbursement of housing reconstruction funds triggered a further series of problems for homeowners, such as difficulties in getting their second and third installment funds for housing reconstruction. Since many homeowners could not get their second and third housing assistance installments on time, it affected their capacity to rebuild their houses. This underscores the critical role that housing finance played in shaping overall housing recovery outcomes in Bhuj and Bachhau, a topic discussed in greater detail further in this chapter.

### *The Urban Planning Process*

Urban planning delays were a primary cause of tension between the Gujarat government and the people in the earthquake affected urban areas of Kutch. Field interviews suggest that while most people agreed that urban planning and infrastructure rebuilding were important, there was a general suspicion regarding the delays caused by this process. People were wary and cynical about the government's ability to pull off such a complex urban planning project within a short time period, particularly given the government's track record where planning projects usually take anywhere from five to ten years to complete in India. The Gujarat government's response to this public sentiment was conflicted. The government wanted to speed up the process and put pressure on the planning consultants to increase their pace. But at the same time the Gujarat government wanted to project a successful urban recovery to the public. This made the state government cautious and wary of hurrying the process because it feared making mistakes. These conflicting demands and pressures in turn impacted the urban reconstruction process.

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direct and precise information available from the state government on these negotiations. It is only second hand accounts from city planners, who were involved as government consultants, that provide some insight into this process.

The primary goals of the GSDMA's urban redevelopment plans were to improve seismic safety by reducing housing density and redesigning street layouts, and to rebuild public infrastructure such as roads, water supply, and sewage in the destroyed towns of Kutch. The proposed urban redevelopment plans had a powerful appeal for the Gujarat government because it fitted in with the government's larger vision for industrial growth in Kutch. The state government visualized its urban reconstruction program as a tool to achieve its goal of upgrading urban infrastructure in Kutch in order to make the region more attractive to future industries. Of the five main urban centers Bhuj, Anjar, Bachhau, Rapar and Gandhidham, the towns of Bhuj, Anjar and Bachhau, which had suffered the most damage, were targeted for urban redevelopment<sup>38</sup>. These three towns are also situated on the main transport corridor of Kutch, an area increasingly attracting new industries, and are thus poised for rapid urbanization. The state government, aware of the potential for rapid urban growth in the three towns, not only wanted to rebuild the destroyed public infrastructure, but also sought to have long-term urban development plans for land-use and infrastructure layout, in each of the three towns.

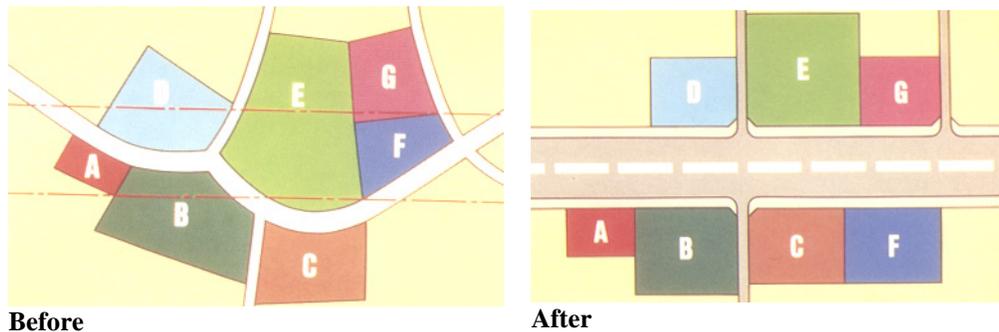
The Gujarat government used 100 million US dollars from an ADB loan to finance the three projects. In each town, the planning consultants<sup>39</sup> first conducted land surveys and gathered property data in order to draw accurate maps of the old city urban core. The maps were then used for land readjustment, a technique in which residential plots are consolidated for unified planning of infrastructure and housing. Planning consultants redrew the existing plot lines and road layout in Bhuj, Bachhau and Anjar to organize the earlier irregular shaped land parcels into regular

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<sup>38</sup> Government of Gujarat, GSDMA Publication. *Beyond Reconstruction*, March 31, 2003

<sup>39</sup> The Gujarat state government appointed Ahmedabad based planning firms, Environmental Planning Collaborative and Dalal Mott MacDonald as planning consultants for Bhuj and Bachhau respectively, and a Delhi based non-profit organization, the Indian National Trust for Art and Cultural Heritage in collaboration with infrastructure consultant firm Lea Associates South Asia Pvt Ltd as planning consultants for Anjar.

geometric form. Its overall purpose was to reduce high density of housing and better organize the congested old town urban core; to achieve a regular neighborhood pattern; to provide wider and improved road network; and to equitably distribute infrastructure facilities such as water, sewage and streetlights (see figure 4 below)<sup>40</sup>.



**Before** **After**  
**Figure 4: Land readjustment: An example of irregular shaped plots before land readjustment (left) and an example of regular shaped plots with adequate road access after the process (right). (Source: Japan Association of Land Readjustment. 1991. *Kukaku-seiri: An introduction to land readjustment*, p. 4)**

To oversee infrastructure construction, the GSDMA appointed a state level government agency called the Gujarat Urban Development Corporation (GUDCO), whereas to implement and coordinate urban redevelopment and housing reconstruction program, the GSDMA constituted a government agency called the Area Development Authority (ADA) in each town. The ADAs were a strong authoritative body that nobody could question and whose decisions were final. The ADAs worked with planning consultants on the urban redevelopment plans and played a key role in its implementation, such as giving building permissions to homeowners; demarking road and plot lines; handing reconstituted plots back to homeowners; and certifying seismic safety of buildings. Meanwhile, GUDCO worked on infrastructure construction projects in the towns to build roads, water lines, sewage pipes, streetlights, and government administrative buildings.

<sup>40</sup> Land readjustment is normally used to develop unpopulated urban fringe lands in India by consolidating adjoining land parcels for unified planning and infrastructure servicing, and for subdividing the land into regular shaped plots. In Kutch however, the technique was used for the first time in India to re-plan populated and settled urban centers.

To reduce built density in the old city, ADA invited homeowners, especially whose house plots were less than thirty square meters, to surrender their plots in the dense urban core and move to new areas outside the old town. To encourage homeowners to move out of the old urban core, ADA gave financial incentives. For example in Bhuj, homeowners and renters were offered a larger house plot at a subsidized land price in one of the three relocation sites on the outskirts of town. Many homeowners were ready to accept a larger plot at subsidized rates on relocation sites because, to widen the road network in the urban core, the land readjustment process deducted a significant percentage of land from every plot in the old city (see Table 5 below)<sup>41</sup>. Faced with the prospect of a reduced house plot size, many homeowners were willing to leave the urban core area.

<b>Plot Area prior to Land Readjustment (Square Meters)</b>	<b>Corresponding Plot Deduction during Readjustment (Percentage)</b>
0-30	0
30-100	10
100-200	20
200-500	30
More than 500	35

**Table 5: Plot reduction data during land readjustment: Housing plot area and the corresponding plot deduction planned under land readjustment process in the urban core of Bhuj. (Source: Data from Bhuj Area Development Authority website, <http://www.bhujada.com/Relocation%20rehabilitation.htm>, Accessed on March 2007)**

Following land readjustment in the towns, completed almost two years after the earthquake, the ADAs began to hand over reconstituted plots in the urban core back to those homeowners who chose to stay in the old city. By this time most homeowners had already received their first of

<sup>41</sup> The land readjustment process involved generating land for public infrastructure such as wider streets, which required homeowners to give up a certain percentage of their housing plot. Unhappy with the reduction in plot size, there was widespread resentment among homeowners who objected to what they termed as a second disaster. Though they received monetary compensation for the plot reduction, homeowners complained bitterly that the compensation was based on the original value of the housing plot (listed in public records) and not its current market price. Similarly, homeowners objected to issues such as high development fees being charged for the new infrastructure, and the innumerable errors in plot location, size and titles, revealed during the allotment of newly divided plots to homeowners after land readjustment. The reason for the plot errors can be attributed to a combination of factors such as lack of adequate community consultations, the inaccuracy of public land records, and GSDMA's insistence on speed of execution, which left no room to correct problems that came up during the implementation of town planning. All in all, the errors created increased conflicts among homeowners over housing plots and contributed to rising number of legal litigations against the government, along with innumerable town planning violations by homeowners who could not afford legal solutions.

three installments of housing financial assistance from the deputy collector's office. But before homeowners could begin construction work, they had to get their house plans approved and receive building permissions from the ADA office. Field interviews conducted with homeowners and renters suggest that most people found the entire process of understanding the new urban development plans, accurately identifying their housing plot lines, applying for public financial assistance, and navigating government bureaucracy, very complicated, confusing, and difficult.

### *Urban Housing Reconstruction*

The GSDMA identified more than eighteen thousand housing units<sup>42</sup> for its urban housing reconstruction program. To rebuild these homes, the state government offered financial assistance to homeowners and conceptualized housing recovery as an owner driven program. This meant that households would have direct control and supervision over construction of their house, with local artisans, building contractors or contract laborers doing the actual construction work<sup>43</sup>. Financial assistance to homeowners for rebuilding their homes was based on the housing damage assessed by government survey teams<sup>44</sup>.

The survey teams categorized housing damage into five groups from G1 to G5, with G1 for houses with minor crack and G5 being complete collapse. For single-family homes and apartment units in the G5 category (complete collapse), GSDMA set the financial compensation amount at the rate of three thousand rupees (US \$71) for every square meter of built up area with a maximum limit of fifty square meter eligible for assistance. Public financial assistance for

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<sup>42</sup> Gujarat State Disaster Management Authority, Government of Gujarat. *Summary Progress Report*, September 2003.

<sup>43</sup> The GSDMA saw its own role as that of an enabler by providing financial assistance while the actual building and construction work was left to individual homeowners. This approach gave complete control and decision-making powers to homeowners regarding the choice of building materials, the construction process, and the house design.

<sup>44</sup> The damage assessment team comprised of a government engineer, an official of the Revenue Department or the Panchayat, and a representative of an NGO or the headmaster of village school in the absence of an NGO.

homeowners thus ranged from eight thousand rupees (US \$ 188) for houses in G1<sup>45</sup> category to one hundred and fifty thousand rupees (US \$3529) for houses in the G5 category (see Table 6 below). The GSDMA gave the money through checks payable to the homeowner's bank account. For rental properties, the checks were made payable to a joint bank account in the name of the landlord and the tenant.

Damage Category	Category Description	Financial Compensation (1 US \$ = 42.5 Indian Rupees) Indian Rupees (Rs), Square Meters (sq mt), US Dollars (\$)	
		Single Family Home	Multi-Storied Apartment Buildings
G5	Fully collapsed	Rs.3000 (\$71) per sq mt Up to Rs.150000 (\$3529)	Rs.3000 (\$71) per sq mt Up to Rs.150000 (\$3529) per unit
G4	Severe damage to structure	Up to Rs.45000 (\$1059)	Low Rise: Up to Rs.400000 (\$9412) High Rise: Up to Rs.800000 (\$18824)
G3	25% damage	Up to Rs.30000 (\$706)	Low Rise: Up to Rs.200000 (\$4706) High Rise: Up to Rs.400000 (\$9412)
G2	10% damage	Up to Rs.15000 (\$353)	Low Rise: Up to Rs.50000 (\$1176) High Rise: Up to Rs.100000 (\$2353)
G1	Minor Cracks	Up to Rs.8000 (\$188)	-
<b>Squatter Housing<sup>46</sup></b>			
G5	Collapsed housing unit	Rs.2200 (\$52) per sq mt Up to Rs.55000 (\$1294)	
	Collapsed shanty <sup>47</sup> unit	Rs.7000 (\$165)	

**Table 6: Public financial assistance amount policy: Damage category and corresponding financial compensation from Gujarat government for single-family houses, multi storied apartment buildings, and squatter houses in urban Kutch (Source: Government of Gujarat, GSDMA documents<sup>48</sup>)**

However, financial compensation to renters and squatters was not well defined in the housing recovery policy. GSDMA's compensation guidelines for renters and squatters was directed primarily towards households whose houses were completely destroyed, with no policy to provide assistance to renters and squatters whose houses were damaged in the earthquake.

<sup>45</sup> For homes in categories G1 to G4 needing minor to substantial repairs, financial compensation varied from eight thousand rupees (US \$188) to forty-five thousand rupees (US \$1059), and between fifty thousand rupees (US \$1176) to eight hundred thousand rupees (US \$18824) for multi-storied apartment buildings (see table 5).

<sup>46</sup> Destroyed squatter homes, that had a foundation and were built of mud or burnt bricks and cement mortar, were given financial assistance at the rate of twenty-two hundred rupees (\$52) for every square meter of built-up area with a maximum limit of fifty-five thousand rupees (US \$1294). However, collapsed squatter homes, without a foundation and made of materials like mud, thatch, cardboards or tin sheets, got seven thousand rupees (US \$165) as financial compensation.

<sup>47</sup> A small crude dwelling typically made of mud, thatch, cardboards or tin sheets and usually does not have a foundation

<sup>48</sup> Government of Gujarat. *Earthquake 2001 Rehabilitation Package 5 for Bhuj, Anjar, Bachhau, Rapar*. Resolution No: DMA-102001-587-B, April 24<sup>th</sup> 2001.

In its policy resolution<sup>49</sup>, the GSDMA also specified that the housing reconstruction funds for completely destroyed units would be released to homeowners in three installments. The first installment, forty percent of total assistance, would be disbursed as soon as a homeowner's financial assistance application was approved. The second installment, again forty percent of the total assistance was to be given when the construction reached the foundation plinth level. The third installment, the remaining twenty percent would be released upon the completion of the house (see Table 7 below).

Installment Number	Percentage of Total Assistance	Payment Schedule
First Installment	40%	Mobilization Money: Disbursed to homeowner by GSDMA as soon as owner's assistance is sanctioned
Second Installment	40%	Given to homeowner upon completion of 50% of repairs/reconstruction, which is till the foundation plinth
Third Installment	20%	Given upon completion of repair/reconstruction by homeowner

**Table 7: Installment payment schedule to homeowners: GSDMA's schedule of payment for homeowners whose houses were in G5 category (total collapse) and who applied for public assistance for housing reconstruction/compensation. (Source: Government of Gujarat, GSDMA documents<sup>50</sup>)**

However, there was widespread confusion among homeowners regarding the government's housing reconstruction guidelines and its financial assistance process. According to GSDMA guidelines, once ADA approved the house plans and the construction reached the foundation plinth level, an engineer from the deputy collector's office came to check upon the building progress, and give an approval certificate that qualified a homeowner for the second installment check. ADA then issued a certificate to confirm if the new construction incorporated town-planning regulations and seismic safety features. This was followed by another visit from the deputy collector's office engineer to confirm the completion of housing construction that enabled

<sup>49</sup> Ibid

<sup>50</sup> Gujarat State Disaster Management Authority, Government of Gujarat. *Gujarat Emergency Earthquake Rehabilitation and Reconstruction Program, Phase II, Proposal Submitted to World Bank*, October 3<sup>rd</sup> 2001, p. 28

a homeowner to receive the third installment check. Finally the homeowner had to go to the Nagarpalika (the municipal office) to register the new house.

Most homeowners and renters did not know which office to apply for financial assistance, or how to put together the application forms, or what were the application requirements. This is because many applicants were not familiar with government procedures or lacked a formal education and thus encountered problems getting the right paperwork together. Moreover, since the application procedure for installments required a large amount of paperwork, related processing fees, and photocopying expenses, many applicants with financial problems found it difficult to meet these expensive obligations. There was also widespread dissatisfaction among applicants regarding corruption among ADA engineers in charge of certifying the safety of housing construction and processing the financial assistance applications. This is because the engineers often demanded a portion of the housing assistance installment before approving the application files.

### **Out of Sync: Urban Town Planning and Disbursement of Housing Assistance Funds**

This section of the chapter looks at the lack of co-ordination among the three ongoing recovery processes in Kutch that was discussed earlier. It also examines how the Bank's need to follow its project schedule and deadlines and the Gujarat government's strict eligibility requirements for homeowners to receive housing assistance funds competed with the need for a more flexible approach towards the urban reconstruction project in Kutch, and the impact of these inherent tensions on final housing recovery outcomes in Bhuj and Bachhau.

Within just a few months following the earthquake in Gujarat, the World Bank consented to finance a total loan of 704 million US dollars to the Gujarat government, of which 380 million

US dollars or fifty four percent of the total loan was allocated to support urban housing recovery in Kutch. The World Bank funding for urban housing was planned in two phases, with 203 million US dollars for Phase I and 177 million US dollars for Phase II<sup>51</sup>. In order to monitor the flow of funds, the World Bank laid out a schedule to audit and disburse the loan money. From the Bank's perspective, a timetable, based on its institutional policies, procedures, and guidelines for loan projects, was necessary to ensure a smooth transfer of funds to the allocated projects and to address the Bank's concerns regarding possible misappropriation of finance.

Yet, the World Bank's schedule was not compatible with the actual pace of the complex urban reconstruction in Kutch (see Table 8 below). For example, in February 2001, just one month after the earthquake, the World Bank approved an Emergency Reconstruction Loan (ERL) for urban housing recovery in Kutch and set a deadline of March 2001 for releasing the first installment of housing assistance funds to homeowners. But in March the GSDMA was still in the process of finalizing its urban housing recovery policy. It was only in April 2001, four months after the earthquake, that the GSDMA was finally able to release its Earthquake Rehabilitation Policy for urban areas in Kutch, specifically targeting Bhuj, Bachhau, Anjar, and Rapar<sup>52</sup>.

The April 2001 policy resolution clearly spelled out for the first time how the destroyed towns would be rebuilt. The GSDMA had decided to rebuild in two phases. In the first phase, planning consultants would prepare Urban Development Plans (DP) for the four towns, which would specify land use, zoning guidelines, plan new infrastructure for future expansion of the towns, and identify relocation sites for homeowners who wanted to move out of the old city area. In the

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<sup>51</sup> World Bank Internal Document. *Memorandum and Recommendation of the President of the Internal Development Association to the Executive Directors on a Proposed Credit of SDR 356.0 Million (US \$442.8 Million Equivalent) to India or a Gujarat Emergency Earthquake Reconstruction Project*, Report No. P7516-IN, April 10<sup>th</sup> 2002, p.23.

<sup>52</sup> Government of Gujarat. *Earthquake 2001 Rehabilitation Package 5 for Bhuj, Anjar, Bachhau, Rapar*. Resolution No: DMA-102001-587-B, April 24<sup>th</sup> 2001.

second phase, planners would design Urban Planning Schemes (TP) for the old town urban cores in order to layout new infrastructure (wider roads, water supply and sewage lines, well organized plots), and support Gujarat Urban Development Company (GUDC) in its implementation of infrastructure projects.

Date	World Bank Timetable	Actual Urban Reconstruction
February 2001	Funds approved for Phase I of loan	
March 2001	Scheduled date for releasing the first installment funds to homeowners for housing construction.	GSDMA begins procurement process (bidding) for urban planning contracts for Bhuj, Bachhau, Anjar, and Rapar
April 2001		GSDMA finalizes urban housing reconstruction policy for Kutch
May 2001		Planning consultants begin work on long-term urban development plans (DP) to specify land use, infrastructure layout, and zoning guidelines.
June 2001		First installment funds for housing construction released to homeowners
September 2001		First external audit scheduled
October 2001	First World Bank Review Mission	
December 2001		Urban development plans approved
June 2002	Funds approved for Phase II of loan	
February 2002		Planners sign town planning contracts to design infrastructure in old urban core
November 2002		Town planning projects (TP) begin to redesign street layouts & infrastructure, and to redraw housing plots lines in the old urban core areas.
January 2003		Land readjustment deadline
April 2003		New town plans put on public display
August 2003		Town plan draft schemes submitted
October 2003		Plot demarcation on the ground begins
December 2003		Plot allotment to homeowners begins
October 2005	Planned closing date for loan project	

**Table 8: Mismatched disbursement and reconstruction schedules: Lack of co-ordination between the World Bank timetable and the pace of urban reconstruction in Kutch. (Source: Interview Data and World Bank documents<sup>53</sup>)**

As mentioned earlier, the GSDMA had decided to release housing installments to homeowners in three installments. Though the World Bank had set March 2001 as the deadline for releasing the first installment funds for housing reconstruction, planning consultants advised GSDMA not to

<sup>53</sup> World Bank Internal Document. *Memorandum and Recommendation of the President of the Internal Development Association to the Executive Directors on a Proposed Credit of SDR 356.0 Million (US \$442.8 Million Equivalent) to India or a Gujarat Emergency Earthquake Reconstruction Project*, Report No. P7516-IN, April 10<sup>th</sup> 2002, p.15.

release the funds without first implementing both phases of its urban planning project. The GSDMA realized that even if the first housing reconstruction installment were given to homeowners, they would not be able to begin construction of their homes. This was because, without the new urban redevelopment plans in place the road layouts and the housing plot lines were not yet demarcated, and so the ADAs could not give building permissions to homeowners that would allow them to begin construction. By April 2001, the GSDMA knew that the design and implementation of both phases of its urban planning project could take a long time. The entire process eventually took about thirty months to complete, starting in March 2001 when GSDMA began its procurement process by inviting planners to put in bids for the urban planning contracts up until October 2003 when the road and plot lines were finally demarcated on the ground<sup>54</sup>.

In the meantime however, the World Bank, which had set a deadline of March 2001 for releasing the first of the three housing reconstruction installments to homeowners, was unhappy with the delays in the release of its funds. It stepped up pressure on the GSDMA to release funds for the first installment of housing reconstruction prior to the external audit of GSDMA scheduled in September 2001. There were three primary reasons for the World Bank's actions.

The first reason was that Phase I of the World Bank loan to Gujarat was an Emergency Reconstruction Loan (ERL). According to World Bank guidelines, an ERL Project has to be

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<sup>54</sup> The complexity of the urban recovery in Bhuj and Bachhau were compounded by the fact that there was no prior precedent of urban recovery on such a large scale in India. The earlier 1993 Maharashtra earthquake had mostly impacted rural areas. Its rebuilding program thus did not have any urban planning component to it and was largely confined to housing reconstruction. While the Gujarat government looked to the experiences of the Maharashtra government when crafting its housing recovery policy, it did not have a similar prior model for post-disaster urban planning and infrastructure reconstruction. For this part of urban recovery the government built its program from a scratch, relying mostly upon advice from its planning consultants and from funding agencies like the World Bank and the Asian Development Bank.

completed within a period of three years, and the Bank wanted GSDMA to use its ERL funds within that stipulated timeframe. Moreover, under normal loan conditions, disbursement of World Bank loan funds only happens after procurement process is complete. In other words, the World Bank reimburses a country only after it receives a bill of the expenditure. In Gujarat however, since the Phase I of its World Bank loan was an ERL, the Bank had disbursed funds for Phase I prior to the procurement process. This meant that the World Bank money for urban housing reconstruction was sitting in the Gujarat government coffers, waiting to be released, a situation, which the World Bank was not comfortable with, particularly due to its concerns regarding possible misappropriation of finance.

The second reason for the World Bank's discomfort with the delay in release of funds was that, based on a history of loan agreements with India, the World Bank had identified procurement concerns specific to India. These concerns included delays in finalization of bid documents; delays in awarding and signing of contracts; delays in releasing advance amounts due to procedural formalities; delays in resolving issues during contract implementation; weak administration; and very slow pace of utilization of loans. Procurement usually includes activities related to purchasing goods, services and works primarily for the government. According to the World Bank's procurement policy, an efficient procurement process can ensure rapid and efficient transfer of funds, which in turn contributes to the success of a project. In the case of Emergency Reconstruction Loan, the procurement process was primarily to release the first installment checks to homeowners. Knowing India's history of procurement related problems, the Bank began to put pressure on GSDMA to adhere to its procurement guidelines and schedule.

The third reason for the Bank's unhappiness over the delay in release of funds was that the GSDMA was applying for and was in negotiation with the World Bank for its Phase II of the

reconstruction loan, and a first review mission from the World Bank for the loan application was scheduled in October 2001. As part of the loan application the World Bank wanted the GSDMA to include the results of a completed half yearly external audit, scheduled in September 2001, in its Phase II loan application. Moreover, the Bank wanted the GSDMA to outline its plans to tackle any problems brought up by the audit. However, to have a legitimate external audit, the GSDMA needed to begin the procurement process. In the case of Emergency Reconstruction Loan (Phase I of World Bank loan), the procurement process meant releasing the first installment checks for housing reconstruction to homeowners. Without releasing the funds, the audit could not hope to identify possible problems or bottlenecks in the flow of funds. Consequently, the GSDMA was under immense pressure from the World Bank to speed up its procurement process and release the first installment of urban housing reconstruction funds to homeowners in Kutch

Moreover, by May 2001, five months after the earthquake, homeowners were impatient with what they saw as the slow pace of government machinery, and wanted GSDMA to release the housing reconstruction installments so that they could begin rebuilding their homes<sup>55</sup>. Peoples' frustration with the government was reflected in local newspapers in Kutch, such as Kutch Mitra, who began questioning the legitimacy and moral authority of the Gujarat government.

Finally in June 2001, under such immense pressure from the World Bank, the public and the media, and contrary to the advice of planning consultants, the GSDMA decided to release the first housing reconstruction installments to homeowners in the towns of Kutch. For those homeowners who were located outside the designated urban planning areas the funds helped to begin repair

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<sup>55</sup> In urban centers homeowners whose houses had completely collapsed or sustained significant damaged in the January 2001 earthquake were eligible for housing compensation under the urban housing reconstruction and recovery program. The money was released in three installments. The first installment was called mobilization funds but during the release of funds it was not clear what the money was meant to mobilize. The second installment was released after 50% of the construction work was complete, and the third installment was released on the completion of the house.

and reconstruction work. But for homeowners within the urban planning areas the release of funds started a domino effect of problems. With no building permissions in hand, homeowners could not begin repair or reconstruction work and were not sure how to use the first housing installment money. Most spent the money in different ways such as buying consumer items (television, refrigerator, motorbike, scooters, etc), for urgent medical expenses, or for wedding arrangements in the family. This defeated the very purpose of the funds that were intended specifically for housing recovery. For example, Table 9 below shows that there were about 12,600 destroyed and damaged housing units inside the urban planning area in Bhuj and about 19,700 units outside the urban planning area. While homeowners of the 19,700 units outside the urban planning area could begin to repair and rebuild with their first installment of public funds, the homeowners of the 12,600 units inside the urban planning area could not. Homeowners who could not start the reconstruction work either moved into temporary shelter sites designated by the state government or built shelters on their own house plot.

Bhuj City		Damage Category					Total Damage G1 to G5
	Total Houses	G5	G4	G3	G2	G1	
<b>Total inside core (Urban Planning Area)</b>	22468	7067	2716	1536	896	482	12697
<b>Total outside core (Non-Urban Planning)</b>	27127	3790	3324	3886	4708	4028	19736
<b>Total homes inside &amp; outside the core</b>	49595	10857	6040	5422	5604	4510	32433

**Table 9: Housing damage in urban planning area: Housing damage survey data for inside and outside urban planning areas in Bhuj, Kutch district, Gujarat state, India. (Source: Damage survey data provided by Deputy Collector Office, Bhuj)**

In August 2003, more than two years after the release of the first installment, the urban planning draft schemes, which were part of GSDMA's first phase of its urban reconstruction program, were finally submitted by planners for approval. By October 2003, the plans were approved and implementation began. The planning consultants and the Area Development Authorities (ADAs) began to demarcate plot lines and road layout on the ground. Finally in December 2003, the

ADAs began to formally allot the newly demarcated plots to homeowners and give building permissions for housing construction.

Homeowners had to complete fifty percent of housing construction, till the foundation plinth level, with funds from their first installment, in order to be eligible for their next housing installment. Since most homeowners had spent the money elsewhere, they had to look for alternate financial resources to complete the first stage of rebuilding. While some households dipped into their savings, others applied for housing loans from local banks, and few turned to their own community for monetary help. Yet, many homeowners, particularly low-income households, did not have access to other funding sources, and struggled to build their houses to the required level in order to avail their second installment. Often, households with limited financial capacity, who had spent their first installments, could not begin the construction work at all. Table 10 below shows the number of applicants who received their first installment for housing construction, and the numbers who received their second and third installments in Bhuj and Bachhau. The figures show that the number of homeowners who received the second and third installments was significantly lower than the numbers who received their first installment.

Town Name	Total Applicants in G5 Category	Applicants Approved	First Installment	Second Installment	Third Installment
Bhuj	7230	6356	6356	528	-*
Bachhau	8570	5820	5820	3461	2357

**Table 10: Housing installment data: Number of homeowner applicants who received, the first, second, and third installments of government assistance for housing reconstruction in Bhuj and Bachhau. (Source: Government of Gujarat, GSDMA documents, April 2005; \*Data on approved number of third installment in Bhuj was not available during fieldwork period in April 2005)**

In Bhuj, while more than six thousand households were approved for the first installment, only five hundred received their second installment. In Bachhau, almost six thousand households were approved for their first installment, but only half that number received their second installment, and only a third of the original applicants were approved for the third installment. These figures

show that while a high number of homeowners got the first housing installment, many did not get the second and the third housing reconstruction installments. The primary reason for this was that households who had spent their first housing installments elsewhere could not complete the required amount of construction that would make them eligible for the second and third housing installments. As the World Bank's October 2005 deadline for disbursement of installments and completion of the loan project drew close, numerous homeowners did not have the financial resources to either begin the first phase of construction or to complete their partially constructed house.

For example, in Bhuj, as discussed earlier, the Bhuj Area Development Authority (BHADA, henceforth called the Bhuj Authority) encouraged homeowners to surrender their plots in the dense old city urban core and move to new relocation sites outside the old town. EPC estimated that about fifty-five hundred households<sup>56</sup> would move from the old city urban core to the new relocation sites designated by the Bhuj Authority on the outskirts of Bhuj. While the number of house eventually built at the relocation sites is far less than the number EPC projected, the total number of houses built also fall short of the total number of plots allotted to homeowners and renters. This is because the four relocation sites of Bhuj have a total of almost four thousand housing plots, of which more than thirty-eight hundred plots were allotted to homeowners or renters (see Table 11 below). Yet, by April 2005, more than four years after the earthquake and from a total of thirty-eight hundred households who had received a housing plot on one of the relocation sites, only about twenty-three hundred households had completed construction of their houses. This means that from the total number of homeowners or renters who had received a housing plot on one of the relocation sites, only about sixty percent were successful in building their houses.

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<sup>56</sup> Thirty-five hundred from the old city urban core and two thousand from outside the urban core area.

Name of Site	Total Number of Plots	Plots Allotted	Construction Completed
Ravalwadi	1808	1708	1042
Mundra	1278	1180	607
R.T.O.	705	696	518
G.I.D.C.	280	280	165
<b>Total</b>	<b>3991</b>	<b>3864</b>	<b>2332</b>

**Table 11: Relocation sites plot data: Housing and plot data for the four relocation sites in Bhuj.**  
 (Source: Data from BHADA website, <http://www.bhujada.com/Relocation%20rehabilitation.htm>,  
 Accessed on March, 2007)

While a number of houses were still in the process of construction, observations recorded from field visits to Bhuj relocation sites in April 2005 confirm that there were many housing units that stood with partly constructed foundation plinths or walls, with no indication of further building activity. These observations are reflected in the following comments of one interviewee, who explained the complex situation by citing an example of a case in which he was representing a homeowner in his capacity as an attorney.

“In the relocation site (...) if a person is going to get about 80,000 Rupees (US \$1900) [as public financial assistance] (...) They [homeowners] took the first installment in the beginning, and then they took another big chunk [of public financial assistance] through the second installment, so there is only another 10,000 to 15,000 Rupees (US \$250 - \$350) left, but the [construction] work he [homeowner] has done is barely 40 to 50 percent. So today many houses are left dangling because [for example] I have a case where the person [homeowner] will get 17,000 Rupees (US \$400) as a third installment but he needs to spend another 60,000 to 70,000 Rupees (US \$1400 - \$1600), only then the [construction of the] house will be complete (...) Now the 17,000 Rupees (US \$400) is much less than 70,000 Rupees (US \$1600), but he [homeowner] says [to government] that in that money [third installment / 17,000 Rupees / US \$400] I can fill the slab [concrete roof], so please give me the third installment without the roof [without fulfilling requirements for third installment – i.e. complete housing construction]. But as per the government rules it is not possible, so today many persons just because of [unable to get] the third installment are just dangling. They will have to forgo the third installment [because they cannot fulfill the requirements], the house will remain unfinished, and when he has the [financial] means then he will build it [the house], or he will sell it [the house] at a cheap price”.

The above comment and the field observations clearly indicate that in many cases people could not complete the construction of their house at the relocation plot allotted to them by the Bhuj Authority. The reason was mainly because they had spent the first installment of public financial

assistance on other immediate expenses, and could not complete the required amount of construction to be eligible for their second and third installments of public financial assistance for housing reconstruction.

### **The Cost of World Bank Funds**

This chapter looks at the use of World Bank funds for urban housing recovery in Kutch, in order to understand how the funds impacted final housing recovery outcomes in Bhuj and Bachhau.

The previous section shows that the lack of coordination among the three processes, the World Bank loan schedule, the urban planning process, and the housing recovery assistance program, significantly impacted housing recovery outcomes in these towns. While it is important to acknowledge that without the World Bank loan, it may not have been possible for the Gujarat government to offer public financial assistance for housing reconstruction to homeowners, it is also imperative to understand that the World Bank funding guidelines and the Gujarat government's housing recovery policies had inherent flaws that made it challenging especially for low-income homeowners to receive public funding. At the same time it is also difficult to miss that the World Bank funds were primarily intended for homeowners, and the Gujarat government's housing recovery policy did not pay much attention to the housing recovery needs of renters and squatters and the use of public financial assistance for these groups. Consequently, I would argue that the use of World Bank funds for urban housing recovery in Bhuj and Bachhau produce a mixed bag of results.

Overall, there are three main points to look at while examining the impact of World Bank funding on housing recovery outcomes in Bhuj and Bachhau. The first is that there was an inherent lack of flexibility in the World Bank's loan program guidelines, which contributed to an urban housing

recovery policy that could not adapt to changing dynamics on the ground. In other words, what this meant was that the Gujarat government could not change its strategy based on the changing dynamics of the recovery process. While the state government clearly underestimated the amount of time it would take for the urban town planning process in the initial months after the disaster, it was under no such illusion six months after the earthquake. By then the Gujarat government was well aware that the town planning would be a long haul process, and that without the completion of urban town planning, it could not demarcate plot lines, delineate road layout on the ground, or give building permissions to homeowners. As a result, the state government was hesitant to release the first installment of public financial assistance to homeowners prior to its completion of town planning, because without the necessary building permits homeowners could not begin construction work. However, the World Bank had already approved the state government's urban housing recovery loan at this time and the Bank's Emergency Loan guidelines did not permit the state government to modify its timetable for funding<sup>57</sup>. What this meant was that World Bank schedule did not give the state government any room to maneuver and re-negotiate the timetable to disburse public financial assistance to homeowners. So the state government was clearly in a bind, because while it was hesitant to release public assistance funds to homeowners before issuing them building permits, it had no option but to do so under the World Bank's loan schedule.

Field interviews suggest that the World Bank was fully briefed on the potential problems that might arise if housing recovery funds were released before the urban redevelopment plans were in place. But the Bank's Emergency Loan regulations did not possess the flexibility required to

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<sup>57</sup> There was some tension internal to the World Bank's own procedural guidelines. As discussed in the previous section, the Bank already knew that India is slow with procurement, and the Bank could have had a delayed timetable, but its own Emergency Loan guidelines did not permit such an approach. This is because in a typical loan procurement process the Bank reimburses the borrowing government for expenses incurred. But after the Kutch earthquake the World Bank had approved an Emergency Loan to the Indian Government. Under the special guidelines for Emergency Loans, loan funds are released immediately to the borrowing government. Since Emergency Loans release funds to the borrowing government prior to any expenditure incurred, the Emergency Loan guidelines for funding disbursement are more rigid than those for a normal loan.

accommodate the actual pace of urban reconstruction on the ground or change its loan schedule that could have enabled the Gujarat government to delay releasing the first installment of public assistance funds till after the completion of its urban town planning. Consequently, the Gujarat government released the first installment for housing reconstruction to homeowners prior to completing its town planning and without giving building construction permits to homeowners. The decision to release the first installment early created a ripple effect of problems. With no building permissions in hand, homeowners spent the public assistance funds on other immediate expenses. Once homeowners got the building construction permits, they had to look for alternate financial resources to complete the first stage of rebuilding in order to receive the second and third installment of public assistance funds. Many low-income homeowners, who did not have access to other funding sources, faced difficulties in receiving the second and third installments of their public financial assistance, and struggled to rebuild their houses. In some ways, this end result proved self-defeating to the original purpose of the public assistance program, which was to reduce financial hardship and help homeowners to rebuild their houses after the earthquake. Yet, the challenges faced by low-income homeowners to access public financial assistance meant that in spite of the existence of a public assistance program, the Gujarat government failed to adequately assist low-income homeowners to rebuild and recover. Homeowner demographics and the corresponding use of public assistance funds is explained in further detail in chapters three and four. Overall, the World Bank's procedural guidelines for its loan program could not adapt to the fluid recovery situation and rapid changes taking place on the ground in Bachhau and Bhuj, which in turn clearly contributed to a situation where public financial assistance could not reach many homeowners in Bhuj and Bachhau, particularly among low-income households.

Yet, it needs to be acknowledged that the reason for the release of the first installment of housing reconstruction funds cannot simply be attributed to the time schedule set by the World Bank. The

Gujarat government was under enormous pressure from the public and the media as well, which wanted the Gujarat government to take some action, or rather any action that would help the people of Kutch get started on rebuilding their houses. With state legislative elections coming up just eight months after the earthquake, the state government was under a lot of political pressure to pacify its middle-class constituency in Kutch, the homeowners, who were heavily impacted by the earthquake. There is no doubt that this was an important factor that the Gujarat government took into consideration while releasing the first installment of public assistance for housing reconstruction to homeowners. While conflicting pressures after a disaster are not new, the situation in Kutch after the earthquake reconfirms what hazard researchers (Comerio, 1998) have previously noted, that tensions between political priorities and economic needs underline the funding process for housing recovery after disasters. In Kutch, the GSDMA had to balance multiple competing forces, such as its own objective to successfully complete the town-planning project, to follow the World Bank's Emergency Loan timeline, to meet public expectations, and to understand the housing recovery needs of the earthquake-affected communities.

This brings the discussion to its second point, that did the Gujarat government meet the housing needs of communities in Bachhau and Bhuj using its loan monies from the World Bank. I would argue that the World Bank funds could not meet the housing needs of all communities. This is because, while the World Bank's guidelines and multiple political pressures on the government impacted the disbursement of public assistance, there was also a failure on the part of the Gujarat government to modify and adapt its public financial assistance policy according to the changing dynamics on the ground. This in turn left a large number of communities with low-income homeowners ineligible for public assistance and struggling to rebuild their houses. The difference among various homeowner groups is explained in further detail in the following chapters.

While it can be argued that the government cannot change its policy rules halfway into the game, however, I would contend the state government made no attempt to find solutions to the problems facing low-income homeowners. It cannot be denied that there was tremendous public and media pressure on the Gujarat government to hasten the process of reconstruction in Kutch, and to release public assistance monies to disaster-affected communities sooner rather than later. At the same time, the Gujarat government was aware that releasing public assistance funds prior to issuing building permits essentially meant that it was telling the disaster-affected communities to use public housing assistance for whatever expenses they deemed most urgent. It also meant that homeowners might begin rebuilding immediately in an ad hoc fashion without proper town planning guidelines in place. In other words, the state government was well aware that without necessary permits in hand to begin rebuilding, homeowners would spend the first installment elsewhere, and would eventually face problems satisfying the eligibility requirements for second and third installments.

It can be argued that this is a problem that homeowners brought upon themselves, particularly for households who found it difficult to satisfy the state government's building requirements that could qualify them for their second and third installments of public financial assistance. But I would suggest that the state government could have rethought its eligibility requirements for its second and third installments of public assistance or looked for ways to strengthen the capabilities of low-income homeowners to fulfill the eligibility requirements. For example, the state government could have made housing loans more accessible to households who were facing difficulties in obtaining their second and third installments. Yet, there was no attempt on part of the Gujarat government to find solutions to the problems that it knew would face some homeowners, if due to limited resources they were unable to satisfy the eligibility requirements to get their second or third installments of public financial assistance.

Moreover, the Gujarat government's urban housing recovery policy focused primarily on homeowners and the criteria for awarding public financial assistance was based on the amount of earthquake damage incurred to legally owned housing property. While the policy was detailed in its information for providing financial assistance to property owners, it remained largely silent regarding assistance to those households who did not own legal properties and were rendered homeless during the earthquake. This approach, discussed in greater detail in the following chapters, excluded socio-economically weaker groups such as squatters and renters from the housing recovery process. Overall, it is important to note that while the state government used the World Bank's urban housing recovery loan to address the housing needs of a large number of homeowners, it ignored the housing recovery needs of low-income homeowners, renters and squatter communities. In other words, the Bank's funds were directed towards strengthening the capabilities of some homeowners to rebuild their houses, but did not particularly assist low-income homeowners, renters, and squatters in strengthening their capabilities to rebuild and recover.

The last point to note regarding the impact of World Bank's funds on housing recovery outcomes in Bachhau and Bhuj is that the Bank's funding schedule and requirements created a certain mindset among state government officials that dictated the terms of housing recovery in the two towns. Instead of focusing on an urban housing recovery policy that would emphasize upon strengthening the capabilities of earthquake impacted communities to rebuild their houses, the state government and World Bank officials were more engaged and interested in ensuring that the Emergency Loan monies were disbursed successfully and in a timely fashion according to the schedule agreed upon by the Bank and the GSDMA. In other words, the World Bank loan

conditions dictated the definition of a successful urban housing recovery in Kutch for public officials in Gujarat and within the Bank.

This was particularly evident during a field interview with the District Collector of Kutch, the highest ranked public official at the district level. The District Collector when asked whether he believed that the state government's housing reconstruction program in Bhuj was a success, his immediate response was, "Of course, we have distributed all the money from the World Bank". The Kutch District Collector's response clearly illustrates the state government's measure of success for urban housing recovery. While state and local government officials described housing recovery as successful disbursement of World Bank loan funds, for communities in Bachhau and Bhuj, being able to rebuild their houses constituted as a measure of successful housing recovery. So there was a clear disconnect between how public officials and local communities perceived urban housing recovery in Bachhau and Bhuj.

With public officials focused more on timely disbursement of public assistance funds, it meant that any kind of participatory approach from local communities or citizen organizations in urban housing reconstruction was brushed aside. Moreover, the GSDMA's need to meet the Bank's schedule requirements for public assistance disbursement contributed partly to the reason why state and local public officials ignored the housing recovery needs of low-income homeowners, renters, and squatters. These aspects are discussed in greater detail in the following chapters.

Taking on the task of understanding and meeting the housing needs of these groups meant that the state government would need more time, which in turn would delay the completion of the entire housing recovery program. In other words the state and local government officials were hesitant to address any problem that would delay the completion of its loan program goal, which was to disburse public financial assistance quickly and efficiently.

In summary, the World Bank's Emergency Reconstruction Loan funds, borrowed by the Indian government to address urban housing recovery needs in Kutch, impacted housing recovery outcomes in Bhuj and Bachhau in three ways. First, there was an inherent lack of flexibility in the World Bank's loan program guidelines, which contributed to an urban housing recovery policy that could not adapt to changing dynamics on the ground. This in turn contributed to a situation where public financial assistance could not reach many homeowners in Bhuj and Bachhau. Second, there was also a failure on the part of the Gujarat government to modify and adapt its public financial assistance policy according to the changing dynamics on the ground, which in turn left a large number of households ineligible for public assistance. Moreover, the Gujarat government's public financial assistance policy focused mainly on homeowners, and ignored the housing recovery needs of renters and squatter communities. Third, state and local public officials were focused more on ensuring that public assistance funds were disbursed in time, rather than on policy details or solutions that could address the housing needs of various communities. This contributed partly to the reason why state and local public officials, hesitant to address problems that could delay the completion of its loan program, ignored the housing recovery needs of low-income homeowners, renters, and squatters.

## CHAPTER THREE: HOUSING RECOVERY IN BACHHAU

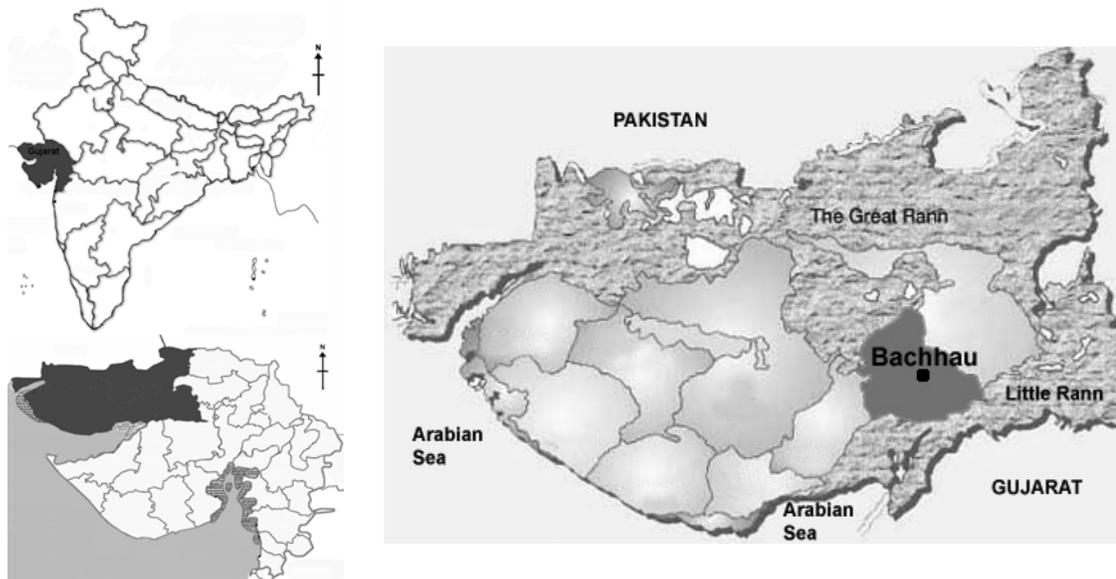
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This chapter looks at post-earthquake housing recovery in Bachhau, a town close to the epicenter of the 2001 Gujarat earthquake in western India, which flattened 230,000 houses and damaged one million houses. In Bachhau, single-family houses, squatter settlements, and renter apartments were destroyed, and public and private housing reconstruction programs were introduced to help people rebuild their homes. The Gujarat government introduced a public assistance program using World Bank funds for housing reconstruction (discussed in detail in Chapter 2). Six years after the earthquake however, homeowners as well as squatters were able to rebuild their houses in Bachhau. Yet, many renters were not able to achieve even pre-disaster housing standards. To understand why single-family homeowners and squatters were able to rebuild whereas low-income renters continued to struggle towards housing recovery, this chapter examines the impact of community resources, NGO interventions, and government housing reconstruction programs, on final housing recovery outcomes within various communities in Bachhau,.

The chapter is divided into three main parts. The first part establishes the context for Bachhau by looking at the town's housing growth and focusing on the pre-disaster housing status of various communities. Housing status is important in order to understand housing recovery outcomes because the Gujarat government used the pre-disaster housing status of a household as a basis to decide the amount of post-disaster financial aid for that household. The second part investigates the impact of community resources, NGO interventions, and government reconstruction programs available to each community, on final housing recovery levels among various communities. The third part examines the difference in final housing recovery outcomes among homeowners, squatters, and renters from various communities in Bachhau.

## 1. BACHHAU TOWN: UNDERSTANDING HOUSING

Bachhau, a town with a population of over 25,000<sup>1</sup> located in the east of Kutch district<sup>2</sup> in Gujarat state (see figure 5 below), lost most of its housing infrastructure during the 2001 earthquake. According to the post-earthquake housing damage survey<sup>3</sup> conducted by the Gujarat government, Bachhau had more than 13,000 buildings, of which 10,000 were residential homes. This means that housing accounted for nearly 75 percent of the built structures in Bachhau. However, with more than 9,000 homes destroyed, Bachhau lost nearly 90 percent of its housing stock, half of which were squatter housing<sup>4</sup>. The rest ten percent of homes suffered heavy damage and were rendered inhabitable.



**Figure 5: Bachhau location map: Maps on the left show location of Gujarat state in India (top left) and Kutch district in Gujarat state (bottom left). Enlarged map of Kutch district on the right shows location of Bachhau. (Source: Maps Reworked, Base maps from [www.mapsofindia.com](http://www.mapsofindia.com))**

<sup>1</sup> According to the Census of India 2001, the population of Bachhau is 25,389.

<sup>2</sup> A district in India is equivalent to a county in the United States

<sup>3</sup> The Census of India 2001 data on housing differs from the post-earthquake survey data. According to the census, Bachhau urban area has a total of 7925 structures of which 4642 properties are residences. These figures are well below the damage survey data, which records a total of 13,000 structures and more than 10,000 residences. Fieldwork indicates that the damage survey data has more realistic figures and is thus used in the study instead of census numbers.

<sup>4</sup> The census and damage survey data together indicate that out of 10,000 residences in Bachhau, approximately 4600 houses belonged in the legal housing market, and the rest 5400 were squatter houses.

The scale of damage was attributed primarily to the poor quality of housing construction and age of buildings. Most houses within the formal housing market in Bachhau were more than thirty to forty years old and performed poorly in the earthquake. These houses were non-engineered, made of thick load-bearing masonry walls, using burnt clay bricks, cut stones, random rubble stones or mud bricks with either mud or cement mortar (see figure 6 below). But the thick walls had a hollow core inside, and residents normally applied cement plaster to the inner and outer surface of the walls in order to strengthen it, unaware of the weak core within. As families grew, many houses were extended vertically to include a second floor without strengthening the first floor walls. Reinforced concrete slabs or heavy tiled roofs in high-income households added to the weight carried by the masonry walls. Consequently, when the first shock waves hit Bachhau, the weak first floor masonry walls could not transfer the load from the upper floors or support the weight of the heavy roof, resulting in extensive damage or complete collapse of most non-engineered houses.



**Figure 6: Non-engineered construction: Wall section of a Bachhau residence with burnt clay bricks and mud mortar, widely used before the earthquake. (Source: Photograph by author)**

The earthquake impacted single-family houses, low-rise renter apartments and squatter houses, rendering homeowners, renters and squatters equally homeless in Bachhau. The urban core was completely flattened, new residential neighborhoods outside the core suffered extensive damage making them uninhabitable, and squatter areas were reduced to rubble. With the percentage of

damage so high there were no houses available for people to rent as temporary shelters. Most homeowner households left town within a few days to stay with friends and family in other places. Renters, who had lower incomes and hence lower capacity for mobility, remained in Bachhau, as did squatters, particularly those without land tenure, who were concerned about losing their land and refused to move from the squatter plots.

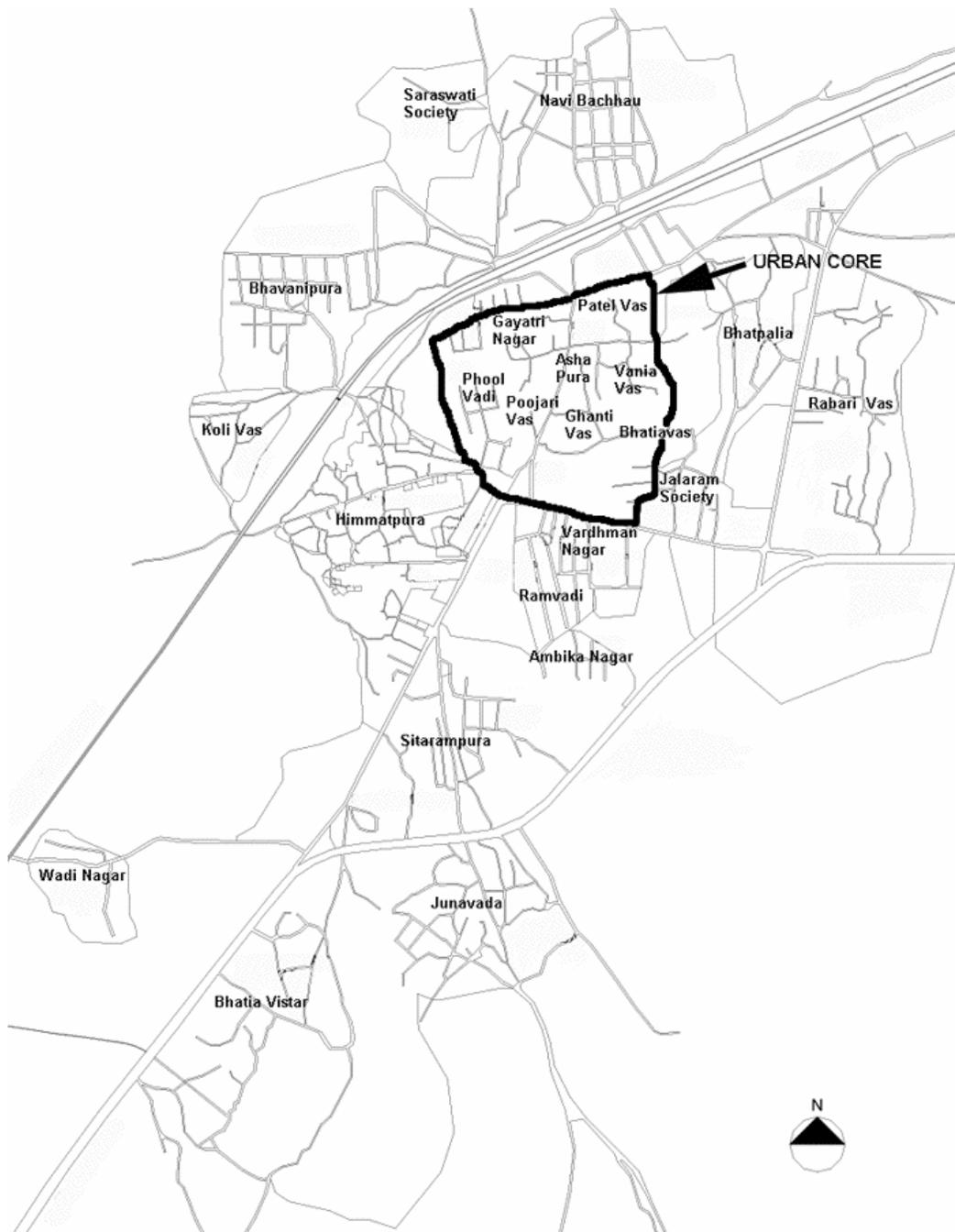
### **Housing Growth**

Within a span of three decades, since 1980s, Bachhau has grown from a village governed by a village council, to a rapidly expanding town administrated by a municipality. The construction of a broad gauge<sup>5</sup> railway line, that replaced the old narrow gauge, and the expansion of the highway from a single lane to a multi lane artery, has connected the town to large business cities like Mumbai and Ahmedabad in the south and Delhi in the north. Essentially a trading center for surrounding villages, the increased connectivity by rail and road along with Bachhau's proximity to Kandla port (the second largest in India) has attracted industries such as ceramics and salt processing, and contributed to the town's growth. The growing economic activity also contributed to a continuous influx of new migrants from neighboring villages and towns in search of work opportunities. The resulting rise in population has led to a boom in the housing market, with prices rapidly rising for single family and rental housing. The high housing prices, however, have locked the urban poor out of the formal housing market and instead led to a rapid expansion of informal housing through squatter settlements in and around Bachhau.

Bachhau consists of a highly concentrated old urban core and its immediate vicinities where affluent high-income homeowner communities concentrate (see figure 7 below).

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<sup>5</sup> A railroad track (or distance between the rails) broader than the standard gauge of 4'8½" (56.5 inches)



**Figure 7: Housing neighborhoods of Bachhau: Affluent communities inhabit the urban core along with areas like Bhavanipur, Saraswati Society and Navi Bachhau in the north, and Vardhman Nagar, Ramvadi and Ambika Nagar in the south. Poor communities live in squatter settlements in Bhatia Vistar, Junavada, Sitarampura, Himmatpura, Wadi Nagar, Koli Vas, Bhatpalia and Rabari Vas. (Source: Reworked Map, Base map provided by the NGO, Unnati, An Organization for Development Education, Bachhau)**

Within the urban core, these homeowner communities live in areas such as, Patel Vas, Gayatri Nagar, Phool Vadi, Poojari Vas, Ghanti Vas, Jalaram Society and Vania Vas. Beyond the core, these affluent communities reside in organized neighborhoods well-serviced with infrastructure like Bhavanipur, Saraswati Society, and Navi Bachhau on the northern edge, and Vardhaman Nagar, Ramvadi and Ambika Nagar, bordering the south of the core area (see figure 7 above). The main market street of Bachhau runs through the middle of this urban core and hosts various retail shops and business offices that belong to the affluent communities. In contrast, low-income communities, who have found it difficult to break into the formal housing market, are spread out in squatter settlements in the east, the west and further south of the urban core. In the south, the land gradually dips and is composed of low-lying areas, with some parts that are vulnerable to soil liquefaction during earthquakes. Large blocks of squatter settlements with little or no basic infrastructure have mushroomed in these quarters, such as Himmatpura, Sitarampura, Junavada, Bhatia Vistar and Wadi Nagar (see figure 7 above). Most of this terrain is public revenue land that belongs to the government. Similar squatter settlements, such as Rabari Vas and Bhatpalia, can be seen on unstable hillsides towards the eastern outskirts of Bachhau, along with Koli Vas on the town's western outskirts.

### **Pre-Disaster Housing Status**

The Gujarat state government used a household's pre-disaster housing status as a basis to decide the amount of post-disaster financial compensation the household was eligible for. Households who were homeowners had better chance of receiving adequate financial aid based on their property titles, as opposed to renters and squatters who could not produce property titles. This section thus highlights the housing status of communities prior to the earthquake.

Housing Category	Caste-Based Community	Total Household	Pre-Disaster Housing Status (In Percentage)			
			Homeowner	Renter	Squatter	
					With Tenure	No Tenure
High Homeownership	Thakkar	450	80%	10%		10%
	Patel-Leva	400	96%	2%	2%	
	Jain-Vania	190	100%			
	Maharaj	170	98%		2%	
	Jain-Oswal	125	100%			
	Darbar	100	70%	30%		
	Khatri Muslim	40	90%		10%	
Low Homeownership	Prajapati	300	30%	8%	50%	12%
	Suthar	200	50%		30%	20%
	Soni	110	50%	50%		
No Homeownership	Muslim General	900			20%	80%
	Dalit	450			70%	30%
	Koli	450			30%	70%
	Rabari	400			80%	20%
	Bhil	350			10%	90%
	Vadi	216			20%	80%
	Khawas Rajput	100			70%	30%
	Vaghri	70				100%

**Table 12: Housing in Bachhau: Pre-disaster housing status of eighteen communities in Bachhau, Kutch district, Gujarat state, India. (Source: Based on field interview data; Note: The above figures are approximate values)**

Based on the field interview data, Table 12 above provides the housing status of eighteen communities in Bachhau. The communities were identified based on their caste identity, since Bachhau is socio-economically structured along caste-based community lines. Caste structures are stronger in small towns (like Bachhau) and medium-size urban areas in India as opposed to larger urban metropolitan regions. In Bachhau, rather than spatial proximity, people identify their community based on their caste or sect affiliation, and each household forms social and economic networks within its own caste or sect<sup>6</sup>. Within each caste-based community though, the economic position of individual households can vary greatly. For example, in the Thakkar caste community some households own land, businesses, and properties, while many others are low-income renters

<sup>6</sup> For example, during religious or social functions such as weddings, families usually invite guests from only within their own caste or sect. Similarly, business and other economic links are formed through social networks between people belonging to the same caste or sect.

without property ownership. Fieldwork data indicates that caste played an important role during post-disaster housing recovery in Bachhau, when communities used their caste-based network to lobby their own communities at the larger national or even international level to arrange for financial or material assistance for members of their own group.

The data on housing status of each caste community is crucial because housing in Bachhau is a key indicator of the overall social and economic position of a community. For example, in economically wealthier caste communities like Thakkar and Jain, the percentage of homeowners is significantly higher than economically weak communities like Prajapati, who have a higher percentage of squatters or renters, or the Dalit community where all households are squatters.

This study broadly groups the caste-based communities in Bachhau into three categories based on homeownership status (see Table 12 above). The first homeownership category encompasses the caste-based communities of Maharaj, Darbar, Patel, Thakkar, Jain Vania, Jain Oswal, and Khatri Muslim. In these communities, more than 50 percent of households are homeowners with formal title to the property. Hence, in this study, this group of communities will be considered as those with high homeownership. The high homeownership communities are socially and economically the strongest in Bachhau, with a median income range of 10,000 to 5,000 rupees per month (US \$238 to \$119). The second category includes the communities of Soni, Suthar and Prajapati who have homeownership at 50 percent or less, and have been grouped as low homeownership communities. Median income within the three communities is around 3,000 rupees per month (US \$ 71). The final category are communities with no homeownership and includes Dalits<sup>7</sup>,

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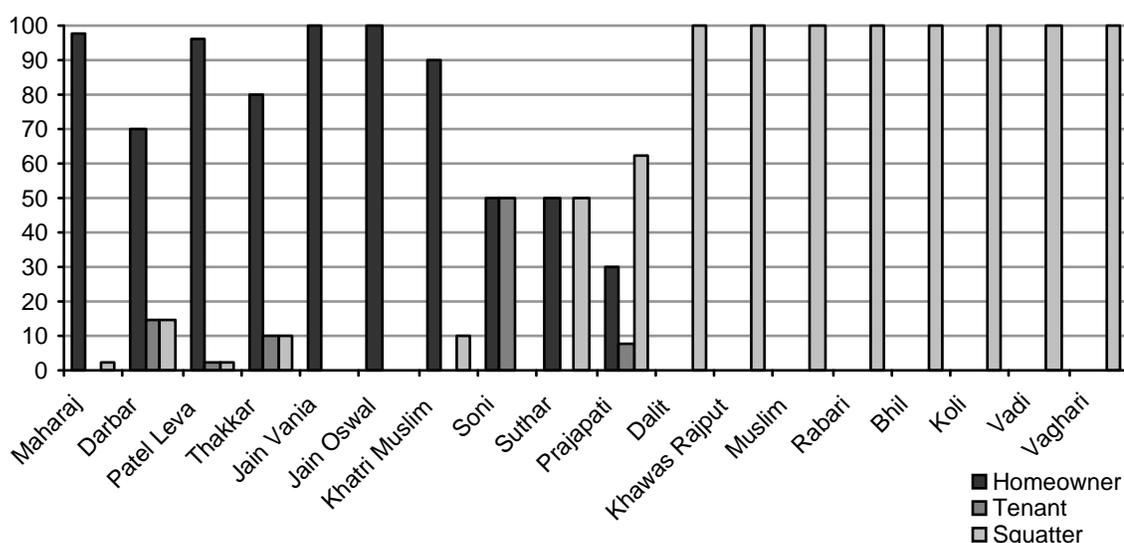
<sup>7</sup> Dalits were traditionally involved in vocations considered unclean such as leatherwork, removing and burying dead animals, and cleaning toilets, and were hence considered unclean and untouchable by other Hindu communities. In spite of affirmative action by the Indian government to help Dalit communities, most Dalits remain poor and continue to face physical and mental harassment from other Hindu communities, especially in rural areas and small towns.

Khawas Rajput, Muslims and the tribes of Rabari, Bhil, Koli, Vadi and Vaghari. These communities cannot afford to buy or rent a home in the formal housing market. Instead they look for options within informal settlements by squatting on public land or renting space from other squatters. The monthly median earning of households in this group hovers between 2,000 to 2,000 rupees (\$47 to US \$23). Among these communities, Dalits, Khawas Rajput and Rabaris have the highest percentage of squatters who have tenure<sup>8</sup>, at 70 to 80 percent. Having tenure has given them a measure of housing security and this is evident in their use of more expensive materials such as bricks and cement for housing construction as opposed to mud and grass. Yet, more than 70 percent of Muslims, Bhil, Koli, Vadi and Vaghari households do not have tenure. Consequently, their investment in the house is less compared to that of Dalits, Khawas Rajputs and Rabaris, and is evidenced by their use of cheap materials like mud brick walls and thatch roof.

Figure 8 below lays out the percentage of homeowners, renters and squatters among eighteen communities in Bachhau as listed in Table 12 earlier, in the form of a graph to visually illustrate the housing status of these communities. The graph shows high homeownership among affluent communities like Maharaj, Darbar, Patel-Leva, Thakkar, Jain-Vania, Jain-Oswal and Khatri Muslim communities. The percentage of homeowners decreases rapidly while the percentage of renters or squatters are almost equal to that of homeowners for communities like Soni, Suthar, and Prajapati with lower income levels. However, in communities like Dalit, Khwas Rajput, Muslim, Rabari, Bhil, Koli, Vadi and Vaghari, where the graph shows the highest percentage of squatters, there are no homeowners.

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<sup>8</sup> Tenure in Bachhau is called Sanad. It is a type of tenancy title that confers right of occupancy to a squatter by the government on a piece of public land. The title is non-transferable, which means that the land cannot be sold to a third party.



**Figure 8: Housing status graph for Bachhau: Percentage of homeowners, renters, and squatters among eighteen communities in Bachhau, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

## 2. HOUSING RECOVERY: PUBLIC, PRIVATE AND COMMUNITY-BASED INITIATIVES

Within a couple of months following the earthquake, various initiatives were launched for temporary shelter and permanent housing reconstruction in Bachhau<sup>9</sup>. These initiatives can be grouped into community activities, private NGO interventions and public government programs, with each having a different focus and approach to housing recovery. For example, communities focused on the needs of their own members, NGO work was targeted at socio-economically weak households, whereas government programs aimed primarily at homeowners. This section of the chapter looks at the impact of community resources, NGO aid, and public assistance programs available to each community, on final housing recovery outcomes among various communities in Bachhau. The section is based primarily on data from in-depth field interviews conducted with 18 caste-based communities in Bachhau. For each caste group one or two leaders were identified,

<sup>9</sup> Housing recovery in Bachhau progressed first through the construction of temporary shelters for immediate housing needs and was followed by permanent housing construction where the destroyed homes were rebuilt.

and interviews lasting from half hour to one hour were conducted with each person. The primary community data is supported with data from key interviews conducted with government officials, NGOs, religious groups, and local politicians.

### **Community Initiatives**

Immediately after the earthquake, caste-based communities in Bachhau tried to organize themselves internally through their community councils in order to distribute relief supplies and financial aid within their communities. Each caste and sect based community in Bachhau has a community council, and with community elders acting as the council leaders or presidents these councils played a crucial role in bringing their communities together after the earthquake. This section focuses on the efforts of community councils to provide their member households with temporary shelter or permanent housing following the 2001 earthquake and the impact of these efforts on housing recovery outcomes among various communities.

Most communities, particularly the squatters, lacked the socio-economic capacity to generate financial or material aid and relied upon government or NGO aid for housing recovery. But some high-income homeowner communities organized well and used their social and economic networks to generate materials and funds for housing recovery of their community members. As Table 13 below illustrates, only Thakkar, Jain Vania, Jain Oswal and Soni were able to generate the financial and material resources to contribute towards housing recovery in their communities. Apart from these four communities, there was a general absence of organized efforts to raise funds for temporary shelters or permanent housing among other communities.

In the high homeownership category, the Thakkar community council in Bachhau lobbied its larger community at the national level for financial contribution towards temporary shelters. The council used about three million rupees (US \$71,428), received from the All India Thakkar Community, towards construction material and part of the building costs for temporary shelters. Being an economically and politically powerful community in Kutch, the Thakkar council could persuade the Kutch district collector, the highest authority at district level, to give the community public land to build these shelters. Eventually, the Thakkar community council built 250 tin and asbestos temporary shelters on public revenue land near the main Bachhau highway, for its member households.

Housing Category	Caste-Based Community	Total Household	Community Initiative
High Homeownership	Thakkar	450	Built 250 temporary shelters. All India Thakkar Council gave Rs.11,000 (\$261) per shelter
	Patel-Leva	400	None for housing
	Jain-Vania	190	-Built 100 temporary shelters -Gave Rs.10,000 (\$238) cash for urgent expenses -Built housing for 85 families
	Maharaj (Brahmin)	170	Aid from state level Brahmin community was not enough at Rs.50,000 (\$1190) and was sent back
	Jain-Oswal	125	-Arranged temporary shelter in community guest house -Gave Rs.10,000 (\$238) cash for urgent expenses -Built housing for 26 families
	Darbar	100	Used political influence to get land tenure and housing damage compensation for squatters
	Khatri Muslims	40	None for housing
Low Homeownership	Prajapati	300	None for housing
	Suthar	200	None for housing
	Soni	110	Built about 25 tin shed temporary shelters
No Homeownership	Muslims (General)	900	Contributed construction labor to build housing for 10 families with financial problems
	Dalit	450	None for housing
	Koli	450	None for housing
	Rabari	400	None for housing
	Bhil	350	None for housing
	Vadi	216	None for housing
	Khawas Rajput	100	None for housing
	Vaghri	70	None for housing

**Table 13: Community resources in Bachhau: Community aid for temporary shelter and permanent housing in Bachhau, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

Jain Vania and Jain Oswal were another two communities in the high homeownership category who successfully lobbied their larger community at the national level for funds to build temporary shelters and permanent housing. Their success can be attributed to the fact that both Jain Vania and Jain Oswal belong to the wealthy and highly organized Jain religious group<sup>10</sup>. Most Jain households own successful businesses, are economically prosperous, and have a tradition of making charitable donations to their community trusts to fund projects such as, hospitals, schools and Jain temples. With the financial structure and community organization already in place, the larger Jain community in India responded immediately to requests for aid through a charitable institution called Vardhaman Charitable Trust. Each Jain Vania and Jain Oswal family received 10,000 rupees (US \$238) for immediate household needs. The Vardhaman Trust also built about 100 temporary shelters for Jain Vania households (see figure 9 below) on their own community land. Moreover, for low-income Jain households who could not rebuild their homes due to financial difficulties, the Vardhaman Trust decided to build new houses for them on a separate piece of land. While the participating households paid the price of the house plot, the Trust supervised and paid the entire construction costs for houses measuring about 250 square feet, for eighty-five Jain Vania and twenty-six Jain Oswal households in Vardhaman Nagar and Bhavanipur areas respectively (see figure 9 below).



**Figure 9: Jain community initiatives in Bachhau: Temporary shelter for Jain Vania (left) and permanent housing for Jain Oswal (right) built by the Vardhaman Charitable Trust in Bachhau. (Source: Photograph by author)**

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<sup>10</sup> Jains constitute about 0.4 percent of the Indian population, however due to their wealth they are one of the most prominent and influential groups in India. The community is highly educated and has influenced Indian culture, arts, architecture and food. Jains are very philanthropic and run numerous schools, colleges and hospitals throughout India.

In the low homeownership category, Sonis were the only group that lobbied their community at the national and state levels to raise money for temporary shelters. However, since the community is not very organized at the national level, the Soni community council was not able to generate the required funds to build temporary shelters. The Soni council instead offered its private community land for building temporary shelters, and asked its member households to pay for the building costs. The Soni households who needed temporary shelter, used their temporary shelter public assistance checks<sup>11</sup> of 12,000 rupees (US \$285) to contribute their share of funds. The Soni council then supervised the construction of 25 temporary shelters (see figure 10 below) on their community land.



**Figure 10: Soni community temporary shelters in Bachhau: Shelters built by the Soni community council on community land. (Source: Photograph by author)**

Among communities with no homeownership, primarily low-income squatters, all communities lacked the financial, social or political resources that are available to homeowner communities, and struggled to initiate housing recovery themselves. Most households in this category had to borrow small amount of funds internally within the community or buy construction materials on credit to rebuild their homes. In an exceptional case, some families from the Muslim community supported ten of the poorest households in their community by providing them with construction labor and material to rebuild their homes.

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<sup>11</sup> The Gujarat state government gave checks of 12,000 rupees (US \$285) to each household whose houses was destroyed or severely damaged in the earthquake.

Overall, within the three categories of homeownership, communities with high homeownership were most successful in organizing themselves internally to help their members with financial and material resources to various degrees. Among this group, Jain-Vania and Jain-Oswal were the only communities who could rehabilitate their members completely with their own resources, by arranging temporary shelters for their members and providing permanent housing for financially weak households. In the low homeownership group, a large number of households were squatters or renters. From the three communities in this group, only Sonis could partially help their members. The Soni community council provided land and supervised the construction work of temporary shelters. In contrast, among communities with no homeownership, where most households are squatters, there were no community resources to fall back on. These squatter communities mostly relied upon government or NGO aid for housing recovery. This indicates that community initiatives during post-disaster housing recovery was strongly linked to the socio-economic strength of a community prior to the earthquake.

### **NGO Interventions**

Private non-government organizations (NGOs) played an important role during housing recovery in Bachhau particularly among squatter communities. This section looks at the role of NGO aid on post-earthquake housing recovery outcomes among various communities in Bachhau.

Most NGOs in Bachhau focused their efforts to provide temporary shelters and permanent housing among squatters and renters. For example, an NGO called Unnati built 800 temporary shelter units for widows, orphans, and the disabled, in squatter communities like Dalit, Bhil, Koli, and Vadi. Yet, not all private entities were successful in providing adequate assistance. For

example, a public sector company<sup>12</sup> called IOC (Indian Oil Corporation) built 800 temporary units for renters on public revenue land outside Bachhau (see figure 11 below). However, the absence of a large piece of unoccupied barren public land close to Bachhau meant that the public land allotted for the IOC units was located far from Bachhau in the middle of nowhere with no roads or public transport links, and lacked basic facilities like water, electricity, sewage and road.



**Figure 11: IOC temporary shelters in Bachhau: Shelters built by IOC (Indian Oil Corporation) for renters outside Bachhau. A typical unit (left) and the site with eight hundred vacant shelters (right). (Source: Photograph by author)**

A petition from the renters to the Bachhau Area Development Authority (BhADA, henceforth referred to as the Bachhau Authority) to provide public transport and basic utilities was ignored. This is because the Bachhau Authority was concerned that the public revenue land would become a permanent settlement for the renters. Consequently, the renters refused to move in and eventually after three years with the units gradually falling into a state of disrepair and due to theft of construction materials like steel door and window frames, the District Collector<sup>13</sup> of Kutch handed over the unoccupied site to the Border Security Force, who began dismantling the shelters for their own use.

Overall, NGOs in Bachhau were not particularly active in providing temporary shelters. Most households made their own arrangements for temporary shelter, such as staying with extended family, seeking help from their community, squatting on public land by erecting a tent, or using

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<sup>12</sup> Nationalized companies, meaning government owned, are called public sector companies in India. The Indian Government holds the majority shares in these companies.

<sup>13</sup> Highest public official at the district level.

the temporary shelter public assistance checks of 12,000 rupees (US \$285) to build a tin and asbestos shelter.

However, the role of NGOs was especially prominent for providing permanent housing among squatters and renters (see Table 14 below). The percentage of renter households was high among Darbar, Thakkar, Soni, Suthar and Prajapati communities, with figures ranging from eight to fifty percent.

Housing Category	Caste-Based Community	Total Households	NGO Intervention
	Thakkar	450	About 20 families got housing from Rotary Club
	Patel-Leva	400	None for housing
	Jain-Vania	190	None for housing
	Maharaj (Brahmin)	170	Religious organization from Thakkar community built tin shed temporary shelters for some families
	Jain-Oswal	125	None for housing
	Darbar	100	About 8 families got housing from Rotary Club
	Khatri Muslims	40	None for housing
Low Homeownership	Prajapati	300	Some families got housing from Tata, Lions Club or Rotary
	Suthar	200	About 30 families got housing from Tata, Lions Club or Rotary
	Soni	110	About 25 families got housing from Rotary Club
No Homeownership	Muslims (General)	900	-Islamic Relief Committee paid tenure fees of Rs.7500 for 350 families. -Unnati built house and got tenure for financially weak households
	Dalit	450	Unnati built house and got tenure for financially weak households
	Koli	450	Unnati built 23 houses and helped get them tenure
	Rabari	400	-CARE paid tenure fees for some -Unnati built house and got tenure for financially weak households
	Bhil	350	Unnati built 25 houses and retrofitted some others
	Vadi	216	Unnati built about 130 houses
	Khawas Rajput	100	Unnati built house and got tenure for financially weak households
	Vaghri	70	-Action Aid paid tenure fees for 70 families -Unnati built houses for 10 families

**Table 14: Private interventions in Bachhau: NGO aid for temporary shelter and permanent housing in Bachhau, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

Many renters from these communities turned to private charitable organizations like the Lions Club and the Rotary Club as their option for permanent housing. Using their international network to generate funds, these organizations worked like building contractors, by constructing houses and handing them to eligible applicants. For example, Lions Club bought private land to build 160 housing units, dividing the land price among housing applicants with each applicant paying 30,000 rupees (US \$714), while the club supervised the project and paid construction and material costs (see figure 12 below). Another organization called the Rotary Club asked the Bachhau Authority for public revenue land, and supervised construction of 230 houses on Relocation Site 1 on the northern fringes of Bachhau. Since the land was a government grant, each housing applicant had to pay a land tenure fee along with electricity and water connection costs, totaling to 25,000 rupees (US \$595), while the club paid for construction and materials. Both housing projects were implemented through building contractors who also designed the units whereas the clubs took decisions on site location, project costs, and housing applicants.



**Figure 12: Permanent housing by Lions Club of Bachhau. (Source: Photograph by author)**

The clubs maintained that they wanted to select renters and squatters as housing applicants. However, since the selection process required a club member to nominate an applicant, many of the housing applicants were not necessarily in need of housing, but rather middle class households who already had a home and could acquire a second house through their contacts with club members. In most cases, squatter households chosen as applicants did not belong to no-homeownership communities, but were instead from high homeowner communities like Maharaj,

Thakkar, Soni, Suthar, Prajapati and Darbar. There were multiple reasons for this. First, only higher income renters or squatters could afford to pay the land price or land tenure fees required by the clubs; second, the clubs were targeting middle class households even among renters and squatters, and did not want low-income households in these housing settlements; and third, with no definite set rules to invite housing applicants, units were allotted to households nominated by club members. Since club members themselves were from high-income homeowner communities, they in turn nominated their friends and relatives who also belonged to the same communities.

An organization called Unnati though, targeted low-income squatter communities. Unnati's most significant work was the change they brought to the government's urban housing recovery policy in Bachhau by urging the Bachhau Authority to pay more attention to squatter housing recovery. Unnati persuaded the Bachhau Authority to consider giving financial assistance to squatters who had lost their houses in the earthquake by arguing that with 50 percent of housing destruction in Bachhau located in squatter areas, the Bachhau Authority could not ignore the rehabilitation of squatter communities. This benefited a large number of households with land tenure<sup>14</sup> in socio-economically weak communities like Dalit, Muslims, Koli, Bhil, and Khwas Rajputs. Depending on the housing damage, tenured squatters were eligible for financial assistance under the Bachhau Authority's squatter rehabilitation program. The Bachhau Authority also decided to give land

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<sup>14</sup> In Bachhau, a large number of squatters possessed land tenure title to their housing plot since prior to the earthquake. This is because the Bachhau Nagar Panchayat (Bachhau City Council), the local administration who had the power to grant land tenure title, gave tenure to squatter households who were long-term Bachhau residents (residents for more than twenty years) during its administration in the 1980s and early 1990s under its squatter tenure program. The land tenure title granted was essentially a long-term (99 years) lease, which was non-transferable in nature. This meant that the housing plot title could not be transferred to the descendants of the squatter and the plot could not be sold because the title would not be transferred to the new owner. As Bachhau grew, local administrative authority for the town was transferred in the mid-1990s from the Bachhau Nagar Panchayat to the larger Bachhau Nagarpalika (Bachhau City Municipality), which did not have the authority to grant land tenure title to public lands without authorization from the District Collector (the highest authority at the district level). The process of getting authorization from the District Collector meant that the discretion and decision-making power regarding the squatter tenure program passed from the hands of the local administration to the district level authority. This effectively put an end to the squatter tenure program in Bachhau because unlike the local authorities, the district administration was less sympathetic and not inclined to give land tenure for public lands to squatter households.

tenure and financial assistance to two thousand squatter households who did not have land tenure prior to the earthquake.

To help squatter households put together the documents for their financial compensation application, Unnati initiated a community outreach program in collaboration with the Bachhau Authority. Unnati also funded new housing units for the Vadis, one of the poorest squatter communities in Bachhau (see figure 13 below). The units were built with the help of Vadi households, who contributed to the project with their own construction labor. Moreover, Unnati brought partner NGOs, such as Hunnarshala, Eklavya Foundation, Action Aid, and CARE into various aspects of squatter housing recovery in Bachhau. For example, Action Aid paid land tenure fees for one of the poorest squatter communities in Bachhau called Vaghari, whereas Hunnarshala helped squatters prepare building permission documents for a nominal fee of 500 rupees (US \$11), compared to the average 3,000 rupees (US \$71) charged by engineers in Bachhau.



**Figure 13: Permanent housing by NGOs in Bachhau: A typical unit built by Unnati (left) and typical unit built by Tata Relief Committee (right). (Source: Photograph by author)**

Though organizations like Tata Relief Committee and Ficci-Care also targeted housing towards squatter communities, their housing programs faced numerous hurdles. Both organizations together paid material and construction costs for 140 housing units (see figure 13 above). Since

the project was on public revenue land assigned by the Bhuj Authority, each housing applicant had to pay land tenure fees of 10,000 rupees (US \$238). The units were specifically for low-income squatter households who did not have land tenure, but were eligible to receive 55,000 rupees (US \$1,309) as public housing assistance, a part of which they could then use for land tenure fees. The Mamlatdar's (county level revenue officer) office, responsible for selecting the housing applicants, publicly advertised the new units asking people to put in their applications, and selected the final applicants through a public draw. But during the verification process, a majority of the applicants who won the draw were found ineligible. Instead of squatters, recent migrants to Bachhau including government employees had also applied for the houses even though they were not eligible. Consequently, a public inquiry was initiated and the allotment of all housing units in this program remained pending. The delay prompted a small group of applicants, who considered themselves genuine applicants, to file a legal litigation against the Gujarat government.

Overall, NGO groups in Bachhau were most active among no homeownership squatter communities and among low homeownership communities. Low homeownership communities had a high percentage of renters, some of who successfully applied for a house through the Rotary or Lions club housing program. A small percentage of renter households from high homeownership communities were also able to obtain housing units from the clubs by using their personal contacts with club members. Nonetheless, most NGOs in Bachhau targeted low-income squatter communities with no homeownership. The collaboration between Unnati and the Bachhau Authority ensured the development of a housing program through which squatter households, who were Bachhau residents since prior to the earthquake, were eligible to receive financial assistance from the government, and those without land title could obtain land tenure. The squatter housing program especially impacted communities with no homeownership. Most

households in these low-income squatter communities, who survive on daily wage labor work, were able to rebuild their houses largely due to the Bachhau Authority's squatter housing recovery program.

### **Government Programs**

Following the 2001 earthquake, the Gujarat government initiated a public assistance program for urban housing recovery that was particularly aimed towards homeowners. This section looks at the impact of government programs on housing recovery outcomes among various communities in Bachhau.

With public opinion in Kutch strongly in favor of cash compensation, the Gujarat State Disaster Management Authority (GSDMA)<sup>15</sup> decided to offer 12,000 rupees (US \$285) in cash to each household for temporary shelter, along with a sum of 3500 rupees (US \$83) for immediate expenses. In Bachhau, since most houses were destroyed, this amount was given to every household who remained in town in the weeks after the earthquake, and could prove their Bachhau residency status with a valid ration card.<sup>16</sup>

In contrast, the Gujarat government's financial assistance policy for permanent housing recovery was based upon the size of a legal housing property and the damage category of the house. Damage category ranged from G1 to G5, where G1 was a house with minor cracks and G5 meant complete collapse. In the G5 category, homeowners received 3,000 rupees (US \$71) for each

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<sup>15</sup> State level public agency in Gujarat formed after the 2001 earthquake to co-ordinate, design, and implement post-earthquake reconstruction in the state, and to design hazard mitigation policies.

<sup>16</sup> Every household in India is issued a ration card, and the Indian government uses the ration card for its public distribution system, through which every household can have access to essential household items like sugar, wheat, and kerosene, at a subsidized rate.

square meter of built area, with a maximum limit of 150,000 rupees (US \$3,571). Homes in categories G1 to G4 that needed minor to substantial repairs, compensation varied from 8,000 rupees to 45,000 rupees (US \$190 to \$1,070) depending on the damage. Most homeowners in Bachhau fell into the G5 category. However, the government guidelines focused primarily on homeowners with legally registered property titles and ignored renter and squatter housing. With financial compensation directed towards homeowner households, the communities with higher percent of homeowners received more government aid.

As Table 15 below shows, 70 to 100 percent of households among communities with high homeownership, such as Maharaj, Darbar, Patel-Leva, Thakkar, Jain-Vania and Khatri Muslim, received financial assistance from Gujarat government for rebuilding in Bachhau. In communities like Soni, Suthar and Prajapati, with a lower percentage of homeownership, only 30 to 50 percent of households received housing assistance. An exception in the high homeownership category was the Jain-Oswal community, where most households have migrated to Mumbai for business and job opportunities. Regardless of their place of residence, most Jain-Oswal households have ancestral housing property in Bachhau. Nonetheless, GSDMA's policy specified that only Bachhau residents with a valid ration card were eligible for housing recovery compensation. Jain-Oswal households, whose ration cards showed Mumbai as their place of residence, did not qualify for assistance due to their migrant status. This created tensions between the Jain-Oswal community, who consider themselves Bachhau residents since they pay property taxes, and the government whose policy specified financial assistance for only those households who had primary residence in Bachhau. The situation remained unresolved, and eventually prompted the Jain-Oswal community to file a legal litigation against the Gujarat government.

Housing Category	Caste-Based Community	Total Hous ehold	Housing Status	Government Program Housing Damage Compensation For G5 Category (Total Collapse)
High Homeownership	Thakkar	450	Homeowner 80% Renter 10% Squatter 10%	Homeowners (with title): 3000 rupees for each square meter of built up area, with a maximum limit of 150,000 rupees.
	Patel-Leva	400	Homeowner 96% Renter 2% Squatter 2%	
	Jain-Vania	190	Homeowner 100%	
	Maharaj (Brahmin)	170	Homeowner 98% Squatter 2%	
	Jain-Oswal	125	Homeowner 100%	
	Darbar	100	Homeowner 70% Renter & Squatter 30%	
	Khatri Muslims	40	Homeowner 90% Squatter 10%	
Low Homeownership	Prajapati	300	Homeowner 30% Renter 8% Squatter 62%	
	Suthar	200	Homeowner 50% Squatter 50%	
	Soni	110	Homeowner 50% Renter 50%	
No Homeownership	Muslims (General)	900	Squatter 100%	Squatters (with tenure): From 60,000 to 100,000 rupees
	Dalit	450	Squatter 100%	
	Koli	450	Squatter 100%	
	Rabari	400	Squatter 100%	Squatters (no tenure, carrying ration card, with mud house): 55,000 rupees
	Bhil	350	Squatter 100%	
	Vadi	216	Squatter 100%	Squatters (no tenure, carrying ration card, with thatched hut): 7000 rupees
	Khawas Rajput	100	Squatter 100%	
Vaghri	70	Squatter 100%		

**Table 15: Public programs in Bachhau: Government aid for temporary shelter and permanent housing in Bachhau, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

Apart from homeowners, Bachhau also had a high percentage of renters particularly in the communities of Darbar, Thakkar, Soni and Prajapati. The Gujarat government's policy to provide housing assistance to renters stated that a landlord could receive housing recovery assistance if he was willing to re-rent the new house to the same tenant. This policy approach however had crucial flaws since it did not recognize the conflict of interest between tenants and

landlord and the disadvantaged position of the tenants. Most renter households had been living in rented properties for more than twenty years, and were paying extremely low rents due to rent control laws. In the meantime, land prices in Bachhau had steadily soared and were at an all time high in the 1990s. Consequently, a number of landlords wanted tenants to vacate their properties prior to the 2001 earthquake. But under the state law, though landlords retain title to the land, long-time tenants develop ownership-rights to the house, and it was not easy to remove them legally. The earthquake changed everything, with the house wiped out only the land remained, which belonged to the landlords, and the landlords were not interested in receiving joint compensation on behalf of tenants or rebuilding the house to rehabilitate the tenant. Moreover, renters had to produce supporting documents such as electricity bill, water bill, ration card, property papers and rent receipts to apply for financial compensation. Since tenant-landlord relationship in Bachhau was rarely formalized, most landlords did not issue rent receipts, which made it difficult for renters to establish their renter status and get their joint-compensation claims approved.

Low-income squatter communities in Bachhau such as, Dalits, Khwas Rajputs, Muslims, Bhil, Koli, Vadi and Vaghari, had also lost homes in large numbers. The post-earthquake damage survey shows that out of 9,000 houses destroyed in Bachhau, about half of them were squatter housing. In spite of this huge loss, the Gujarat government did not have clear policy guidelines regarding financial assistance for squatter communities. Not surprisingly, the lack of adequate guidelines to address the needs of groups other than homeowners created much confusion during the execution of the housing recovery program.

In Bachhau, the Bachhau Authority officials interpreted the policy and made decisions based on local conditions. In collaboration with Unnati, an NGO working on squatter issues in Bachhau,

the Bachhau Authority set up a financial assistance program for the large number of squatters who had lost their homes. Squatters with land tenure were given financial assistance ranging from 60,000 rupees to 100,000 rupees (US \$1428 to \$2380), depending on the level of housing damage and the type of housing construction prior to the earthquake. For example, a house with land tenure made of burnt bricks with cement plaster got higher compensation compared to a house that also had land tenure but was made of mud walls. Moreover, squatters who did not have land tenure but carried a Bachhau ration card, which established their status as Bachhau residents, were encouraged to apply for land tenure along with a fixed housing assistance of 55,000 rupees (US \$1309). As a result, though the Bachhau Authority's housing aid reached most squatters, it especially benefited low-income squatter communities of Bhil, Koli, Vadi and Vaghari, where many households received land tenure as part of the housing assistance.

However, the overall procedure of applying for housing assistance remained confusing and difficult, where all households applying for financial assistance had to go through three different government departments during this process. A homeowner had to first go to the Mamlatdar office (the public revenue office) to apply for financial assistance, and land tenure in the case of squatters without land title. Once the Mamlatdar issued the first housing assistance installment check, the homeowner was then required to go to the Bachhau Authority office to get their house plans approved and receive building permissions to start construction. After plans were approved and construction began, an engineer from the Mamlatdar office came to check building progress and give an approval certificate, which qualified a homeowner for the second installment check. The Bachhau Authority then issued a certificate to confirm if the new construction incorporated town-planning regulations. This was followed by a visit from a Mamlatdar office engineer to confirm the completion of housing construction, and enabled the homeowner to receive the third

installment check. Finally the homeowner had to go to the Bachhau Nagarpalika (the municipal office) to register the new house.

This was a complicated process for all homeowners, and especially difficult for those who were not literate, particularly among low-income communities who found it difficult to navigate the government bureaucracy. The system was also open to exploitation, and most communities in Bachhau mentioned various forms of corruption among the Mamlatdar engineers. For example, these engineers often demanded a cut from the installment checks before issuing certificates, and delayed checks if a homeowner was not compliant. The complaint redress mechanism was inadequate and ineffective because higher-level officials, overwhelmed by the workload, severe time constraints, and more urgent priorities, chose to ignore these problems. Consequently, most communities described their experience of acquiring government housing assistance as an ordeal that caused additional mental distress after the earthquake.

Overall, homeowners with legal property titles were the primary beneficiaries of government housing assistance. In Bachhau however, the Bachhau Authority's willingness to include low-income squatters communities in the housing recovery program, significantly contributed towards squatter housing recovery. In contrast, the GSDMA's policy for renter households did not recognize the inherent tensions between a landlord and a tenant, resulting in the marginalization of renters from the housing recovery process in Bachhau.

### 3. WHO COULD REBUILD AND WHO COULD NOT

The research data presented in the earlier sections clearly indicate that among all three homeownership communities in Bachhau, communities with a high percentage of renter

households struggled the most to recover after the 2001 earthquake. Communities with high homeownership were eligible for public financial assistance, could afford to apply for housing from the private clubs, and some were even successful in organizing aid internally through their community organizations. Among no homeownership communities, where most households are squatters, there were no community resources to fall back on. Squatter communities in Bachhau successfully relied upon public housing assistance and private NGO aid to rebuild their houses. However, in the low homeownership category, while homeowners received public assistance, and some renter households were able to apply for NGO housing, yet with no public financial assistance for renters, most renter households could not recover. This section looks at housing recovery in Bachhau to examine why renter communities struggled the most to recover after the 2001 earthquake.

### **Housing Recovery in Bachhau: The Homeowner, The Renter, and The Squatter**

The research data presented earlier on Bachhau suggests that the Gujarat government's housing recovery policy addressed the housing needs of homeowners through a public assistance program, whereas local government officials in Bachhau worked closely with local NGOs to understand the needs of squatters and create a squatter housing recovery program. However, no such parallel efforts existed for renter households in Bachhau. As a result, while homeowners and squatters were largely successful in rebuilding their houses, renters struggled to recover in Bachhau.

As Table 16 below illustrates, most communities in the high homeownership category were able to rebuild their houses after the earthquake. Communities in this category benefited the most from the Gujarat government's housing recovery policy that emphasized public financial assistance to

homeowners. Since households in this category had the highest percentage of homeowners with legal title to their land and house prior to the earthquake, they were eligible for public assistance.

Housing Category	Caste-Based Community	Total House hold	Housing Status and Housing Assistance Source			
			Homeowner	Renter	Squatter	
					With Tenure	No Tenure
High Homeownership	Thakkar	450	80%	10%		10%
			Government	NGO-Rotary		Government
	Patel-Leva	400	96%	2%	2%	
			Government	None	Government	
	Jain-Vania	190	100%			
			Government/Community			
	Maharaj	170	98%		2%	
Government			Government			
Jain-Oswal	125	100%				
		Government/Community				
Darbar	100	70%	30%			
		Government	NGO-Rotary			
Khatri Muslim	40	90%		10%		
		Government		Government		
Low Homeownership	Prajapati	300	30%	8%	50%	12%
			Government	NGO-Rotary, Lions, Tata	Government	Government
	Suthar	200	50%		30%	20%
Government			Government		Government	
Soni	110	50%	50%			
		Government	NGO-Rotary			
No Homeownership	Muslim General	900			20%	80%
					Government / NGO	
	Dalit	450			70%	30%
					Government / NGO	
	Koli	450			30%	70%
					Government / NGO	
	Rabari	400			80%	20%
					Government / NGO	
Bhil	350			10%	90%	
				Government / NGO		
Vadi	216			20%	80%	
				Government / NGO		
Khawas Rajput	100			70%	30%	
				Government / NGO		
Vaghri	70				100%	
				Government / NGO		

**Table 16: Housing assistance for homeowners, renters, and squatters: Housing recovery assistance from Government programs, NGO interventions, and Community initiatives for homeowners, renters, and squatters among high homeownership, low homeownership and no homeownership community groups in Bachhau, Kutch district, India (Source: Based on field interview data).**

The rate of successful rebuilding was especially high among wealthier communities in the high homeownership category, where more than 90 percent of the households were able to rebuild their houses. Among very wealthy high homeownership communities, like the Jain-Vania and Jain-Oswal, households could also look for assistance from within their own communities. Community-based organizations in both these groups built new houses for economically weak households within the community who were struggling to rebuild even with public assistance.

Yet, in other high homeownership communities, renter households found it difficult to get housing assistance. While some renters turned to private NGOs like Rotary and the Lions Club for housing options, most renter households were not eligible for NGO houses because they could not pay their share of the housing costs. Overall however, high homeownership communities, who had a larger percentage of homeowners, could successfully rebuild their houses largely through public financial assistance and with some help from private NGOs and community organizations.

Among the low homeownership communities, the percentage of households who were renters and squatters was larger. At the same time, none of the communities in this group had the resources to offer any significant help to their member households for housing recovery. Homeowners, who made up about 30 to 50 percent of the households in the low homeownership communities, were eligible for public housing assistance, and under the Bachhau Authority's squatter housing program, squatters were eligible for land tenure and public financial assistance. However, renter households found it difficult to get any form of public assistance. While some renters applied for NGO housing, many renter households could not pay their own share of the amount required by the Rotary or Lions Clubs for a house. Consequently, due to the lack of access to public or private assistance and the high housing costs, renters among low homeownership communities found it

difficult to buy or rent a house in Bachhau. Most renter households either remained in temporary housing units, or moved into squatter areas, or left Bachhau permanently. Overall, in the low homeownership group, while homeowners and squatters, who were eligible for public housing assistance, could rebuild after the earthquake, a larger number of renters could not qualify for any kind of assistance, either from the government or the NGOs, and struggled to recover.

Among the no homeownership communities, low-income squatters benefited from the Bachhau Authority's program for squatter housing recovery. The Bachhau Authority and the NGO Unnati together hammered out a squatter recovery program that would give land tenure and public housing assistance to squatter communities. As a result, squatter households with land tenure could apply for public housing assistance based on their tenure title, whereas households without tenure title were eligible for land tenure along with some public financial assistance. Overall, squatter communities in the no homeownership group were successful in rebuilding their houses, largely through the Bachhau Authority's squatter recovery program and with some help from private NGO aid.

In summary, the high homeownership communities comprising a large number of homeowners got the highest amount of public financial assistance, were successful in organizing aid internally through their community organizations, and had the resources to apply for housing from private NGO. Not surprisingly, the high homeownership communities had a significantly higher rate of housing recovery. Low and no homeownership communities did not have the resources or a highly organized community network that they could leverage for funds or materials. Among the no homeownership communities, the Bachhau Authority's squatter housing program gave communities access to public assistance and private NGO aid, which in turn strengthened the capabilities of squatters to rebuild. However, in the low homeownership communities, while

homeowners received public assistance and could rebuild, and although some renter households were able to apply for NGO housing, most renters struggled to recover due to lack of access to public financial assistance and private NGO aid. As a result, communities with a high percentage of renters struggled the most to recover after the 2001 earthquake.

Some hazard researchers such as Freeman (2004) have criticized post-disaster financial aid policies that direct most of public funding to rebuild pre-existing housing stock within the formal housing market, which means that homeowners with legal title to their houses get the largest chunk of public financial assistance. In this sense Bachhau was an exception to some extent. In spite of the lack of land titles, squatter communities in Bachhau were able to access public financial assistance and most households were able to rebuild their houses. There were three main reasons for this. The first is the presence of an advocacy group like Unnati, which lobbied the Bachhau Authority on behalf of squatter communities. Unnati argued that from a total of 9,000 houses destroyed in Bachhau about 40 percent of the housing damage was located in squatter areas, which meant that the Bachhau Authority could not ignore the rehabilitation of squatter communities. Second, Bachhau is a small trading town with a population of about 25,000 and about 10,000 housing units. This meant that a housing recovery program in Bachhau that included squatters would still be at a manageable scale and had a higher chance of success when compared to neighboring cities like Bhuj, which was five times the size of Bachhau with more than 50,000 housing units. This factor made the local administration of Bachhau more receptive to a squatter housing recovery program. Third, being a small trading town Bachhau is not a politically or economically significant urban area, and a squatter rehabilitation program that included giving land tenure did not particularly threaten the economic or political interest of any group within or outside Bachhau. As a result, the Bachhau Authority could initiate and implement a squatter housing recovery program without facing any serious opposition or hurdles.

Unlike the squatters, renters in Bachhau did not have access to public financial assistance. One of the primary reasons for this was that the renters did not have any organized group such as Unnati who could present their case and advocate on their behalf to the Bachhau Authority. In the immediate aftermath of the earthquake, renter households were highly motivated to organize and petition the Bachhau Authority for infrastructure facilities at the temporary housing site built by IOC for renters on the outskirts of Bachhau. A citizen group was formed under the leadership of a local politician. However, with the Bachhau Authority's lack of response to their requests, the group could not sustain its momentum and gradually collapsed as morale among renter households ran low and fewer and fewer renters participated in the weekly group meetings.

The Bachhau Authority's lack of response was primarily due to three reasons. First, the Bachhau Authority was concerned that by providing infrastructure to the IOC shelters, the public revenue land on which the IOC shelters were built would become a permanent settlement for the renters. The Bachhau Authority's concern was that such a permanent settlement would in essence be a squatter settlement on government land, a situation that the Bachhau Authority wanted to avoid. Second, Bachhau Authority officials did not recognize the legitimacy of the local politician as a representative of the renters, particularly since the person was not a renter himself, but was a homeowner. When compared to the case of squatters, from the perspective of Bachhau Authority officials, Unnati had established its legitimacy in Bachhau as a non-partisan and non-political group working primarily for the urban poor, through its relief activities such as providing food, medical aid, and temporary shelter for squatters in the immediate aftermath of the earthquake. Moreover, instead of challenging their authority, Unnati had showed its willingness to work together with Bachhau Authority officials in order to solve squatter housing issues and to give the Bachhau Authority due credit for its role in the squatter housing program. In contrast, the local

politician came across as demanding, politically motivated, and highly contentious during his interactions with the Bachhau Authority officials. Third, out of the 700 renter households in Bachhau, the citizen group for renters was itself not completely certain of how many renter households were long-term residents of Bachhau. The group identified and recognized only about 350 renter households as long-term residents, the rest were either public servants or government officials temporarily transferred to Bachhau, or people who had moved into Bachhau after the earthquake, or just a transient population. Overall, the residency status of many renters remained highly unclear. Moreover, most renter households lacked certain documents, such as renter receipts, that were required by the Gujarat government to establish their claim of a renter. Consequently, the Bachhau Authority was wary of recognizing renters in Bachhau and, instead took an official position that the town of Bachhau did not have any renter households.

In this situation, many renter households turned to their own caste-based communities for assistance. In some communities, the community council acquired land or raised small amounts of funds to help renter households with temporary shelters. Yet, most communities did not have the resources or were just not organized enough to raise funds by themselves, particularly for solutions towards permanent housing recovery. As a result, many renter households either remained in roadside tent shelters, or moved into squatter areas, or left Bachhau permanently.

In order to achieve more equitable recovery among various communities, hazard researchers (Berke & Beatley, 1997; Bates & Peacock, 1993; Oliver-Smith, 1990, Anderson & Woodrow, 1989; Bates, Killian & Peacock, 1984) have increasingly called for greater local participation within long-term development, based on local goals and suitable to local needs, as a strategy for recovery planning. Sen (1999) has defined development as a process that focuses on people and looks at human functionings and the capabilities or the actual ability of people to achieve those

functionings. Functioning, according to Sen (1999), are the various things that a person may want to do or to be, and can range from being adequately nourished, being in good health, and well sheltered, to complex functionings such as achieving self-respect and being socially integrated. In Bachhau, every household wanted to achieve housing recovery by rebuilding their house, but while some had the capabilities to do so, many did not. Public financial assistance for homeowners strengthened the ability of most homeowners to achieve housing recovery, whereas the Bhuj Authority's squatter housing program and private NGO aid to very low-income squatter households strengthened the capabilities of squatter households to rebuild their houses. Renters however were in a unique position. Being low-income households, most renters did not have the financial capabilities to own a house, nor did they have access to public assistance, or community resources to turn to. In short, without public assistance or private aid, most renter households in Bachhau could not develop the capabilities to adequately house themselves after the 2001 earthquake.

## CHAPTER FOUR: HOUSING RECOVERY IN BHUJ

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Bhuj is a city located about twenty miles south of the epicenter of the 2001 Gujarat earthquake in western India, which flattened 230,000 houses and damaged another 1 million. The earthquake especially impacted the old city in Bhuj, where single-family houses, squatter areas, and renter apartments were destroyed. Being the administrative center of Kutch district<sup>1</sup> meant that Bhuj received relatively more attention from the Gujarat government during recovery efforts compared to other urban areas in the district. Numerous public and private housing reconstruction programs were introduced to help people rebuild their homes. Six years after the earthquake most renters as well as homeowners were able to rebuild their houses in Bhuj. Yet, many squatters were not able to achieve even pre-disaster housing standards. To understand why single-family homeowners and renters were able to rebuild whereas squatters continued to struggle towards housing recovery, this chapter examines the impact of community resources, NGO aid, and public assistance programs on final housing recovery outcomes within various communities in Bhuj.

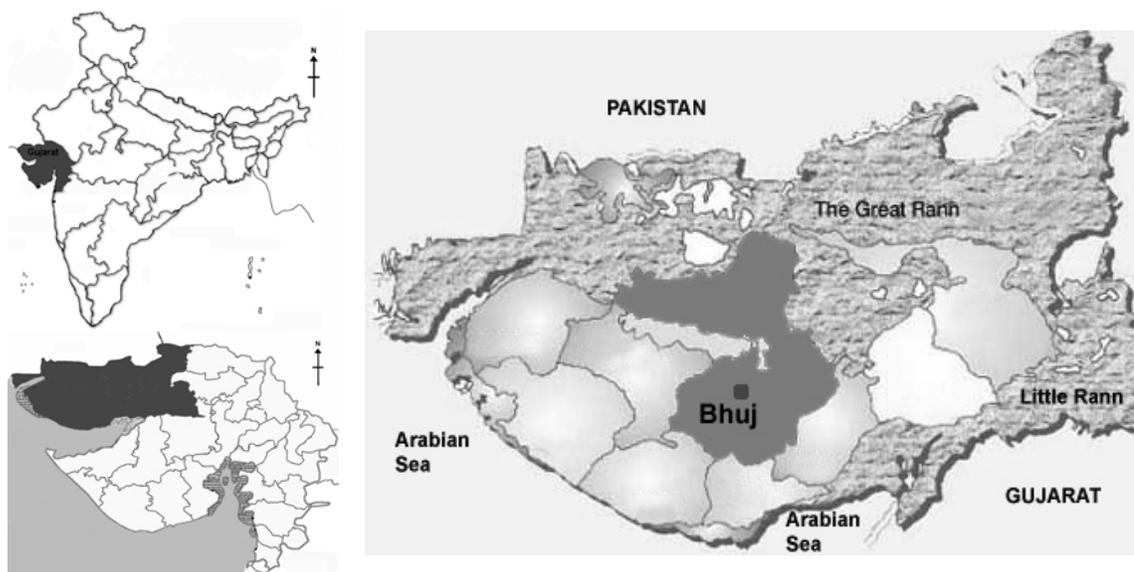
The chapter is divided into three main parts. The first part establishes the context for Bhuj by looking at the town's housing growth and focusing on the pre-disaster housing status of various communities. Housing status is important if one wants to understand final recovery outcomes in Bhuj because the Gujarat government used the pre-disaster housing status of a household as a basis to decide the amount of post-disaster financial aid for that household. The second part looks at the impact of community resources, NGO aid, and government assistance programs available to each community, on final housing recovery levels among various communities. The third part examines the difference in final housing recovery outcomes among homeowners, renters, and squatters from various communities in Bhuj.

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<sup>1</sup> A district in India is equivalent to a county in the United States

## 1. BHUJ TOWN: HOUSING DAMAGE AND HOUSING STATUS

Located in central Kutch (see figure 14 below), Bhuj is the administrative center of Kutch district with a population of little more than 130,000<sup>2</sup>. Housing and infrastructure in Bhuj suffered heavy damage during the 2001 Gujarat earthquake. According to the post-earthquake damage survey<sup>3</sup>, the city had about 50,000 housing units prior to the earthquake, of which about 13,000 completely collapsed and more than 24,000 were damaged. This means that about 75 percent of houses in Bhuj were either destroyed or damaged in the earthquake<sup>4</sup>.



**Figure 14: Bhuj location map: Maps on the left show location of Gujarat state in India (top left) and Kutch district in Gujarat state (bottom left). Enlarged map of Kutch district on the right shows location of Bhuj. (Source: Maps Reworked, Base maps from [www.mapsofindia.com](http://www.mapsofindia.com))**

<sup>2</sup> According to data from Census of India 2001 the population of Bhuj is 136,429

<sup>3</sup> The Census of India 2001 data on housing differs from the post-earthquake survey data. According to the census, Bhuj urban area has a total of 49,879 structures of which 26,752 properties are residences. These figures are well below the damage survey data, that records a total of 49,595 housing units with more than 37,656 residences damaged or destroyed in the earthquake. Fieldwork suggests that the damage survey data gives more realistic figures and is thus used in the study instead of census numbers.

<sup>4</sup> It is not quite clear whether the post-disaster damage survey data includes the total number of squatter residences in Bhuj and the ones that were damaged or destroyed, which leaves out a large percentage of housing stock in the city.

## **Housing Context in Bhuj**

A historic city surrounded by low rising hills, Bhuj has been the cultural, political, and economic capital of Kutch district since 1549 AD. It is an important trading center due to its proximity to Kandla port (the second largest port in India), its position as a district headquarter, and its central geographical location in Kutch. These aspects have made Bhuj ideally situated to receive the flow of goods from the port and the influx of raw materials like lignite, bauxite, limestone and gypsum from the interiors of Kutch, rendering the city a transport and distribution hub for further destinations in Gujarat and other states in India. Since the mid-90s, the Gujarat government has directed public infrastructure funds to upgrade rail and road links between Bhuj and major economic centers like Ahmedabad and Mumbai, and to improve Kutch's port capacity. The increased connectivity has triggered rapid economic growth in Bhuj, and contributed to rising migration of people into the city from surrounding towns and villages, making Bhuj one of the fastest growing cities in Kutch district.

Bhuj city has an urban core area of about one-square kilometer. The highly dense core is enclosed within the city's old historic fort walls (only parts of the wall still stand) and accessed by five gates<sup>5</sup> (see figure 15 below). However, with 30 percent of Kutch's urban population concentrated in Bhuj, the city has spatially exploded well beyond its densely populated urban core area inside the fort walls. Since the early 1980s, crowding within the fort walls due to rising population and increased economic activities, gradually forced many residents to move out and settle in immediate vicinities outside the core. Increased migration of people into Bhuj also contributed to new housing neighborhoods outside the fort walls. Most affluent homeowners in Bhuj reside in the old city urban core within the fort walls and in well-organized neighborhoods located

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<sup>5</sup> The five gates of Bhuj are named Bhid, Sarpat, Patwadi, Mahadev and Wania Wad

immediately south of the urban core in locations such as Jubilee Circle, Mundra Road, Vardhaman Nagar, Camp Vistar and Hospital Road (see figure 16 below).

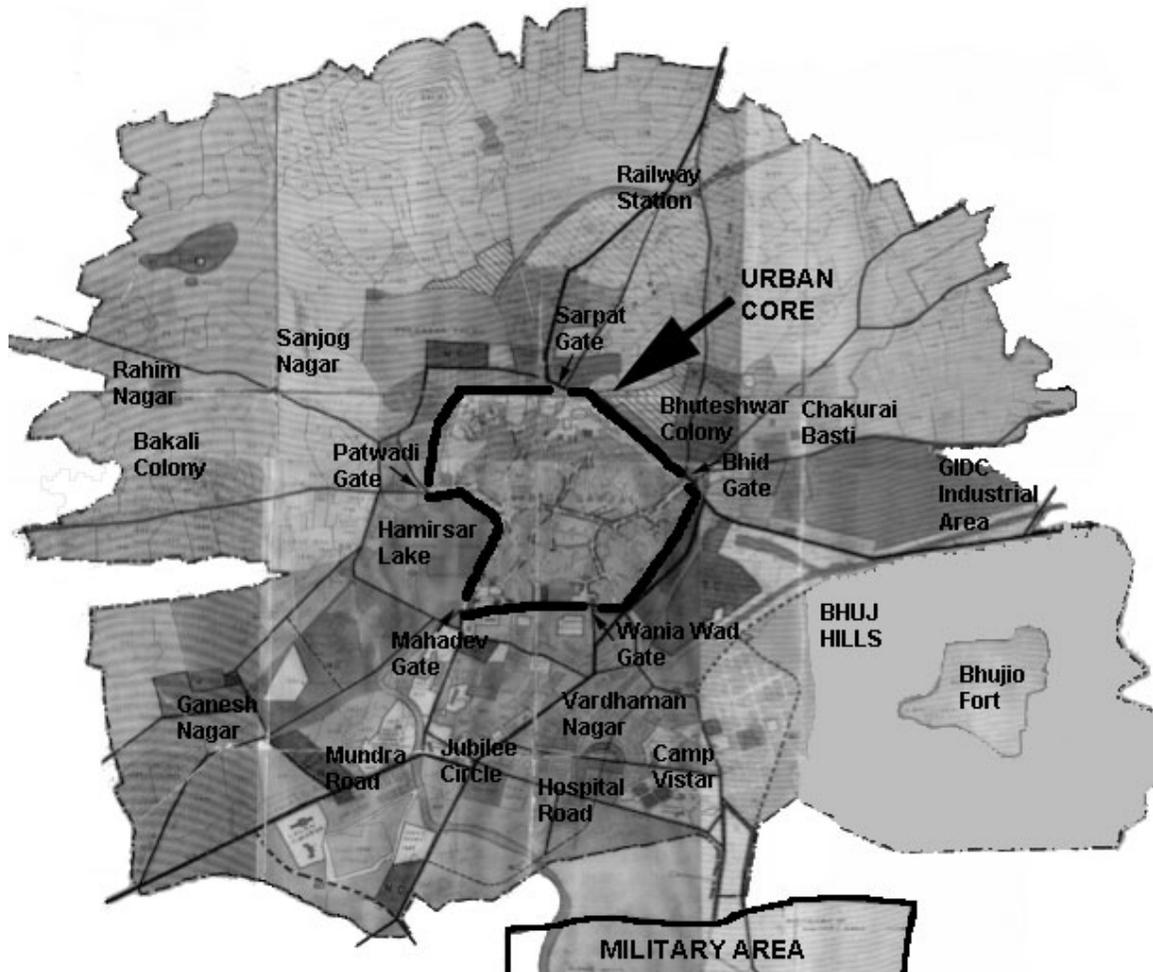


**Figure 15: Historic gates of Bhuj: Mahadev Gate (left) and Bhid Gate (right) are two of the five gates in Bhuj, giving access to the old town urban core. (Source: Images provided by Environmental Planning Collaborative, Ahmedabad)**

At the same time however, due to its booming economic growth, real estate prices have increased rapidly in Bhuj and locked most poor immigrants out of the housing and rental market. This has led to a rapid proliferation of squatter areas just outside the fort walls, and the city is hemmed by sprawling squatter settlements on public revenue land in the north, the west, and eastern fringes of Bhuj. In the east, squatter lands in locations such as Bhuteshwar Colony and Chakurai Basti extend from the Bhid gate into the surrounding hillsides and the industrial zone; in the north they stretch from Sarpat gate to the Bhuj railway station; and in the west squatter settlements in locations like Sanjog Nagar, Rahim Nagar, Bakali Colony and Ganesh Nagar are situated in low lying pockets and government owned waste lands outside Patwadi Gate (see figure 16 below).

Bhuj is also an important army and air force base, and though the military has a large presence in the city, it is largely restricted to self-sufficient military base or cantonment (military station) area south of Bhuj, with its own housing, school, hospital and shopping centers. In recent years, the expanding edge of the city has moved closer to the military area, and started to engulf the base as Bhuj continues to grow. During the earthquake, the military base suffered serious damage to its

housing units. But it was difficult to obtain any data from the military, which restricts access to all information regarding its military base citing reasons of national security. Moreover, since the base does not come under local municipal jurisdiction, there was no record of housing damage data from these areas at the local city level either.



**Figure 16: Housing neighborhoods of Bhuj. Affluent homeowners inhabit the urban core along with areas around Vardhaman Nagar, Mundra Road, Jubilee Circle, Hospital Road, and Camp Vistar in the south. The urban poor live in squatter settlements like Rahim Nagar, Bakali Colony, Sanjog Nagar, Ganesh Nagar, Bhuteshwar Colony, and Chakurai Basti. (Source: Reworked Map, Base map provided by Environmental Planning Collaborative, Ahmedabad)**

## **Pre-Disaster Housing Status**

As discussed in the previous chapter, the Gujarat state government used a household's pre-disaster housing status as a basis to decide the amount of post-disaster financial compensation the household was eligible for. Households who were homeowners had better chance of receiving adequate financial aid based on their property titles, as opposed to renters and squatters who could not produce property titles. This section thus highlights the housing status of communities in Bhuj prior to the earthquake.

Based on the field interview data, Table 17 below provides the housing status of twenty-one communities in Bhuj. As mentioned in the earlier chapter, communities were identified based on their caste identity, since Bhuj is socio-economically structured along caste-based community lines. Caste structures are stronger in small towns and medium-size urban areas (like Bhuj) in India as opposed to larger metropolitan regions. In Bhuj, rather than spatial proximity, people identify their community based on their caste, sub-caste, sect or religious affiliation, and each household forms social and economic networks based on trust within its own caste or sect<sup>6</sup>.

Within each caste-based community though, the economic position of individual households can vary greatly. For example, among Muslims in general some households own land, businesses, and properties, and some are low-income renters without property ownership, but a large percentage of the community is composed of squatter households. As discussed in further detail in the next section of the chapter, caste, sect, and religious affiliation played an important role during post-disaster housing recovery in Bhuj. This is because communities used their caste-based network or

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<sup>6</sup> For example, during religious or social functions such as weddings, families usually invite guests from only within their own caste or sect. Similarly, business and other economic links are formed through social networks based on trust between people belonging to the same caste or sect.

religious links to lobby their own communities at the larger national or even international level to arrange for financial or material assistance (food, water, medicines) for their member households.

The data on housing status of a community is crucial because housing in Bhuj is a key indicator of the overall social and economic position of the community. For example, in economically wealthier communities like Nagar and Kayasth, the percentage of homeowners is significantly higher (90 percent) than economically weak communities like Dalit, who have higher percentage of squatters (90 percent), or the Koli community where all households are squatters.

Housing Category	Caste-Based Community	Total Households	Pre-Disaster Housing Status (In Percentage)			
			Homeowner	Renter	Squatter	
					With Tenure	No Tenure
High Homeownership	Nagar	622	90%	10%		
	Saraswat Brahmin	150	80%	20%		
	Darbar	800	70%	15%	15%	
	Patel-Kudwa	270	70%	30%		
	Thakkar	2500	84%	15%	1%	
	Jain-Vania & Oswal	2000	70%	30%		
	Kayasth	80	90%	10%		
	Sindhi	155	77%	23%		
	Darji Sahi Suthar	300	70%	30%		
	Salat	215	70%	30%		
	Rajyagor	1200	60%	20%	20%	
Srimani Soni	225	60%	40%			
Low Homeownership	Bhanusali	300	50%	50%		
	Khatri-Hindu	145	50%	50%		
	Khatri-Muslim	300	45%	5%	50%	
	Vanad	55	15%	12%	73%	
	Dalit	1000	10%			90%
	Muslim-General	12000	20%		10%	70%
No Homeownership	Koli	250				100%
	Siddi-Muslim	135			25%	75%
	Vaghari	500			40%	60%

**Table 17: Housing in Bhuj: Pre-disaster housing status of twenty-one communities, in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data; Note: The above figures are approximate values)**

This study broadly groups all communities in Bhuj into three categories based on homeownership status (see Table 17 above). The first homeownership category encompasses the caste-based communities of Nagar, Saraswat Brahmin, Durbar, Patel-Kudwa, Thakkar, Jain (Vania and Oswal), Kayasth, Sindhi, Darji Sahi Suthar, Salat, Rajyagor, and Srimani Soni. In these communities, more than 50 percent of households are homeowners with formal title to the property. Hence, for the purpose of this study, this group of communities will be considered as those with high homeownership. The high homeownership communities are socially and economically the strongest in Bhuj, with a median income range of 20,000 to 8,000 rupees per month (US \$476 to \$190). However, the broad income range indicates large income variation among the communities. Moreover, internal economic disparities within each community, ensures that a significant number of households (between 10 to 30 percent) in all high homeownership communities are renters.

The second category includes the communities of Bhanusali, Khatri Hindu, Khatri Muslim, Vanad, Dalits<sup>7</sup> and the larger Muslim community, who have homeownership at 50 percent or less, and have been grouped as low homeownership communities. Median income within these groups range from 8,000 to 2,000 rupees per month (US \$190 to \$47), and their housing status varies hugely. For example, the Bhanusali and Khatri Hindu have a higher number of homeowners (50 percent) compared to Dalit and Muslims, who have very few homeowners (10 percent) and the highest number of squatters (90 percent).

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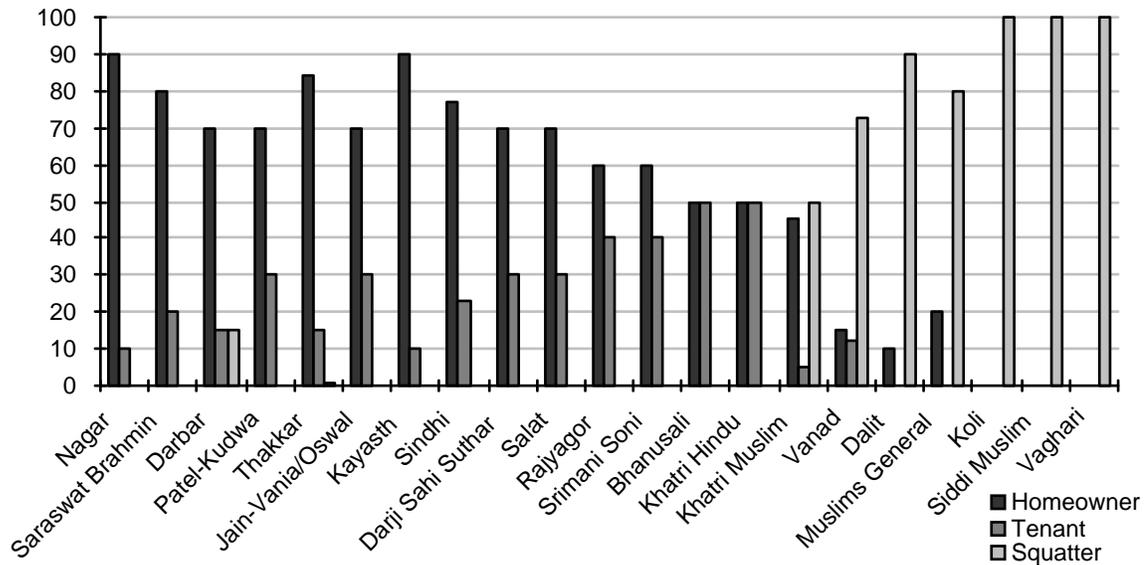
<sup>7</sup> Dalits were traditionally involved in vocations considered unclean such as leatherwork, removing and burying dead animals, and cleaning toilets, and were hence considered unclean and untouchable by other Hindu communities. In spite of affirmative action by the Indian government to help Dalit communities, most Dalits remain poor and continue to face physical and mental harassment from other Hindu communities, especially in rural areas and small towns.

The final category is composed of communities with no homeownership and includes Koli, Siddi Muslims, and Vaghari. These three groups are among the economically weakest communities in Bhuj and have not entered the formal housing market. Instead they look for options within the informal settlements by squatting on vacant public land or renting space from other squatters. Most households in this category work as daily wage laborers for transport contractors, on construction sites, as vegetable vendors, or push cart peddlers, which means that they do not have guaranteed secure jobs and have to find unskilled labor work on a daily basis. On an average a household remains unemployed for about ten days a month, ensuring that the monthly median income for these communities rarely goes above 2,000 rupees (\$47). Among the three communities, Koli households have not been able to secure land tenure, whereas 25 percent of Siddi Muslims and 40 percent of Vaghari have land tenure. In spite of the lack of land tenure among the larger percentage of households, all three communities have invested in more expensive building materials<sup>8</sup> in their homes. This signals that squatter communities in Bhuj experience a strong sense of housing security regardless of land tenure and have invested heavily in their homes.

Figure 17 below illustrates the housing status of twenty-one communities in Bhuj, as divided among homeowners, renters, and squatters. The graph shows high homeownership among affluent communities like Nagar, Saraswat Brahmin, Durbar, Patel-Kudwa, Thakkar, Jain (Vania and Oswal), Kayasth, and Sindhi. The percentage of homeowners decreases rapidly while the percentage of renters or squatters are almost equal to that of homeowners for communities like Bhanusali and Khatri Hindu with lower income levels. However, in communities like Koli, Siddi Muslim, and Vaghari with the lowest incomes, where the graph shows the highest percentage of squatters, there are no homeowners.

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<sup>8</sup> Building materials range from mud bricks, stone, or burnt bricks for walls, and asbestos, tin sheets or country tiles for roofs.



**Figure 17: Housing status graph for Bhuj:** Bar chart showing percentage of homeowners and renters among twenty-one communities in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)

### Post-Earthquake Damage

Unlike Bachhau, where almost the entire town was flattened, the highest damage in Bhuj was concentrated in the old urban core. The city has twelve municipal wards, of which wards 1 to 8 are within the old city urban core, and wards 9 to 12 lie outside the core area (see figure 18 below). Table 18 below gives a ward wise break up of housing damage in Bhuj. The Gujarat government survey teams categorized housing damage into five groups, from G1 to G5, with G1 for houses with minor cracks and G5 being complete collapse. From about 22,000 houses in the urban core of Bhuj, more than 9,000 houses were totally destroyed (G5) or severely damaged (G4), amounting to a 40 percent loss of units from within the total pool of housing stock located inside the urban core area.

As table 18 illustrates, wards 5, 6, 7 and 8, comprising the northern part of the old city urban core, suffered the heaviest damage (see figure 18 below). These wards had the highest number of houses in G5 category (complete collapse) and the damage particularly impacted middle and low-income homeowners who were concentrated in those areas.

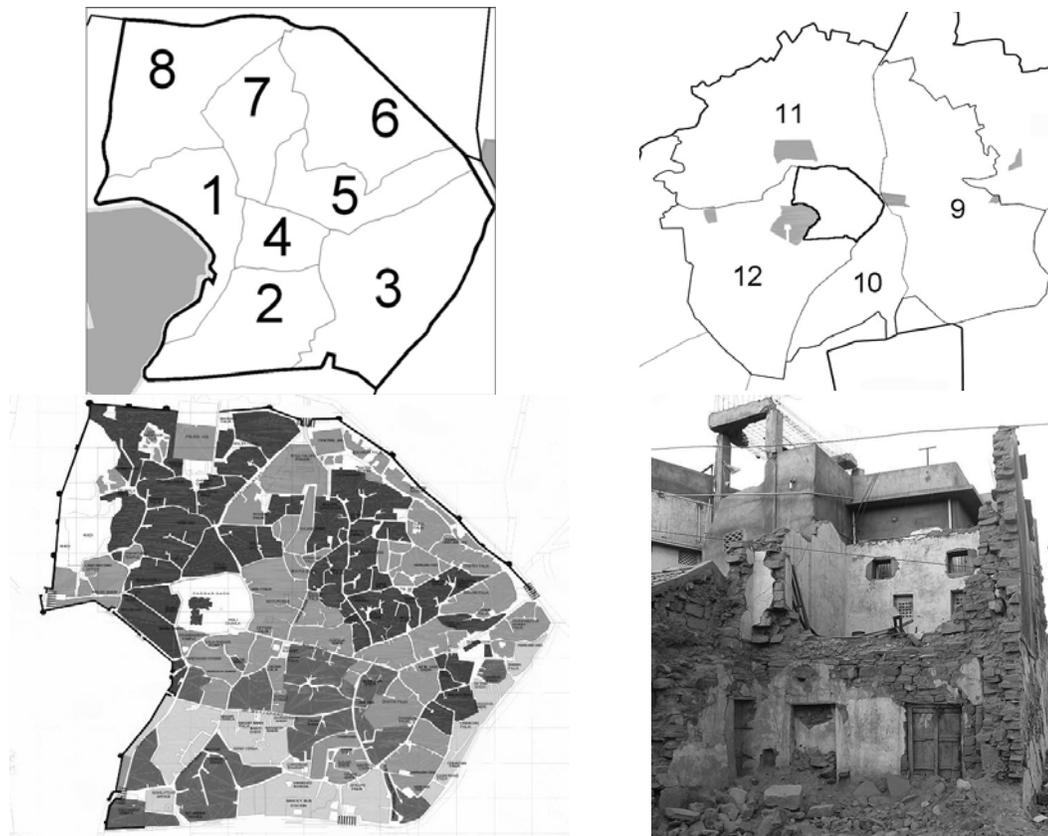
Bhuj City		Damage Category					Total Damage G1 to G5
	Total Houses	G5	G4	G3	G2	G1	
Ward 1	2779	527	185	216	134	121	1183
Ward 2	3230	606	381	272	189	66	1514
Ward 3	4809	1058	507	294	149	79	2087
Ward 4	2098	396	232	94	57	45	824
Ward 5	3310	1066	275	150	115	43	1649
Ward 6	1941	1008	374	197	132	58	1769
Ward 7	1980	891	418	162	67	50	1588
Ward 8	2321	1515	344	151	53	20	2083
<b>Total inside core</b>	<b>22468</b>	<b>7067</b>	<b>2716</b>	<b>1536</b>	<b>896</b>	<b>482</b>	<b>12697</b>
Ward 9	3238	1520	970	542	473	339	3844
Ward 10	11138	483	682	1220	1773	1536	5694
Ward 11	4808	1576	1263	1290	1343	538	6010
Ward 12	7943	211	409	834	1119	1615	4188
<b>Total outside core</b>	<b>27127</b>	<b>3790</b>	<b>3324</b>	<b>3886</b>	<b>4708</b>	<b>4028</b>	<b>19736</b>
<b>Total homes inside &amp; outside the core</b>	<b>49595</b>	<b>10857</b>	<b>6040</b>	<b>5422</b>	<b>5604</b>	<b>4510</b>	<b>32433</b>
Apartment Units		2200	1373	1148	502	0	5223
<b>GRAND TOTAL</b>	<b>49595</b>	<b>13057</b>	<b>7413</b>	<b>6570</b>	<b>6106</b>	<b>4510</b>	<b>37656</b>

**Table 18: Housing damage breakdown in Bhuj: Ward wise damage survey data for Bhuj, Kutch district, Gujarat state, India. (Source: Damage survey data provided by Deputy Collector Office, Bhuj)**

Renter households also occupied a large number of housing units in the urban core prior to the earthquake. From the nine thousand houses destroyed or heavily damaged in the core, renters occupied almost forty percent of the housing units. Consequently, along with homeowners, low-income renters were also severely impacted during the earthquake. Outside the urban core area, though most residential neighborhoods and squatter settlements experienced damage that ranged from minor cracks to serious structural problems like crushed columns, only a few buildings

suffered complete collapse. However, multi-storied apartment buildings outside the urban core suffered extensive damage and destruction, which heavily impacted affluent homeowners.

Much of the damage within the urban core and beyond was attributed to the quality of housing construction. Housing in Bhuj prior to the earthquake can be categorized into two groups, non-engineered buildings, concentrated in the old urban core and in squatter areas, and engineered buildings located in well-organized neighborhoods outside the old city urban core and in some pockets within the core.



**Figure 18: Map of Bhuj municipal wards: Wards 1 to 8 are within the urban core (top left), and Wards 9 to 12 outside the core area (top right). Bhuj map (bottom left) and image (bottom right) shows housing collapse within the urban core. Dark areas in map show heaviest damage, where most homes completely collapsed, and light colors indicate areas that suffered less damage. (Source: Analytical maps provided by Environmental Planning Collaborative, Ahmedabad; Photograph by author)**

The non-engineered houses were made of load-bearing masonry walls<sup>9</sup> in either mud or cement mortar, which supported a tiled roof or a reinforced cement concrete (RCC) slab roof. Most homes in this category were sixty to hundred years old and concentrated mainly in the north of the urban core area. These houses suffered extensive damage and destruction due to the low strength of the mud or cement mortar used (mud mortar in many houses had turned to dust), and the weak masonry walls could not support the weight of the heavy slab or tiled roofs<sup>10</sup>.

The engineered houses in Bhuj were mainly load-bearing masonry structures using burnt bricks with RCC slab or RCC frame buildings with un-reinforced masonry infill walls. These structures were concentrated south of the city outside the urban core, and escaped with largely non-structural damage such as diagonal cracks spreading from the corner of openings or in the walls. Yet, multi-storied apartment buildings between four to ten stories high using engineered frame structures did not fare well during the earthquake<sup>11</sup>. From 470 apartment buildings in Bhuj prior to the quake, more than 200 were destroyed or severely damaged. In terms of housing units, this meant that 2,200 apartment units were destroyed (G5) and another 1,300 units were severely damaged (G4), amounting to more than 3,500 housing units rendered inhabitable.

With the percentage of housing damage high in the urban core, few houses were available for people to rent as temporary shelters. Outside the urban core more housing units were available, but the rents had tripled in the aftermath of the earthquake making them virtually unaffordable for most households. Many homeowners and renters initially left town or moved in with friends and

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<sup>9</sup> The masonry walls were made of burnt clay bricks, cut stones or random rubble stones

<sup>10</sup> In many instances the thick walls used a combination of bricks and stones with a hollow core inside. To strengthen the walls, the resident normally applied cement plaster to the inner and outer surface of the walls, unaware of the weak core within. As families grew, the houses were extended vertically to include a second floor. During the earthquake these weak hollow first floor walls could not carry the additional load from the upper floors causing complete collapse.

<sup>11</sup> Many apartments had a soft story on the first floor, an unenclosed area used for parking space, causing the upper floors to collapse on to the first floor. Another problem was the heavy water storage tanks on the roofs that caused heavy damage when tanks caved in during the quake.

family within the city, but eventually most shifted into the temporary shelter units constructed by community based organizations on public revenue land on the outskirts of Bhuj city. Squatters however, particularly those without land tenure, were primarily concerned about losing their land and refused to move from the squatter plots.

## 2. HOUSING RECOVERY: PUBLIC, PRIVATE AND COMMUNITY-BASED INITIATIVES

As the administrative, economic, and cultural center of Kutch, Bhuj and its housing recovery process drew more attention from the local and state media, the Gujarat government, and local NGOs than did other Kutch towns. Not surprisingly, compared to other towns in Kutch, Bhuj saw a relatively higher number of initiatives for temporary shelters and permanent housing. These initiatives can be grouped into community activities, private NGO interventions, and public government programs, with each having a different focus and approach to housing recovery. While community groups focused on the needs of their member households, NGO interventions and government programs targeted renters and homeowners. This section discusses the impact that each of these initiatives had on final housing recovery outcomes in Bhuj.

The information presented in this section is based on in-depth interviews that were used for collecting data from different communities. A list of caste, sect, and religion-based communities in Bhuj was compiled through consultations with local NGOs and citizen groups, and twenty-one communities were interviewed. For each community group one or two leaders were identified, and interviews lasting from half to one hour were conducted with each person.

## **Community Initiatives**

After the earthquake, some communities in Bhuj organized themselves internally to collect and distribute relief materials equitably within their member households. Most communities had a council with community leaders and elders acting as council members. These councils played a crucial role in bringing their communities together by setting up community kitchens immediately after the earthquake or by arranging temporary shelters for their member households. This section focuses on the efforts of community councils to provide their member households with temporary shelter or permanent housing following the 2001 earthquake and the impact of these efforts on housing recovery outcomes among various communities. In the high homeowner category, most communities were well organized and used their social and economic networks to generate funds for housing recovery. But communities in the low homeownership and no homeownership categories did not have the socio-economic capacity to generate financial or material support, and relied upon the state government or private NGOs for housing assistance (see Tables 19a & 19b below).

Most high homeownership communities, like Nagar, Patel-Kudwa, Thakkar, Jain (Vania and Oswal), Kayasth, Rajyagor and Srimani Soni, were able to generate significant financial and material resources to help their communities. With the exception of Darbar, the communities in the high homeownership group either arranged for construction materials, or funded temporary shelters themselves, or lobbied private NGOs to assist them. A majority of these communities chose to build low-cost shelters at the Gujarat Industrial Development Corporation (GIDC) temporary housing site.

Home Owner Status	Community	Total House holds	Community Initiative
High Home ownership	Nagar	622	-Set up tents on community land for 35 families -Mumbai based Hadkes Seva Relief Foundation, funded permanent housing for 21 renters
	Saraswat Brahmin	150	-Shelters given by Luhana community at GIDC -Mumbai based community organization gave Rs.1500-2000 (\$35-27) for immediate expense
	Darbar	800	Small cash assistance to 5-6 renters for housing
	Patel-Kudwa	270	-Formed Uma Cooperative Housing Society -Bought large piece of land at cheap rate 5 kms from Bhuj, made 225 plots, gave to needy households (prior apartment owners) at cost price -Money put together with donations in India and abroad by Akhil Bhartiya Kudwa Patidar Samaj
	Thakkar	2500	Built 650 temporary shelters in GIDC, and paid Rs.12,000 (US \$285) towards each shelter
	Jain-Vania & Oswal	2000	-Set up Mahavir Bhukamp Rahat Samiti to make temporary shelters for 600 households on community grounds -US based group Jaina gave 60,000 per house for a total of 250 houses in Vardhaman Nagar, Madhapar, allotted to low-income households -Community helped their members get housing loans from banks
	Kayasth	80	-22 temporary shelters were made in GIDC -Amount of Rs.10,000 (US \$238) was contributed towards each shelter by Suresh Mehta, a Gujarat state minister from Kayasth community
	Sindhi	155	-Community had built a community hall just before the earthquake and did not have any funds -Some funds came from Sindhi community in Bhopal, so financial assistance of Rs.7000-8000 (US \$166-190) was given to low-income households for immediate expense
	Darji Sahi Suthar	300	-Supervised construction of 100 shelters at GIDC -Helped members get housing loans-Bank of India and Gruh Finance
	Salat	215	Support to procure financial help from NGOs
	Rajyagor	1200	-Made arrangement in community center for temp shelter -Petitioned government to give 180 plots in RTO relocation site together, so that entire community could live in close proximity
	Srimani Soni	225	-Built 100 temporary shelters on land given on lease to the community by Soni family in UAE -Funding came from Jamnagar based community organization Ananda Bava Sewa Sanstha Trust -Petitioned government to give plots together on relocation sites for community members -Helped households with the application process

**Table 19a: Community resources in Bhuj: Community aid for temporary shelter and permanent housing for high homeownership communities in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

Home Owner Status	Community	Total House holds	Community Initiative
Low Home ownership	Bhanusali	300	-Built 92 temporary shelters in GIDC, funding of Rs.500, 000 (US \$11904) from Jain community in US, and another Rs.500, 000 came from all India Shri Kutchi Seva Bhanusali Trust, Mumbai
	Khatri Hindu	145	-Brahmakshtriya Samaj community organization made 36 temporary shelters at GIDC, Rs.36, 000 (US \$857) was raised for each shelter from community in Mumbai and locally -Nati Panch community organization made 20-22 houses on their own land for renters who lived on the property prior to the earthquake -Gave cash assistance for immediate expenses -Organized 60-70 temporary shelter tents from NGOs for members
	Khatri Muslims	300	None for housing
	Vanad	55	None for housing
	Dalit	1000	None for housing
	Muslims (General)	12,000	None for housing
No Home ownership	Koli	250	None for housing
	Siddi Muslim	135	None for housing
	Vaghari	500	None for housing

**Table 19b: Community resources in Bhuj: Community aid for temporary shelter and permanent housing for low homeownership and no homeownership groups in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

The GIDC site was a large piece of barren public land in the industrial belt outside Bhuj city, identified by the Gujarat state government as a site for temporary shelters<sup>12</sup>. The GIDC temporary shelter site was divided into nineteen housing sectors, and was occupied by almost 1500 households at its peak occupancy (see figure 19 below). Since every community wanted their shelters clustered so that their member households could live in close proximity to each other, the local government officials in Bhuj tried to allot each community with shelter plots in a single housing sector. People in Bhuj thus identified each GIDC sector according to the community who built and occupied the shelters in that sector (see Table 20 below).

<sup>12</sup> A few high homeowner communities made other arrangements for temporary shelters. For example, the Nagar community council set up tents to house thirty-five member households on their community owned land; the Jains formed the Mahavir Bhukamp Rahat Samiti (Mahavir Earthquake Rehabilitation Committee) that funded the construction of 600 temporary shelters on their community owned property; the Srimani Soni community built 100 temporary shelters on land leased to them by a Soni family settled abroad; and the Rajyagor community council arranged temporary accommodations for their member households at the Rajyagor community center.



**Figure 19: Temporary shelter site in Bhuj: Shelters built by private community groups for their member households at GIDC temporary shelter site in Bhuj. (Source: Photographs by author)**

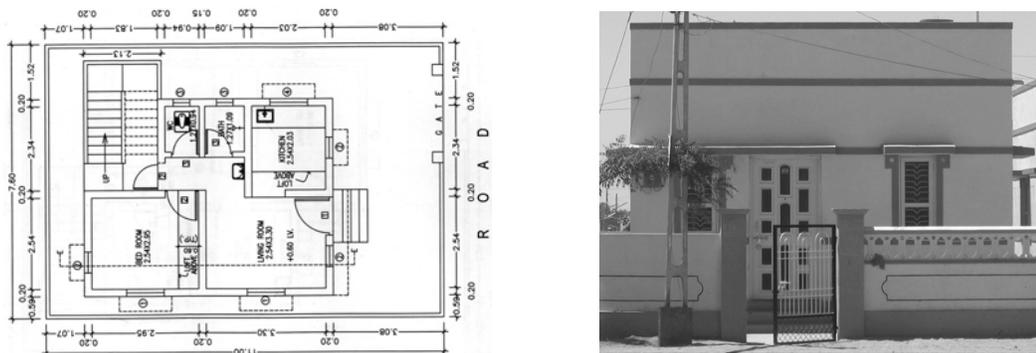
Sector	Community	Number of Shelters
Sector 1	Mixed community (built by Caritas India, NGO)	80
	Bhanusali	48
	Gujjar Suthar	18
	Bhavsar	12
Sector 2	Bhanusali	48
	Rajyagor (built by Swaminarayan Religious Trust)	98
Sector 3	Thakkar (also called Raghuvanshi Luhana)	208
Sector 4	Kansara Soni and Maru Soni (Jewelers)	80
	Kayasth	22
Sector 5	Khatri Hindu (also called Brahmakshtriya)	60
	Thakkar (also called Raghuvanshi Luhana)	200
Sector 6	Thakkar (also called Raghuvanshi Luhana)	200
Sector 7	Salat	96
Sector 8	Mixed community (built by Caritas India, NGO)	120
Sector 9	Darji Sahi Suthar	100
Sector 10	Mochi	140
	Khwas Rajput	
	Rajyagor	
Sector 11	Mixed community	382
Sector 12	Built by UNDP (United Nations Development Program)	
Sector 13	Muslim Ghachi	48
Sector 14	Mixed community Built by UNDP (United Nations Development Program) 250 shelters given to Islamic Relief Committee 400 Shelters occupied, rest remained empty	1060
Sector 15		
Sector 16		
Sector 17		
Sector 18		
Sector 19		

**Table 20: Temporary shelter data: Nineteen sectors of the temporary shelter site at GIDC industrial area are listed along with the community that occupied each sector. (Source: Based on field interview data)**

For example, the Thakkar community built a total of 650 shelters at GIDC, completely occupying sectors three and six and partially occupying sector five (see Table 20 above). These three sectors became known as the Thakkar settlement. While the Thakkar community council paid 12,000 rupees (US \$285) towards each shelter from its community funds, individual member households occupying the shelter units contributed another 12,000 rupees (US \$285) from their own pockets. Most households used their public assistance checks for temporary housing for this purpose. Similarly, the Kayasth community built 22 shelters in sector two naming it the Kayasth Colony. A politician and a state level cabinet minister in Gujarat who belongs to the Bhuj Kayasth community, contributed 10,000 rupees (US \$238) for each shelter in this community, while individual member households paid the remaining sum of 15,000 rupees (US \$357) using their temporary housing checks. Another group, the Darji Sahi Suthar community, supervised, built and occupied 120 shelters in sector nine at the GIDC, which became known as the Darji Colony. In this group, while a community member living abroad paid 4,000 rupees (US \$95) towards the cost of each shelter, individual member households occupying the shelters gave the remaining amount of 18,000 rupees (US \$428) using a combination of their temporary housing assistance checks and personal savings.

Some high homeownership communities like Nagar, Patel-Kudwa, and Jain (Vania and Oswal) were also able to support permanent housing construction, by successfully raising funds from within their community or from other organizations at the larger national level. For example, the Nagars recruited a Mumbai based organization called the Hadkes Seva Relief Foundation that funded the construction of 21 houses, specifically for low-income renter households from the Nagar community. The Patel-Kudwa community council used funds raised by the Akhil Bhartiya Kudwa Patidar Samaj (All India Kudwa Patel Community) with donations from their larger community at the national level in India and their diaspora abroad, to buy a large piece of land

five kilometers from Bhuj and form a Cooperative Housing Society. The land was divided into 225 plots and sold to Patel-Kudwa households in Bhuj at its cost price. This made the land affordable for individual families and allowed member households to live together in close proximity as a community. The Jain community in Bhuj sought for and received a large monetary donation from Jainia, a United States based Jain organization. This helped to fund 250 houses at a very affordable cost of 60,000 rupees (US \$1428) per house (see figure 20 below), specifically for widows and low-income households in the community.



**Figure 20: Jain community housing in Bhuj: Ground floor plan (left) and a picture (right) of a typical housing unit built by the Jain (Vania and Oswal) community council for low-income households in their community. (Source: Floor plan provided by Jain Housing Trust; Photograph by author)**

In other instances of community initiatives within the high homeownership category, the Darji Sahi Suthar community council helped its member households get housing loans from Bank of India and Gruh Finance to rebuild their houses; the Rajyagor council successfully petitioned the Bhuj Area Development Authority (BHADA, henceforth called the Bhuj Authority) to give its community 180 housing plots together in a cluster, at the new RTO relocation site<sup>13</sup> on the outskirts of Bhuj, so that the community could relocate as a group and live collectively; and the Srimani Soni council helped its member households to put together the necessary documents to apply for the state government housing assistance. Overall, the high homeownership communities

<sup>13</sup> The Bhuj Area Development Authority had identified four relocation sites in Bhuj: RTO, Mundra, Ravalvadi, and GIDC. These sites were carved out of public revenue land on the outskirts of the city and were part of the state government's strategy to decongest the old city urban core of Bhuj.

were actively engaged in providing their member households with temporary shelter assistance, and some of the wealthier communities were also successful in extending support for permanent shelters.

In the second category of low homeownership, there was a noticeable lack of community initiatives. Among the six communities, only Bhanusali and Khatri Hindus were able to help their members to some extent. The Bhanusali community council built 92 temporary shelters at the GIDC temporary housing site in sectors one and two for their member households. Funding for the shelters came partially from the Jain community abroad, and partially from Shri Kutchi Seva Bhanusali Trust, a national level community organization based in Mumbai, both of whom gave 500,000 rupees (US \$11904) each towards temporary shelters. The Khatri Hindu community council built 36 temporary shelters for their members in GIDC's sector five at a cost of 36,000 rupees (US \$ 857) per shelter, with funds raised from their wider community in Mumbai and in Kutch.

In the no homeownership category none of the three communities were able to contribute to housing recovery efforts through community-based initiatives. With no initiatives launched at the larger community level, individual households were essentially on their own. Most households in this category, who are primarily squatters, borrowed small amounts internally in the community or bought construction materials on credit in order to rebuild their homes.

In sum, community initiatives for post-disaster housing recovery were connected to two primary factors: the economic strength of a community, and its internal organization prior to the earthquake. In the no homeownership communities and among most low homeownership groups such initiatives were non-existent. These communities lacked the financial, social or political

resources that are available to the high homeownership communities, many of whose members are professionals in the construction industry, work in banks, have administrative positions in the government, own medium or large businesses, and sit on boards of various trusts and foundations. Not surprisingly, following the earthquake, the high homeownership communities were successful in raising funds through their professional ties, business links, and their association with various trusts and foundations. Moreover, most high homeownership communities are organized with well-funded highly active community councils, who used their experience of organizing community events, and the links to their larger community at the national and international levels, to raise money after the earthquake.

In contrast, members of communities in low homeownership and no homeownership categories work mostly at low-level salaried positions or as low-income daily wage unskilled laborers. As a result, households in these communities do not have the financial capacity to contribute towards community level activities. With low funding from within the community, the community councils are usually impoverished which in turn reduces their capacity to raise funds from other sources. Overall, these communities either lacked or had a very small pool of educated members, who could approach organizations, explain their funding requirements, and successfully obtain financial support. Moreover, apart from the Bhanusali and Khatri Hindu, the low-homeownership and no homeownership communities were not well organized, had many internal divisions due to sub-caste groups, and lacked links to their wider community at the national level in India and abroad that could have helped them to raise funds after the earthquake.

## **NGO Interventions**

Following the earthquake, local, national and international NGOs poured into Bhuj to assist with relief activities such as providing food and medical supplies. However, most NGOs left after the initial period of emergency relief activities and only a handful of NGOs who had prior experience with post-disaster housing recovery remained in Bhuj to assist people with temporary shelters and permanent housing. Except the Jain community, who refused to accept assistance from any organization outside their own community due to religious beliefs, most communities and especially renter households, received some form of NGO assistance (see Tables 21a & 21b below). This section looks at the role of NGO aid on post-earthquake housing recovery outcomes among various communities in Bhuj.

The research data presented here shows that communities in the high homeownership and low homeownership groups, who had a large percentage of low-income renter households benefitted the most from NGO assistance. From the nine thousand houses destroyed (G5) or heavily damaged (G4) in the old city urban core during the earthquake, renters occupied almost forty percent of those units. Recognizing the impact of the earthquake on such large segment of Bhuj's renter population, BHADA urged NGO groups in the city to focus their assistance on these renter households. This especially benefitted the high homeownership and low homeownership communities who had a significant percentage (10 to 50 percent) of renter households in their communities.

For temporary shelters, the NGOs built pre-fabricated units, set up tents on vacant public land, or gave financial assistance to communities for building temporary shelters themselves. Following the earthquake, there were two temporary shelter sites set up on the outskirts of Bhuj near the

city's industrial belt, Deen Dayal Nagar and the GIDC. At the Deen Dayal Nagar, a private organization called Deen Dayal Charitable Trust, built pre-fabricated shelters with materials provided by the Technological Information Forecasting Assessment Council (TIFAC), a national government agency, for economically weak households whose houses were destroyed or severely damaged in the earthquake.

Home Owner Status	Community	Total House hold	NGO Intervention
High Home ownership	Nagar	622	Some (5 households) allotted temporary shelters in Deen Dayal Nagar, another 5-6 shelters allotted by NGOs at GIDC
	Saraswat Brahmin	150	Some joined housing schemes with Kutch Yuvak Sangh or Rotary at Ravalvadi relocation site
	Darbar	800	About 8-10 households got temporary shelter in Deen Dayal
	Patel-Kudwa	270	About 10-12 families joined housing scheme by Giants International
	Thakkar	2500	-About 20-25 households got low-cost housing built by Abhiyan -Some joined Gems & Jewelers or Caritas housing scheme at Ravalvadi relocation site
	Jain-Vania & Oswal	2000	None for housing, refused aid from NGOs outside the community, since it is against religious beliefs
	Kayasth	80	None for housing
	Sindhi	155	About 2-3 households got temporary shelter built by Swaminarayan Trust (a religious organization)
	Darji Sahi Suthar	300	-About 3-4 households got low-cost housing built by Abhiyan -About 7-8 households received houses through BAPS housing scheme at Mundra relocation site
	Salat	215	-Tent city set up by NGOs initially on Middle School grounds -Swaminarayan Trust supervised construction of 100 temporary shelters at GIDC and paid Rs.7000 (US \$166) towards each unit -About 15 households got shelter in Deen Dayal -At Ravalvadi relocation site, 50 households received houses through Gems and Jewelers housing scheme and 5-7 from Caritas scheme -About 20-25 households got low-cost housing built by Abhiyan
	Rajyagor	1200	-Swaminarayan Trust supervised construction of 100 temporary shelters at GIDC and paid Rs.7000 (US \$166) towards each unit -Received material aid from Abhiyan -People believed that NGO houses are not good and did not accept the offer by Ramesh Oza Trust based in Porbandar to construct 180 houses
Srimani Soni	225	-About 25-30 households got government built shelters at GIDC -About 4-5 households got low-cost housing built by Abhiyan	

**Table 21a: Private interventions in Bhuj: NGO assistance for temporary shelter and permanent housing for high homeownership communities in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

Home Owner Status	Community	Total House hold	NGO Intervention
Low Home ownership	Bhanusali	300	-About 8 households received houses through BAPS housing scheme at Mundra relocation site -About 5 households got low-cost housing built by Abhiyan
	Khatri Hindu	145	-About 3-4 households got shelter in Deen Dayal -About 8 households received houses through BAPS housing scheme at Mundra relocation site
	Khatri Muslims	300	None for housing (UNDP built 1000 temporary shelters at GIDC but with no toilets, this caused problems for households and the shelters were eventually abandoned)
	Vanad	55	Renters received housing from Abhiyan, some joined the housing schemes by Rotary, or Caritas
	Dalit	1000	About 50 households got temporary shelters built by Deen Dayal Charitable Trust
	Muslims (General)	12,000	-Islamic Relief Committee built 275-300 temporary shelters at GIDC -Some got temp shelters at Deen Dayal Nagar -Jamait Ulema e Hind and Sarvajanic Relief Committee gave material help for housing repair -Akhil Kutch Muslim Bhukam Rahat Samiti built 100 houses on Khari Nari Road -Muslim Education and Welfare Society gave cash and material help -About 15 percent of low-income households affected by quake got housing built by Abhiyan
No Home ownership	Koli	250	None for housing
	Siddi Muslim	135	None for housing
	Vaghari	500	VHP gave cement bags to build temple

**Table 21b: Private interventions in Bhuj: NGO assistance for temporary shelter and permanent housing for low homeownership and no homeownership groups in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

A small percentage of people from the high homeownership group received shelter at the Deen Dayal site along with about five Nagar households, ten Darbar, and fifteen Salat households. In the low homeownership category the percentage was higher, with fifty Dalit and a number of Muslim and Khatri Hindu households receiving shelter here. The second shelter site, GIDC, set up by the Gujarat government was grouped into nineteen housing sectors. A number of NGOs, such as Caritas India, Swaminarayan Trust, Islamic Relief Committee, as well as the UNDP (United Nations Development Program), built temporary shelters at GIDC (see figure 21 below). While the UNDP funded its shelters completely, other organizations shared the construction costs with participating households.



**Figure 21: Temporary shelters at GIDC site in Bhuj: Row of Caritas India temporary shelters (top left) and a typical unit built by Caritas (top right). Shelters built by private community group (bottom left) and a UNDP temporary shelter unit (bottom right). (Source: Photographs by author)**

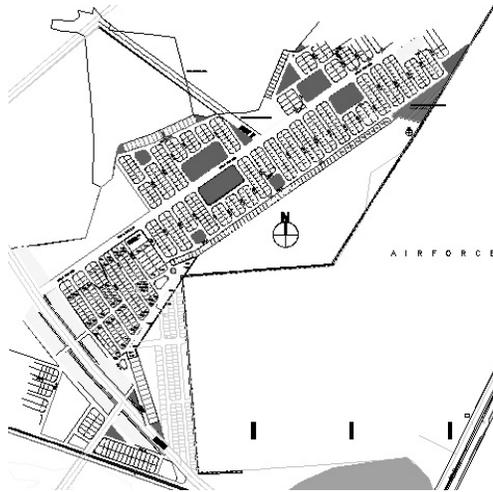
Some NGOs like the Swaminarayan Trust and the Islamic Relief Committee provided assistance for temporary shelters along religious lines. Swaminarayan Trust supervised the construction of 100 shelters each, for the Salat and Rajyagor communities, both followers of the Swaminaryan religious sect within Hindu religion. While the trust paid 7,000 rupees (US \$166) for each unit, individual households occupying the shelters paid the rest amount of 18,000 rupees (US \$428) using a combination of their public financial assistance checks of 12,000 rupees (US \$ 285) for temporary shelters and their personal savings. The Islamic Relief Committee concentrated on Muslim households, constructing and paying for 300 temporary shelters units at the GIDC site. The UNDP also funded and built 1000 units (see figure 21 above) at GIDC, of which only 400 units were occupied. Since the UNDP shelters did not have attached toilets, the remaining units either remained vacant or were abandoned by its residents within a few months.

For permanent housing, most NGOs built their housing units on one of the four relocations sites identified by the Bhuj Authority, RTO, Ravalwadi, Mundra, and GIDC (see figure 22 below). At the Ravalwadi relocation site, NGOs like Rotary Club built 157 housing units, Caritas India built 200, Gems and Jewelers constructed 372 units, and the Kutch Yuvak Sangh made 85 units. These NGOs targeted renter households and worked like building contractors without much input from the community, their main objective being rapid and efficient delivery of mass housing units. In contrast, some community based NGO like Abhiyan focused on very low-income renter households, working actively to involve them in the housing design and the actual construction process, while building 280 units at GIDC. Religious NGOs like BAPS (Bochasanwasi Akshar Purushottam Swaminarayan), who built 377 units at the Mundra relocation site, targeted their project towards members of its own religious sect. Other NGOs chose to buy private land instead of building on any of four relocation sites, such as the Noor Foundation and the Lions Club that built 200 and 250 housing units respectively on privately bought land (see Table 22 below).

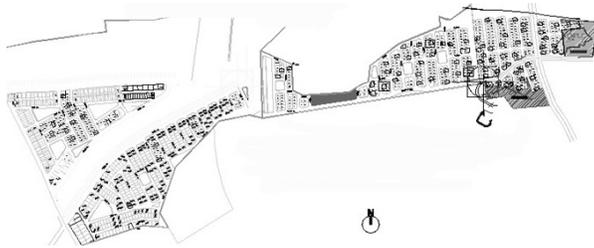
In the high homeownership group, communities that comprised of a relatively higher percentage of renters and economically weak households largely benefitted from the NGO built housing projects<sup>14</sup>. Since most NGO projects were targeted towards renters and since most homeowners preferred to re-build their homes themselves, communities with a larger number of homeowners relied mostly on public assistance.

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<sup>14</sup> Apart from its target population, the NGO housing projects also differed in terms of the share of land and construction costs paid by the NGOs and the participating households. In the Gems & Jewelers housing project at Ravalwadi relocation site, individual households paid a government subsidized land price of 32,000 rupees (US \$762) to the Bhuj Area Development Authority (BHADA), while sharing construction costs equally with the NGO. Yet, in the Rotary Club, Caritas India, and Kutch Yuvak Sangh housing projects, participating households were only asked to pay the land price of 32,000 rupees (US \$762) to BHADA, while the NGOs paid the entire construction costs. Similarly, the Abhiyan housing project for low-income renters at GIDC asked its participating households to pay the land price to BHADA while Abhiyan bore all construction costs. But in the BAPS housing project at the Mundra relocation site, participating households paid the land price of 32,000 rupees (US \$762) to BHADA and another 75,000 rupees (US \$1785) to BAPS for construction costs.



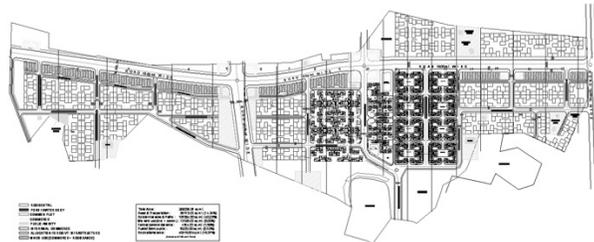
**Mundra Relocation Site**



**Ravalwadi Relocation Site**



**R.T.O. Relocation Site**



**G.I.D.C. Relocation Site**

**Figure 22: Bhuj relocation site plans: Mundra relocation site (top), Ravalwadi relocation site (second from top), R.T.O. relocation site (third from top), and GIDC housing site for low-income households (bottom). (Source: Map for Mundra, Ravalwadi, and R.T.O. provided by Bhuj Area Development Authority, and for G.I.D.C. by Abhiyan. Photographs obtained from BHADA website, <http://www.bhujada.com/Relocation%20rehabilitation.htm>, March 2007)**

<b>Name of Organization</b>	<b>NGO Type</b>	<b>Target Household</b>	<b>Price paid by Households (US Dollar)</b>	<b>Relocation Site</b>	<b>Housing Units Built</b>
Rotary Club	Contractor	Mostly Renter	Land Price Only (\$762)	Ravalwadi	157
Caritas India	Contractor	Renter Only	Land Price Only (\$762)	Ravalwadi	200
Gems & Jewelers	Contractor	Renter & Homeowner	Land Price Only (\$762) Share construction cost	Ravalwadi	372
Kutch Yuvak Sangh	Contractor	Renter Only	Land Price Only (\$762)	Ravalwadi	85
Lions Club	Contractor	Renter & Homeowner	No Data	Private Land	250
Abhiyan	Community Based	Low-Income Renter Only	Land Price Only	G.I.D.C.	280
BAPS	Religious	BAPS Followers	Land Price Only (\$762) Building Costs (\$1785)	Mundra	377
Noor Foundation	Religious	Muslim Household	No Data	Private Land	200
<b>Total</b>					<b>1921</b>

**Table 22: NGOs in Bhuj: Housing data on non-government organizations that worked for housing recovery in Bhuj (Source: BHADA Official Website, <http://www.bhujada.com/Relocation%20rehabilitation.htm>, March 1, 2007; and field interview data)**

While some renter households from Saraswat Brahmin community became part of the Kutch Yuvak Sangh and Rotary Club housing projects built at Ravalvadi relocation site, renters from the Thakkar community mostly joined Gems & Jewelers and Caritas India (see figure 23 below). In the Salat community, fifty households joined Gems & Jewelers housing scheme and seven renters joined Caritas India. From Darji Sahi Suthar community, about eight households, being followers of the BAPS sect, chose to join the BAPS housing project at Mundra relocation site. Very low-income renter households, who were not eligible for housing financial assistance from the government, had the option to apply for Abhiyan housing. About twenty-five Thakkar, five Srimani Soni, five Darji Sahi Suthar, and twenty-five Salat households joined the Abhiyan housing project. Following a request from the Rajyagor community council for assistance, Abhiyan also decided to give material assistance to Rajyagor households, who were building their houses at the relocation site (see Table 23 below).

Category	Community	Total House hold	Housing Status	NGO Housing for Renter Household (Percent)	NGO Assistance for Permanent Housing (number of household)
<b>High Home Ownership</b>	Nagar	622	Renter 10%	0%	None
	Saraswat Brahmin	150	Renter 20%	Not Known	Kutch Yuvak Sangh, Rotary Club
	Darbar	800	Renter 15%	Not Known	Not Known
	Patel Kudwa	270	Renter 30%	0%	None
	Thakkar	2500	Renter 15%	15-20%	Gems and Jewelers, Caritas India, & Abhiyan 20-25
	Jain-Vania & Oswal	2000	Renter 30%	0%	None
	Kayasth	80	Renter 10%	0%	None
	Sindhi	155	Renter 23%	0%	None
	Darji Sahi Suthar	300	Renter 30%	12-15%	Abhiyan 3-4, BAPS 7-8
	Salat (Mason)	215	Renter 30%	90-95%	Gems & Jewelers 50, Caritas 5-7, Abhiyan 20-25
	Rajyagor	1200	Renter & Squatter 40%	0%	Material help from Abhiyan
Srimani Soni	225	Renter 40%	5-10%	Abhiyan 4-5	
<b>Low Home Ownership</b>	Bhanusali	300	Renter 50%	10%	BAPS 8, Abhiyan 5
	Khatri Hindu	145	Renter 50%	10%	BAPS 8
	Khatri Muslim	300	Renter 5%	0%	None
	Vanad (Barbar)	55	Renter 12%	Not Known	Rotary Club, Caritas India, Abhiyan
	Dalit	1000	Renter 0%	Not Known	Abhiyan
	Muslim (General)	12,000	Renter 0%	15-20%	Abhiyan, Noor Foundation
<b>No Home Ownership</b>	Koli	250	Renter 0%	0%	None
	Siddi Muslim	135	Renter 0%	0%	None
	Vaghari	500	Renter 0%	0%	None

**Table 23: NGO assistance in Bhuj: NGO aid for temporary shelter and permanent housing in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

Overall, the Salat community received the highest percentage of NGO support in Bhuj. There were two reasons for this. First, most of the NGO projects in Bhuj were targeted towards renters, and of the 215 households in the Salat community about 30 percent were renters, most of whom had lost their homes in the earthquake. Because they were renters, these households were eligible for NGO housing projects, where NGO groups gave preference to renter applications over that of homeowners. Second, the Salat community council was well organized and highly motivated to help its member households enlist early for NGO housing projects and to assist them to put

together their applications. In contrast, communities like Nagar, Jain, Darbar, Patel-Kudwa, Kayasth, and Sindhi did not receive housing assistance from NGOs. This is because 70 percent to 90 percent of households from these communities are homeowners, and with most NGOs focused on renters, only few NGOs (Gems & Jewelers, Lions Club, and BAPS) extended invitations to homeowners to apply for housing units in their projects.



**Figure 23: NGO built housing at relocation sites in Bhuj: BAPS housing at Mundra relocation site (top left), typical housing unit built by Caritas India at Ravalwadi relocation site (top right), Gems & Jewelers housing unit at Ravalwadi (bottom left), and Rotary Club housing unit at Ravalwai relocation site (bottom right). (Source: Photographs by author)**

In the low homeownership category, all the six communities received some form of housing assistance from NGO groups. For example, about eight to ten homeowners and renters from each of the Bhanusali and Khatri Hindu communities were able to apply for a housing unit in the BAPS housing project based on their religious sect affiliation. Few renter households from the Vanad community joined the Rotary Club and Caritas India housing projects, whereas low-income renter households from Bhanusali, Vanad, Dalit and Muslim communities applied to join the Abhiyan housing project. Other organizations like Jamait Ulema-e-Hind and Sarvajanic Relief Committee gave construction materials to individual households for housing repair among

the Muslim community based on religious affiliation. Similarly, the Noor Foundation purchased private land on Khari Nari Road, and the Akhil Kutch Muslim Bhukam Rahat Samiti built 200 hundred housing units on this land for Muslim households. Apart from renters, about 10 to 15 percent of low-income squatter households in the Muslim community, who were displaced from their houses due to public construction projects, also applied for housing units in Abhiyan and the Noor Foundation housing projects (see Table 23 above).

In the no homeownership group, none of the three communities (Koli, Siddi Muslim, and Vaghari) received any form of housing assistance from NGOs. Since NGO support in Bhuj was primarily targeted towards renters and in some cases homeowners, squatter communities in the no homeownership group were not eligible for NGO assistance. Yet, a small percent of squatters, who were displaced from their land due to public work projects such as construction of new roads, could apply for NGO assistance, primarily in the Abhiyan housing project for very low-income households.

In spite of a sizeable NGO presence in Bhuj that was focused on renter households, many renter households from the high homeownership and low homeownership groups did not opt for or did not receive NGO assistance. There were multiple reasons for this. For example, the Jain community refused all assistance from groups that did not share its religious affiliation; the Rajyagor community did not trust the quality of NGO housing construction; Sindhi renter households, who mostly lived outside the old city urban core since prior to the earthquake, did not suffer severe damage or destruction to their rented houses and were thus not eligible for NGO aid; and among Khatri Muslim households, while some did not have the funds to pay for the land price or the construction costs for NGO housing, others wanted to live within Muslim dominated neighborhoods in Bhuj.

Overall, the NGO housing projects benefited mostly communities in high and low homeownership groups, who had a large percentage of renter households that lived in the urban core prior to the earthquake, and whose houses suffered complete destruction (G5 category) or severe damage (G4). In the high homeownership group, about 10 to 20 percent of renter households successfully applied for a housing unit in the NGO housing projects. The highest percentage was in the Salat community where about 95 percent of the renters successfully applied for a NGO built housing unit and became homeowners. In the low homeownership group, a fewer number of renter households, about 10 percent from each community, enlisted for the NGO housing projects. Yet, a larger percentage of very low-income renters from these communities were able to opt for the low cost housing offered by the Abhiyan and the Noor Foundation housing projects. In the no homeownership group, none of the three communities received any form of housing assistance from NGO groups in Bhuj.

### **Government Programs**

The Gujarat State Disaster Management Authority (GSDMA)<sup>15</sup> planned and coordinated public assistance programs for housing recovery. The GSDMA's housing recovery policy primarily focused on homeowners. For example, the GSDMA specified financial assistance for housing recovery at the rate of 3,000 rupees (US \$71) per square meter of built area destroyed, and set the maximum compensation limit at 150,000 rupees (US \$3571) for those homeowners whose houses were destroyed (G5) or severely damaged (G4) during the earthquake. This meant that most homeowners who had suffered housing loss were assured of receiving a certain amount of public financial assistance, making the policy particularly favorable for communities who had a high

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<sup>15</sup> State level public agency in Gujarat formed after the 2001 earthquake to co-ordinate, design, and implement post-earthquake reconstruction in the state, and to design hazard mitigation policies.

percentage of homeowners. This section looks at the impact of public assistance programs on housing recovery outcomes among various communities in Bhuj.

With almost twenty percent of Bhuj's overall housing stock completely destroyed, the GSDMA initially considered building mass temporary shelters to provide temporary shelters to households who had lost their houses in the earthquake. However, people in Bhuj strongly opposed the idea of government built shelters and instead favored cash compensation. There were multiple reasons for this. First, cash was flexible and could be also used for more immediate needs such as medical expenses. Second, households preferred to have control over the quality of temporary housing and believed they could achieve it by building the shelters themselves. Third, some households wanted to pool the government compensation funds with their own personal savings to build better quality shelters. Fourth, urged by their councils, households in many communities decided to collaborate and wanted to build shelters collectively to make them more cost effective. With public opinion thus strongly in favor of cash compensation, the GSDMA offered an amount of 12,000 rupees (US \$285) as temporary shelter assistance to households, whose houses were completely destroyed (G5) or severely damaged (G4). In many communities, the community councils coordinated, partially financed, and supervised the construction of these shelters for their member households on the GIDC temporary shelter site<sup>16</sup> identified by the Bhuj Authority.

To co-ordinate its public assistance program for permanent housing reconstruction, the GSDMA set up the Bhuj Area Development Authority (BHADA, referred to as the Bhuj Authority) to plan and implement its housing recovery program in Bhuj. A larger percent of the total housing loss in Bhuj was concentrated in the urban core, where infrastructure facilities such as sewage lines, electricity, roads, and local municipal administrative buildings had also suffered severe damage.

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<sup>16</sup> The GIDC temporary shelter site was a large piece of barren public land on the outskirts of Bhuj close to the city's industrial zone.

Consequently, the Bhuj Authority's reconstruction efforts focused heavily on planning and rebuilding public infrastructure in the urban core area as part of its housing recovery program.

Environmental Planning Collaborative (EPC), an Ahmedabad based planning consultant firm and town planners for Bhuj, first conducted land surveys and gathered property data in order to draw accurate maps of the old city area. These maps were then used for land readjustment, a technique in which residential plots are consolidated for unified planning of infrastructure and housing. EPC<sup>17</sup> redrew the existing housing plot lines and road layout in Bhuj to organize earlier irregular shaped land parcels into regular geometric form. The objectives of land readjustment were to reduce the high density of housing in the urban core<sup>18</sup>; to achieve a regular neighborhood pattern; to provide wider and improved road network; and to equitably distribute infrastructure facilities such as water, sewage and streetlights (see figure 24 below).



**Figure 24: Land re-adjustment in Bhuj: Map of a neighborhood in the old city urban core area of Bhuj shows plot lines and road layout before (top left) and after (top right) land re-adjustment. (Source: Maps provided by Environmental Planning Collaborative, Ahmedabad)**

<sup>17</sup> EPC's design focused on long term planning in areas such as land use, physical infrastructure, road network and transportation, solid waste management, heritage conservation and tourism, and management of open spaces, water bodies, and the environment.

<sup>18</sup> To reduce housing density in the old city urban core, the Bhuj Authority also invited homeowners to surrender their housing plot in the urban core and move to one of the three relocation sites, RTO, Mundra, or Ravalwadi, carved out of public revenue land on the outskirts of Bhuj. To encourage people to move out of the urban core and into relocation sites, the Bhuj Authority took a carrot and sticks approach. For carrots, it gave incentives like a larger housing plot on the relocation sites and a subsidized land price. This meant that homeowners who voluntarily move out of the urban core were eligible for a larger housing plot at a subsidized price at one of the three relocation sites in exchange for their original housing plot in the urban core. As for the sticks, the Bhuj Authority informed homeowners that to widen the road network in the urban core area, the Gujarat government would deduct a pre-calculated percentage of land from their old housing plot during the land readjustment process. Faced with the prospect of a reduced plot size in the old urban core, many homeowners were willing to accept a larger plot at subsidized price on a relocation site.

While the GSDMA's financial assistance program for individual households was primarily targeted at homeowners<sup>19</sup>, yet, about forty percent of the households who had lost their houses in the earthquake, especially in the old urban core, were renters. The Gujarat government's policy to provide housing assistance to renters stated that a landlord could receive housing recovery assistance if he was willing to re-rent the new house to the same tenant. Most landlords however, wanted possession of their land and were not interested in receiving financial compensation or rebuilding their house to rehabilitate their tenants. This created a problem for renters in Bhuj because a majority of the renter households had been living in these rented properties for more than twenty years, and were paying extremely low rents due to rent control laws. But after the earthquake, there were fewer houses available for people to rent and the rents for available units had tripled in the aftermath of the disaster making them virtually unaffordable for most renters. Local groups, such as Abhiyan (an NGO), the Kutch Mitra (Bhuj's main newspaper), and the Bhuj Development Council (a community organization) recognized that this situation could turn into a housing crisis for renters, that could leave a large number of low-income renter households either homeless, or permanently located in temporary shelters, or push them into squatter settlements. So these groups began to apply pressure on the Bhuj Authority, through news editorials and private meetings with the Bhuj Authority Chairman<sup>20</sup>, to develop a housing program solely for renters.

Under pressure from local groups in Bhuj, the Bhuj Authority eventually expanded the housing recovery program in the city to include renters. Renters who had lost their houses could apply to

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<sup>19</sup> The government gave financial assistance to homeowners in three separate installments based on housing construction progress. The first installment was released to homeowners before they began construction work on the house; the second installment was given after the foundation plinth of the house was built; whereas the third installment was released when housing construction was complete.

<sup>20</sup> The position of Bhuj Authority Chairman was filled by the Kutch district collector, the highest government administrative official in Kutch district.

the Bhuj Authority for a 100 square meter housing plot on one of the three new relocation sites, RTO, Mundra, or Ravalvadi, at a subsidized fixed rate of 32,000 rupees (US \$762). The Bhuj Authority then invited various NGOs, like Rotary Club, Caritas India, Kutch Yuvak Sangh, Abhiyan, Gems and Jewelers, and BAPS (Bochasanwasi Akshar Purushottam Swaminarayan), to create housing reconstruction projects targeting renter households. Under this program, a renter could join any one of the NGO housing projects, where the NGO would either pay the construction costs completely or partially while the renter paid the price of the housing plot, thus making housing affordable for renters.

Bhuj also has nineteen squatter settlements that range in size from a cluster of twenty homes to vast sprawling areas of three to four hundred houses. While squatter houses in Bhuj had suffered widespread damage, squatter communities were not eligible for any form of financial assistance from the Gujarat government. This is because while many squatter homes were severely damaged, unlike houses in the old urban core, squatter housing in Bhuj did not suffer widespread destruction. The Gujarat government's post-earthquake housing damage survey show that most squatter housing damage ranged from minor cracks (G1) to major structural damage (G4), and there were few squatter units that were completely destroyed (G5). Moreover, the GSDMA's policy for squatters specified financial assistance only to those squatter households whose houses had fully collapsed or were destroyed (G5), and did not include provision for squatter housing repair. This meant that in Bhuj since squatter houses were damaged but not destroyed, squatter communities could not apply for public financial assistance.

The GSDMA's housing recovery policies combined with the Bhuj Authority's renter housing program were particularly favorable for communities in the high homeownership and the low homeownership categories. This is because these programs primarily targeted homeowners and

renters, and both the high and low homeownership groups had a large percentage of homeowners and renters. In the high homeownership group, the percentage of homeowners ranged from 90 percent in the Nagar community to 60 percent in the Srimani Soni community (see Table 24a & 24b below).

Category	Community	Total House hold	Housing Status	Government Programs For Homeowners and Renters
<b>High Home ownership</b>	Nagar	622	Owner 90% Renter 10%	Households at relocation sites: 30 at RTO; 20 at Mundra; 15 at Ravalwadi
	Saraswat Brahmin	150	Owner 80% Renter 20%	Govt. program for homeowner and renter
	Darbar	800	Owner 70% Renter 15%	Govt. program for homeowner and renter
	Patel-Kudwa	270	Owner 70% Renter 30%	Households at relocation sites: 17 at Mundra; 2-3 at Ravalwadi
	Thakkar	2500	Owner 84% Renter 15%	Govt. program for homeowner and renter
	Jain-Vania & Oswal	2000	Owner 70% Renter 30%	Only 3-4% went to relocation sites since sites did not have a Jain temple. Used govt. financial installments to repay housing loans.
	Kayasth	80	Owner 90% Renter 10%	Govt. program for homeowner and renter
	Sindhi	155	Owner 77% Renter 23%	Govt. program for homeowner and renter
	Darji Sahi Suthar	300	Owner 70% Renter 30%	About 125 families benefited, 70-75 were homeowners and 50-60 were renters
	Salat	215	Owner 70% Renter 30%	Govt. program for homeowner and renter
	Rajyagor	1200	Owner 60% Renter and Squatter 40%	Households at relocation sites: 230 homeowners at RTO, 50 at Mundra; and 25-30 renters and 15 homeowners at Ravalvadi
	Srimani Soni	225	Owner 60% Renter 40%	Households at relocation sites: 35-40 at RTO; 20-25 at Mundra; and 20-25 at Ravalwadi

**Table 24a: Public programs in Bhuj: GSDMA's assistance for temporary shelter and permanent housing for homeowners and renters in high homeownership communities in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

Most of the high homeownership communities, particularly the Nagar, Darbar, Thakkar, Jain, Kayasth, Darji Sahi Suthar, Rajyagor, and Srimani Soni, were concentrated in the old city urban core since prior to the earthquake. Because the urban core suffered extensive destruction, these communities endured the highest percentage of housing loss in the earthquake. Yet, a favorable housing recovery policy for homeowners meant that these communities also benefited the most

from public financial assistance. Homeowners from these communities used their public financial assistance to either re-build their houses on their original housing plot within urban core area, or move to a new housing plot on one of the relocation sites. The high homeownership category also comprised of 10 to 30 percent of renter households who were mostly concentrated in the urban core area, and many of who had lost their houses. The Bhuj Authority gave these renter households the option to buy a housing plot at one of three relocation sites for a subsidized land price, and join an NGO housing project where the organization either paid for or shared the cost of housing construction (see Table 24a above).

In the low homeownership group, Bhanusali, Khatri Hindu, Khatri Muslims, and Vanad had a high percentage of homeowner and renter households. Among them, Bhanusali, Khatri Hindu, and Khatri Muslims had 45 to 50 percent of homeowners, many of whom lived in the urban core area and suffered heavy damage in the earthquake. The Bhanusali and Khatri Hindu communities also had a high number of renter households in the urban core area. In Vanad community, fifteen percent of households were homeowners and another twelve percent were renters, most of who were concentrated in the urban core and suffered destruction of housing properties. Homeowners and renters in these communities successfully received public financial assistance for housing recovery. Yet, other communities like Dalits and Muslims in the low homeownership category had the lowest homeownership levels at 10 and 20 percent respectively. A majority of the households in both communities were squatters living outside the urban core, and who had suffered minor to severe housing damage during the earthquake. However, since the GSDMA did not have a program for squatter housing damage repair, these squatter households did not receive any form of public financial assistance (see Table 24b below).

<b>Low Home ownership</b>	Bhanusali	300	Owner 50% Renter 50%	Govt. program for homeowner and renter
	Khatri Hindu	145	Owner 50% Renter 50%	Households at relocation sites: Most went to relocation site from old town. 15 at RTO; 20-25 at Mundra; and 30-35 at Ravalwadi
	Khatri Muslims	300	Owner 45% Renter 5%	Govt. program for homeowner and renter
	Vanad	55	Owner 15% Renter 12%	Govt. program for homeowner and renter
	Dalit	1000	Owner 10% Renter 0%	Govt. program for homeowner, but problem with land records in Ambedkar Nagar. State built 60 houses in 1950s for low-income Dalit households but did not give Sanad (tenure).
	Muslims (General)	12,000	Owner 20% Renter 0%	Eighty percent households are squatters who did not receive any government assistance
<b>No Home ownership</b>	Koli	250	Owner 0% Renter 0%	None for housing, mostly squatters with less damage, only 2-3 houses collapsed
	Siddi Muslim	135	Owner < 1% Renter 0%	Govt. program for homeowner; 7% interest on loan from GRUH Finance
	Vaghari	500	Owner < 1% Renter 0%	For G5, some got 20,000, some 18,000 and some 40,000. G5 got more than G3

**Table 24b: Public programs in Bhuj: GSDMA's assistance for temporary shelter and permanent housing for homeowners and renters in low homeownership and no homeownership groups in Bhuj, Kutch district, Gujarat state, India. (Source: Based on field interview data)**

In the no homeownership category, a majority of the households are squatters. Less than one percentage of households in the Vaghari and Siddi Muslims, who built their homes on ancestral farm plots on the outskirts of Bhuj and had title to the land, received some public financial assistance for housing repair. But as mentioned earlier, the GSDMA's housing recovery policy did not specify public assistance for squatter housing repair. So a greater percentage of households in these three communities did not qualify for government assistance.

Overall, homeowners with legal property titles, whose homes were destroyed (G5) or heavily damaged (G4) during the disaster, were the primary beneficiaries of public financial assistance<sup>21</sup>.

<sup>21</sup> The process of applying for financial assistance itself was confusing and difficult for the people of Bhuj, and this was especially the case for homeowners who had to go through three different government departments during this process. For example, a homeowner had to first go to the deputy collector's office in Bhuj to put in their application for financial assistance. Once the deputy collector approved the application and issued the first housing installment check, the homeowner was then required to go to the Bhuj Authority's office to get their house plans approved and to apply for building permissions to start construction. Once the construction reached the plinth level, an engineer from the deputy collector's office came to check on the construction progress, and give a certificate of approval that qualified

Yet, the Bhuj Authority's willingness to expand its housing reconstruction program to include renters, significantly contributed towards renter housing recovery. In contrast, the GSDMA's lack of a housing policy for squatters resulted in the marginalization of squatter households from the housing recovery process.

### 3. WHO COULD REBUILD AND WHO COULD NOT

The research data presented in the earlier sections clearly indicate that among all three homeownership communities in Bhuj, communities with a high percentage of squatter households struggled the most to recover after the 2001 earthquake. Homeowner households from the high homeownership and low homeownership communities were eligible for public financial assistance. Moreover, some communities in the high homeownership group were also successful in organizing aid internally through their community organizations. At the same time, renter households in the high homeownership and low homeownership communities were also able to access public assistance as well as NGO aid under the Bhuj Authority's renter housing program. Not surprisingly, communities with a high percentage of homeowners and renters were largely successful in rebuilding after the earthquake. However, no homeownership squatter communities did not have access to public housing assistance or private NGO aid in Bhuj, and struggled to recover. This section looks at housing recovery in Bhuj to examine why squatter communities struggled the most to recover after the 2001 earthquake.

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the homeowner for the second installment check. At this time Bhuj Authority engineers would inspect the construction to determine if the new house plan incorporated town-planning regulations, and issue a certificate of compliance. This was followed by a visit from the deputy collector's office engineer who checked if the construction had made sufficient progress to determine whether the homeowner was eligible for their third installment check. Finally, the homeowner had to go to the Bhuj Nagarpalika (the municipal office) to register the new house. Homeowners found this a difficult and complicated process, and felt confused while navigating government bureaucracy. Many communities described their experience of acquiring government housing assistance as an ordeal that caused additional mental distress after the earthquake.

## **Housing Recovery in Bhuj: The Homeowner, The Renter, and The Squatter**

The research data presented earlier on Bhuj suggests that the Gujarat government's housing recovery policy addressed the housing needs of homeowners through a public assistance program, whereas local government officials in Bhuj created a renter housing recovery program. However, no such parallel efforts existed for squatter households in Bhuj. As a result, while homeowners and renters were largely successful in rebuilding their houses, squatters struggled to recover in Bhuj.

As Table 25 below illustrates, most communities in the high homeownership category were able to rebuild their houses after the earthquake. Communities in this category benefited the most from the Bhuj Authority's renter housing program and the Gujarat government's housing recovery policy that emphasized public financial assistance to homeowners. Since households in this category had the highest percentage of homeowners with legal title to their land and house prior to the earthquake, they were eligible for public financial assistance. Communities in the high homeownership category also had a significant percent of renters (10 to 30 percent). Under the Bhuj Authority's renter housing program, renters who had lost their houses could apply to the Bhuj Authority for a housing plot on one of the three relocation sites, as well as for public financial assistance. Renter households also had the option to join a NGO housing project, where the NGO paid the construction costs completely or partially. Moreover, households from wealthy high homeownership communities, like the Jain-Vania and Jain-Oswal, received assistance from within their own communities. Community organizations in both these groups built new housing units for economically weak households within the community. For the large part, the access to public assistance and private NGO aid meant that the rate of successful rebuilding among communities in the high homeownership category was high. Overall, homeownership communities, who had a

large percentage of homeowners and renters, could mostly rebuild their houses through public financial assistance and with some help from private NGOs assistance for renters.

Housing Category	Caste-Based Community	Total House hold	Housing Status and Housing Assistance Source			
			Homeowner	Renter	Squatter	
					With Tenure	No Tenure
High Homeownership	Nagar	622	90%	10%		
			Government			
	Saraswat Brahmin	150	80%	20%		
			Government			
	Darbar	800	70%	15%	15%	
			Government	Government & NGO	None	
	Patel-Kudwa	270	70%	30%		
			Government	Government		
	Thakkar	2500	84%	15%	1%	
			Government	Government & NGO	None	
	Jain-Vania & Oswal	2000	70%	30%		
			Government/Community	Government & NGO		
	Kayasth	80	90%	10%		
Government			Government & NGO			
Sindhi	155	77%	23%			
		Government	Government & NGO			
Darji Sahi Suthar	300	70%	30%			
		Government	Government & NGO			
Salat	215	70%	30%			
		Government	Government & NGO			
Rajyagor	1200	60%	20%	20%		
		Government	Government & NGO	None		
Srimani Soni	225	60%	40%			
		Government	Government & NGO			
Low Homeownership	Bhanusali	300	50%	50%		
			Government	Government & NGO		
	Khatri-Hindu	145	50%	50%		
Government			Government & NGO			
Khatri-Muslim	300	45%	5%	50%		
		Government	Government & NGO	None		
Vanad	55	15%	12%	73%		
		Government	Government & NGO	None		
Dalit	1000	10%			90%	
		Government			None	
Muslim-Genral	12000	20%		10%	70%	
		Government		None	None	
No Homeownership	Koli	250				100%
					None	
	Siddi Muslim	135			25%	75%
					None	
Vaghari	500			40%	60%	
				None		

**Table 25: Housing assistance for homeowners, renters, and squatters. Housing recovery assistance from Government programs, NGO interventions, and Community initiatives for homeowners, renters, and squatters among high homeownership, low homeownership and no homeownership community groups in Bhuj, Kutch district, India (Source: Based on field interview data).**

Among the low homeownership communities, the percentage of households who were renters and squatters was larger. At the same time, none of the communities in this group had the resources to offer any significant help to their member households for housing recovery. Homeowners, who made up about 10 to 50 percent of the households in the low homeownership communities, were eligible for public housing assistance, and under the Bhuj Authority's renter housing program, renters were eligible for a housing plot and public financial assistance. However, most squatters, whose houses were damaged in the earthquake, found it difficult to get any form of public or private assistance for housing repair. The lack of access to public assistance or private NGO aid meant that squatter households struggled to rebuild. Overall, in the low homeownership group, while homeowners and renters, who were eligible for public housing assistance and NGO aid, could rebuild after the earthquake, a larger number of squatters could not qualify for any kind of assistance, either from the government or the NGOs, and struggled to recover.

The no homeownership communities comprised primarily of low-income squatters who did not have any community resources to fall back on and could not access any form of assistance from public or private sources either. This is because most of the private NGO aid in Bhuj was primarily focused on renter households. Moreover, the GSDMA's housing recovery policy did not specify public assistance for squatter housing repair, and since squatter houses in Bhuj had suffered damage as opposed to complete destruction, squatter communities could not apply for public housing assistance. Consequently, squatter households for the most part could not repair their houses after the earthquake.

In summary, the high homeownership communities comprising a large number of homeowners and renters got the highest amount of public financial assistance through the GSMDA's housing

recovery policy that focused on homeowners, and through the Bhuj Authority's renter housing program. Some communities were also successful in organizing aid internally through their community organizations. Not surprisingly, the high homeownership communities had a significantly higher rate of housing recovery. Low and no homeownership communities did not have the resources or a highly organized community network that they could leverage for funds or materials. Among the low homeownership communities, the Bhuj Authority's renter housing program gave communities access to public assistance and private NGO aid, which in turn strengthened the capabilities of renters to recover. However, in the no homeownership squatter communities, squatter households lacked access to public financial assistance and private NGO aid. As a result, communities with a high percentage of squatter households struggled the most to recover after the 2001 earthquake.

Freeman (2004) has criticized post-disaster financial aid policies that direct most of public funding to rebuild pre-existing housing stock within the formal housing market, which means that homeowners with legal title to their houses get the largest chunk of public financial assistance. In Bhuj however, renters were also able to access public financial assistance and most renters whose houses were destroyed in the earthquake, became homeowners under the Bhuj Authority's renter housing program. The primary reason for housing recovery for renters in Bhuj is the presence of local pressure groups, such as Abhiyan (an NGO), the Kutch Mitra (Bhuj's main newspaper), and the Bhuj Development Council (a community organization), who pressured the Bhuj Authority to extend its public assistance program to renters. The groups argued that renters accounted for 40 percent of the housing loss in the urban core, and the high percentage of rental housing loss combined with the lack of affordable housing units in the city meant that renters were facing a housing crisis. Under pressure from these local groups, the Bhuj Authority decided to extend the public assistance program for housing recovery to renter households.

Unlike the renters however, squatters in Bhuj did not have access to public financial assistance. There were multiple reasons for this. First, the GSDMA's housing recovery policy did not specify public assistance for squatter housing repair, and so the majority of squatter households in Bhuj whose houses were damaged in the earthquake were not eligible to apply for public assistance. Second, unlike the case of renters, where local groups pressured the Bhuj Authority to set up a renter housing program, squatters in Bhuj did not have organized groups who could represent their interests or pressure the Bhuj Authority on their behalf. This is because most NGOs in Bhuj were focused on renter housing recovery. Third, the lack of attention to squatters also reflects the priority of the Bhuj Authority. In Bhuj, while a large number of renters had completely lost their houses, squatters in comparison had suffered lower impact with a larger number of squatter housing units damaged but not destroyed in the disaster. So while the Bhuj Authority found it hard to ignore renters, squatter housing recovery was not an urgent issue for them. As a result, squatter households in Bhuj struggled to repair and rebuild their houses after the 2001 earthquake in Bhuj.

On the whole, public financial assistance for homeowners strengthened the ability of most homeowners to achieve housing recovery, whereas the Bhuj Authority's renter housing program and private NGO aid to renters strengthened the capabilities of renter households to rebuild their houses. Squatter households however, did not have access to public assistance, private aid, or community resources, and as a result, most squatters could not strengthen their capabilities to repair their houses following the 2001 earthquake.

## CHAPTER FIVE: NEGOTIATING HOUSING RECOVERY IN BACHHAU AND BHUJ

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In the previous chapters I discussed the first and second component of this research. While Chapter Two looked at how World Bank funds impact the housing recovery in Bachhau and Bhuj, Chapters Three and Four examined how factors such as community initiatives, NGO interventions, and government programs impacted the capability of communities to rebuild their houses in the two towns. Based on the data presented in these previous chapters, this chapter addresses the third component of this research, which is the comparative analysis. The chapter compares and contrasts the government's housing recovery approaches at the state and local level in Bachhau and Bhuj to ascertain the impact of its different approach in the towns on the final housing recovery outcomes in both towns.

Bachhau and Bhuj are both located within Kutch district<sup>1</sup> in Gujarat state, and share basic characteristics such as demographic composition and the scale of earthquake damage. However, because the state government had different stakes in the housing recovery of the two towns, the government's approach to housing recovery in both towns was different in political terms. Since Bhuj is the economic, cultural, and administrative center of Kutch, it was important for the Gujarat government to highlight Bhuj as a success story in order to claim credit for a successful urban recovery in Kutch. With the stakes thus high in Bhuj, the state government closely scrutinized the urban reconstruction program in Bhuj. As a direct result, the Bhuj Area Development Authority tightly controlled the implementation of the housing recovery program in Bhuj and did not encourage participation in any decision-making process from local NGO or citizen groups. In contrast, Bachhau is a second tier town in Kutch district in terms of economic,

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<sup>1</sup> Districts in India are akin to US counties

political, and cultural importance. As a result, the state government was not involved as heavily in housing recovery and reconstruction in Bachhau the way it was in Bhuj. The Bachhau Area Development Authority had greater autonomy to take decisions, was free from the media glare, and somewhat shielded from direct scrutiny by state government. As a direct result, the Bachhau Area Development Authority was willing to involve local NGOs in the recovery process. In other words, due to the difference in political stakes, Bachhau and Bhuj presented a difference in their willingness to share decision-making with NGOs and local citizen groups.

This chapter argues that the difference in the government's approach to housing recovery had a direct impact on the difference in the level of housing recovery among communities within both towns because it produced difference in the availability of appropriate financial or material support for homeowners, renters, and squatters from public sources such as government programs or private groups such as NGOs. While a community's own resources, capacities, and socio-economic position was an important factor during housing recovery, this chapter argues that the difference in availability of appropriate public assistance and private NGO aid for rebuilding that met the needs and capacities of these groups was a critical factor that directly shaped housing recovery in Bachhau and Bhuj. In other words, due to the difference in suitable public and private financial assistance, while homeowners were largely successful in rebuilding, particularly wealthy homeowners, a large number of renters and squatters struggled to recover.

This is because homeowners in Bachhau and Bhuj were able to use public assistance for housing that fitted their needs and capacities, along with some assistance from NGOs or community groups, which strengthened the capability of homeowners to rebuild their houses. But there was an absence of similar programs for a larger number of renters and squatters, and they struggled to recover.

This chapter conceptualizes the difference in post-disaster housing recovery among homeowners, renters, and squatters using Sen's (1999; 1993) capabilities approach as an analytical framework. As discussed in the first chapter, the capabilities framework argues for an approach that focuses on the freedom or the actual ability that people have to achieve certain human functions that they value and on strengthening the ability of people to achieve these functions (Sen, 1999; Nussbaum & Sen, 1993). While this framework allows for an understanding of community recovery from the perspective of the local population, it also provides a useful theoretical tool to analyze the aspects that enhanced and strengthened the actual ability or the capability of communities to rebuild their houses in Bachhau and Bhuj. Using the capabilities approach analytical framework, this chapter argues that appropriate private NGOs involvement and public financial assistance were the most critical elements required to strengthen the capability of homeowners, renters, and squatters in both towns to rebuild their houses and achieve housing recovery, and that groups who did not have access to financial assistance programs that were designed to meet their needs and capacities struggled the most to rebuild.

The chapter is divided into three sections. The first section examines the difference in the government's approach at the state and local levels towards housing recovery in Bachhau and Bhuj, and the resulting impact on housing recovery processes in the two towns. The second section compares housing recovery outcomes between Bachhau and Bhuj while using the capabilities approach as an analytical tool to conceptualize housing recovery among homeowners, squatters, and renters in both towns. The third section discusses the findings of this chapter and concludes the section with a brief critique of the Gujarat government's urban housing recovery policy.

## 1. BACHHAU AND BHUJ: COMMON THREADS AND SIGNIFICANT DIVERGENCES

Bachhau and Bhuj were similar in that they were two of the worst affected towns in Kutch during the 2001 Gujarat earthquake with the highest amount of housing damage. In both towns, the damage was attributed primarily to the quality of housing construction. Most of the housing damage in both towns was seen in non-engineered houses, which were made of load-bearing masonry walls<sup>2</sup> using low strength mud or cement mortar, causing the walls to collapse under the weight of the heavy roofs during the earthquake<sup>3</sup>.

Yet, there are important differences between both towns in terms of the earthquake's impact on housing. First, the scale of the two urban areas and the number of housing units lost are quite different. Bachhau is a small trading town with a population of over 25,000<sup>4</sup>, which lost nearly 90 percent of its housing stock with the rest 10 percent heavily damaged and rendered inhabitable. In contrast, Bhuj is five times the size of Bachhau with a population of over 130,000<sup>5</sup> people, where about 40 percent of the housing units were destroyed or damaged beyond repair in the earthquake. So Bachhau had lost a higher percentage of its total housing stock during the disaster compared to Bhuj. But while Bachhau lost about 10,000 units, in Bhuj the number of housing units lost stood at about 20,000. This means that in relative terms Bachhau suffered far higher damage than Bhuj, however in absolute terms, the number of housing units lost or destroyed in Bachhau was half that of Bhuj.

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<sup>2</sup> The masonry walls were made of brunt clay bricks, cut stones or random rubble stones

<sup>3</sup> In many instances the thick walls used a combination of bricks and stones with a hollow core inside. To strengthen the walls, the resident normally applied cement plaster to the inner and outer surface of the walls, unaware of the weak core within. As families grew, the houses were extended vertically to include a second floor. During the earthquake these weak hollow first floor walls could not carry the additional load from the upper floors causing complete collapse.

<sup>4</sup> According to the Census of India 2001, the population of Bachhau is 25,389

<sup>5</sup> According to the Census of India 2001, the population of Bhuj is 136,429

The second difference between both towns is related to the impact on homeowners, renters, and squatters among various communities. In Bachhau the scale of housing damage affected every community regardless of their social status or economic position. In each caste-based community, there were essentially three groups based on their housing ownership status: homeowners, renters, and squatters. With 90 percent of Bachhau's residential buildings destroyed and the rest 10 percent severely damaged, most homeowners, renters, and squatters lost their houses. In Bhuj however, the highest percent of housing loss was concentrated in the old city urban core, whereas housing loss outside the old city area was limited largely to the high-rise apartments dotting the city's urban landscape. The city lost about 25 percent of its total housing units inside the old city area, while another 15 percent of total residential buildings in Bhuj were destroyed outside its urban core. Most of these lost housing units were either inhabited by homeowners or by renters. This meant that unlike Bachhau where homeowners, renters, and squatters, all lost their houses, in Bhuj it was the homeowners and renters living in the old city urban core and in the high-rise apartments outside the old city core who were most severely impacted by the earthquake. But squatter settlements that hem the city in the north, east and west, suffered relatively minor housing damage in Bhuj. In summary, unlike Bachhau, where the earthquake impacted homeowners, renters, and squatters, in Bhuj, the disaster had a higher impact on homeowners and renters and a slightly lower impact on squatter communities spread out in squatter settlements around the city.

These differences are important to note because to a large extent they shaped the Gujarat state government's and the Area Development Authority's different approaches to the housing recovery process in each town, which in turn had an affect on final housing recovery outcomes. To better understand these processes and the resulting difference in outcomes they produced, the following sections will compare housing recovery approaches in Bachhau and Bhuj.

## Why Different Approaches In Bachhau and Bhuj

Though Bachhau suffered relatively higher damage to housing during the 2001 earthquake, it is important to note that from the very onset, it was Bhuj that captured the attention of the media, the state government, and local and international NGOs. This is not only because Bhuj is one of the largest towns in Kutch with a population of more than 130,000<sup>6</sup> people, but also because Bhuj has been the political, economic, and cultural center of Kutch region for more than 400 years<sup>7</sup>. The city is an important trading center due to its proximity to Kandla port (the second largest port in India), its position as the Kutch district<sup>8</sup> administrative headquarter, and its central geographical location in the region. The heavy focus on Bhuj is important to consider because it increasingly turned the city into a political showcase for a state government wanting to display its housing recovery and reconstruction efforts to the general public and the media, through the rebuilding progress made in the city.

For Bhuj this had an upside as well as a downside. The upside of being the Gujarat government's showcase city for post-disaster reconstruction meant that the state poured enormous resources into rebuilding the city. This was reflected in the larger share of recovery monies that Bhuj received compared to Bachhau. So for example, while Bachhau received about 750 million US dollars for urban infrastructure upgrade and rebuilding, Bhuj received 1.2 billion US dollars from the Gujarat government, a much larger share of infrastructure rebuilding funds<sup>9</sup>.

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<sup>6</sup> According to data from Census of India 2001, the population of Bhuj is 136,429.

<sup>7</sup> Since 1549 AD

<sup>8</sup> A district in India is equivalent to a county in the United States

<sup>9</sup> Gujarat State Disaster Management Authority, Government of Gujarat, Internal Document. *Kachchh – Status Report*. July 2002.

Yet, the enormous attention to Bhuj also had its downside. Though the Gujarat government had been equally involved in the success of rural housing recovery in Kutch, the national and state media had given most of the credit for rural rehabilitation to private NGO work. So when urban recovery began the Gujarat government was determined to get credit for urban rehabilitation by itself. But to do that the state government had to portray urban recovery a success, and Bhuj city became an important battleground for the state government to prove this point. With so much money and media attention focused on Bhuj, it was imperative for the Gujarat government to highlight Bhuj as a success story in order to claim credit for a successful urban recovery. This situation raised the stakes for the Gujarat government in Bhuj, and led to heavy involvement of the state government in the city's urban reconstruction program and to the refusal of NGO involvement.

The situation in Bachhau was different. Bachhau is a second tier town in Kutch district in terms of economic, political, and cultural importance. As a result, even though Bachhau lost more than 90 percent of its residential units, the state government was not involved as heavily in housing recovery and reconstruction in Bachhau as it was in Bhuj.

In both Bachhau and Bhuj, the state government controlled the rebuilding process through the Area Development Authorities, and was keen on keeping the local municipalities out of the urban rebuilding program. Based on field interview data there are three reasons for this. First, the Gujarat government did not want municipalities to be involved in a rebuilding program when the same municipalities were complicit in neglecting building regulations in their towns and had not enforced planning codes prior to the earthquake. The lack of enforcement of planning bylaws was one of the primary causes for heavy building damage in urban areas of Kutch. For example, many high-rise apartment buildings in Bhuj had more number of stories than was allowed under the

building codes. A number of these apartments were completely destroyed during the earthquake and carried high death tolls. Second, the state government did not want local politics to interfere in its urban reconstruction program. The members of a municipality, which is the elected branch of the local administration<sup>10</sup>, represent various administrative wards in the city. The state government was eager to avoid a situation where the municipal representatives could favor their own political constituencies or use public assistance to grant favors. Third, since the state government wanted to portray urban recovery in Kutch as a resounding success and a major achievement, it strived to have complete control over the process. As a result, the state government decided to appoint an Area Development Authority (ADA) in Bhuj and Bachhau under direct control of the Gujarat State Disaster Management Authority (GSDMA)<sup>11</sup> to coordinate and implement urban infrastructure reconstruction and housing recovery<sup>12</sup>.

In Bachhau, the Bachhau Area Development Authority (BhADA, henceforth referred to as the Development Authority in Bachhau or the Bachhau Authority) controlled the housing recovery process. The state government directly appointed the Bachhau Authority's Chief Executive Officer (CEO), who had to report to the Kutch District Collector<sup>13</sup> and the GSDMA. While the Taluka<sup>14</sup> Mamlatdar office<sup>15</sup> assisted the Bachhau Authority during the implementation of the

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<sup>10</sup> In India there are two parallel tiers of government at the local level. One is an elected one, such as the local municipal council whose members represent the various administrative wards in a town, and are elected by the local population every two years. The other branch is the executive office that comprise of a public revenue officer, the Mamlatdar, who is appointed by the state government. The roles of both are very clear and separate. The elected municipality's powers are limited to the town it is elected from. It is responsible for maintaining the town's infrastructure (street lights, road network, water supply, sewage, and drainage), and enforcing the town's building regulations and by laws. The Mamlatdar's authority extends to the entire Taluka jurisdiction, which includes all towns and villages in that jurisdiction. It overlooks revenue collection and maintenance of law and order in the Taluka on behalf of the state government.

<sup>11</sup> The GSDMA is a state level public agency in Gujarat formed after the 2001 earthquake to co-ordinate, design, and implement post-earthquake reconstruction in the state, and to design hazard mitigation policies.

<sup>12</sup> A number of people at the local level were not completely happy with the state government's decision to cut out the local municipalities of the rebuilding process. This is because local municipalities had the best knowledge of local conditions and problems, so by leaving them out of the reconstruction process meant that the state government was essentially leaving out information that was vital to its rebuilding efforts.

<sup>13</sup> Highest authority and the most powerful public office at the district level.

<sup>14</sup> In India, a state is composed of administrative districts, akin to United States counties, while the districts are further divided into Talukas or Tehsils, akin to township level in United States.

urban reconstruction program, the Bachhau Authority CEO had absolute power over the recovery program in Bachhau. In other words, as the head of the Development Authority in Bachhau, the CEO retained its autonomy at the local level to take housing recovery decisions for Bachhau within the Gujarat government's policy framework. With Bachhau town relatively in the background and away from the media spotlight when compared to Bhuj, the Bachhau Authority CEO was less wary of NGO involvement in the housing recovery process. The willingness towards NGO participation combined with the Bachhau Authority's ability to take decisions autonomously to a large extent, impacted housing recovery outcomes in Bachhau, and will be discussed in greater detail in the next section.

Similar to Bachhau, the state government appointed the Bhuj Area Development Authority (BHADA, henceforth referred to as the Development Authority in Bhuj or the Bhuj Authority), to coordinate and implement the urban reconstruction and housing recovery program in Bhuj. The CEO for the Bhuj Authority was also appointed directly by the Gujarat government. However, there was one important difference. Since Bhuj is the administrative center for Kutch district, the Kutch District Collector, the highest-level administrative authority in the district, was made the Bhuj Authority Chairman. While this added another layer of administrative control on the Development Authority in Bhuj, it also introduced a different dynamic into the Bhuj Authority's administrative setup. This is because while the Bhuj Authority CEO was from the state level Gujarat Administrative Service cadre, the Kutch District Collector was from the national level Indian Administrative Service cadre, and the latter is considered more elite and prestigious than the state level cadre. Indian Administrative Service graduates are usually appointed to higher positions in the national and state administrative hierarchy and by default enjoy more power than their state level colleagues. So unlike in Bachhau where the Bachhau Authority CEO enjoyed

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<sup>15</sup> Mamlatdar office is the public revenue office appointed directly by the state government to the executive branch of the local administration.

relative autonomy, the Development Authority CEO in Bhuj had to defer to the Bhuj Authority Chairman, that is the District Collector. This is not only because the District Collector as the Chairman of the Development Authority in Bhuj was at a higher rank than the CEO in the Bhuj Authority's administrative set up, but also because the District Collector had more authority and power by the virtue of being from the Indian Administrative Service. This is an aspect that was rarely voiced during field interviews, but when directly questioned Development Authority officials in Bhuj acknowledged it as being a silent dynamic that played a powerful role during decision-making at the Bhuj Authority.

The appointment of the District Collector as the Chairman of Bhuj Authority hints at two important points. First, having the most powerful office in Kutch district at the helm of the Bhuj Authority shows the level of importance attached and the stake that the Gujarat government had in a successful recovery of Bhuj. By appointing the District Collector as the Bhuj Authority Chairman, who had direct access to the GSDMA CEO and the Gujarat Chief Minister, the state government was essentially sending a message that Bhuj commanded the Gujarat government's attention and all resources at the state and the district's disposal would be brought in to reconstruct Bhuj. Second, by having the District Collector as the Chairman of the Bhuj Authority who would answer directly to the GSDMA, the state government was exercising tighter control over the urban reconstruction program in Bhuj. In Bachhau, based on the district administrative hierarchy, the Bachhau Authority CEO was answerable to the District Collector at the district level first, and then to the GSDMA at the state level. This put an administrative layer between Bachhau and the state government and somewhat shielded Bachhau from direct interference from state level officials. But in Bhuj, the presence of the District Collector as the Bhuj Authority Chairman meant that the Development Authority in Bhuj was answering directly to state level officials at the GSDMA and the Chief Minister's office. In other words, the GSDMA was closely

watching every action that the Development Authority took in Bhuj and was ready to step in at a moment's notice. For the Bhuj Authority, this also meant that the state government's political priorities weighed into any decision that it had to take at the local level. So the Bhuj Authority had to juggle its role of implementing the city's urban reconstruction program with making sure to remain on the right side of the state government's political priorities, keeping the GSDMA satisfied of its progress, and handling the pressures of being in the media glare at the state and district levels.

Dealing with multiple fronts simultaneously made the Bhuj Authority's task of urban recovery more challenging, and affected its decisions regarding urban housing recovery in the city that eventually impacted the outcome of the housing recovery program in Bhuj to some extent. This will be discussed in greater detail in the next section.

In summary, the greater media and state government attention on Bhuj meant that while Bhuj received more resources from the government, it was also subjected to tighter control and monitoring by the state government. This is indicated by the appointment of the Kutch District Collector as the Bhuj Authority Chairman. In contrast, Bachhau, being a second tier town in Kutch district in terms of economic, political, and cultural aspects, remained in the background and the Bachhau Authority enjoyed greater autonomy in local decision-making, something that was not afforded to Bhuj. This impacted housing recovery outcomes in both towns and is the subject of discussion in the next section.

## **Impact of Different Approaches on Housing Recovery**

This section looks at how the difference in the government's approach to housing recovery in Bachhau and Bhuj impacted the housing recovery process in the two towns. One of the very first impacts of this difference was on the relationship between the Area Development Authorities (ADA) and local NGOs in both towns.

In Bachhau, since the Development Authority had greater autonomy to take decisions, was free from the media glare, and somewhat shielded from direct scrutiny by state government, the Bachhau authority showed greater openness to involve local NGOs in the recovery process and to consider their suggestions. This had an immediate impact on squatter housing recovery in Bachhau because the Bachhau Authority officials were receptive to ideas from Unnati, a local NGO working on squatter relief and rehabilitation in Bachhau since after the 2001 earthquake. Unnati had conducted surveys in squatter settlements to better understand squatter needs, and had found that squatters made up 40 percent of Bachhau's population. The organization argued that with 40 percent of the total housing damage in Bachhau located in squatter areas, the Bachhau Authority could not afford to ignore squatter issues and needed to design a squatter housing recovery program. The Bachhau Authority not only accepted Unnati's suggestion, but also decided to collaborate with the organization to establish a program under which squatters who had land tenure in Bachhau would be given public financial assistance

Unnati not only provided the Bachhau Authority with information regarding squatter housing needs, but also helped them to hammer out the program details. At the same time, the Bachhau Authority worked with various government units at the state and district levels to get the required approvals for the program. The Development Authority in Bachhau also consulted Unnati to find

solutions to problems that came up during the implementation of the squatter housing recovery program, such as how to provide assistance to squatters who did not have land tenure. Moreover, the Bachhau Authority and Unnati together set up supporting programs such as a community outreach center to help squatter households put together their public assistance application documents. While the Development Authority's power in Bachhau to make all decisions regarding housing recovery was unquestioned, the extent of Unnati's involvement in the squatter housing recovery program shows the depth of collaboration between the Bachhau Authority and Unnati. To put it as an informal partnership would not be a stretch.

The informal partnership between the Bachhau Authority and Unnati, which was critical to the development of the squatter housing program, was only possible because the Development Authority in Bachhau was not resistant to the idea of participation from local NGO groups. But this willingness among Bachhau Authority officials was a direct result of the fact that while the state government gave priority to recovery in Bhuj, Bachhau was somewhat relegated to the background. Being away from the media and state government spotlight gave Bachhau Authority officials more room to maneuver. This is because as a second tier town Bachhau was under less pressure from the state government to implement a housing recovery program that the Gujarat government could tout as a highly successful accomplishment. The lower political stake gave the Development Authority officials in Bachhau the chance to test run a squatter housing recovery program that they otherwise might not have risked taking up. The reason is that if the stakes were higher in Bachhau and if under those circumstances a squatter housing recovery program failed for any reason, then the entire housing recovery program would come to be defined by its failure. What this meant was that since Bachhau was relatively less important to the Gujarat government and because the town was not subjected to intense media attention, Bachhau Authorities were not particularly hampered by a fear of failure. In other words, because the Bachhau Authorities were

not under pressure to produce a spectacularly successful housing recovery in Bachhau, they were willing to take the risk of failure by introducing a squatter housing recovery program that may or may not succeed.

In contrast, with Bhuj being the economic, cultural, and administrative center of Kutch, it was important for the Gujarat government to highlight Bhuj as a success story in order to claim credit for a successful urban recovery in Kutch. With the stakes high in Bhuj, the state government exercised tight control over the Bhuj urban reconstruction program by appointing the Kutch District Collector as the Bhuj Authority Chairman. Since a District Collector answers directly to the state government, as the Chairman of Bhuj Authority the District Collector answered directly to the GSDMA<sup>16</sup> at the state level. Consequently, not only did the state government's political priorities weigh into any decision taken in Bhuj but Bhuj Authority officials were changed in tandem with changes in the state government's priorities in Bhuj. This is illustrated by the fact that the Development Authority CEO in Bhuj had changed four times between October 2001, when the Bhuj Authority was first established and August 2003, when the fourth CEO was appointed. Similarly, there were four different District Collectors' between 2001 and 2003<sup>17</sup>. In contrast, the Development Authority CEO and the Mamlatdar in Bachhau were at their respective posts continuously for a period of more than three years starting in 2002 and still remained in 2005 after the conclusion of fieldwork<sup>18</sup>. According to field interviews, the primary reason for the changes in Bhuj was that the state government's primary objective shifted between 2001 and 2003 from immediate relief and emergency response, to policy planning and designing of the

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<sup>16</sup> Gujarat State Disaster Management Authority

<sup>17</sup> Kutch had four District Collectors between 2001 and 2003, first Mr. Mukim, second Mr. Gupta, third Mr. Chibber, and fourth Mr. Sharma.

<sup>18</sup> Since government officials are usually assigned to a posting for a maximum period of two years, the long postings in Bachhau was considered highly unusual.

housing recovery program, and finally to its implementation. A local NGO described the state government's shifting priorities in the following way:

“The Gujarat government was very smart in placing the correct kind of people at the correct junctures in this entire process of rehabilitation. Initially, the first Collector ... a very senior officer, Mr. Mukim...(his) only job was to smile and allow everybody to talk. He was there for almost two months and it was an important phase when everybody wanted to be listened to ...He did that very effectively. Immediately after that a period comes ... where there is a lot of confusion and when ...you have to be able to get ground information, absorb it, analyze it, and come up with policies. That's when they put in Mr. Gupta and he was good with that...After that once you come up with policy you have to implement it and Mr. Gupta was not being able to get those things off the ground. That's when they put first Mr. Chibber who turned out to be a corrupt person so they had to remove him. Then they put Mr. Sharma whose express task was to get the city off the ground.”

The above quote clearly shows that during its initial objective of emergency response, the Gujarat government appointed a very senior officer Mr. Mukim as the District Collector, in its next goal of getting ground information and framing urban recovery policy, the state government appointed Mr. Gupta, and lastly in order to implement the urban housing recovery program in Bhuj in an efficient way within the quickest possible time frame, the Gujarat government first brought in Mr. Chibber and then Mr. Sharma in 2003. However, every time the officials at the Bhuj Authority changed, the new officials brought their own ideas, values, and approach to the housing recovery program that often did not follow its predecessor's plans. This broke the continuity that the recovery programs often needed.

This break in program continuity was particularly evident when four groups, a prominent local NGO called Abhiyan, a local citizen group called Bhuj Development Council (BDC), the local

newspaper Kutch Mitra, and the Bhuj town-planning firm the EPC<sup>19</sup> made an attempt to form a community based organization called Swajan (Our Own People). The organization was formed when the state government was still grappling to put together its policy for urban reconstruction and housing recovery. The aim of Swajan was to be a citizen group that could facilitate the Kutch District Collector and the state government to form a recovery policy for Bhuj that was responsive to the needs of the local communities<sup>20</sup>

The second District Collector of Kutch after the earthquake, Mr. Gupta, who was interested in a process that would involve the local population was receptive to the idea of having Swajan and approved the program. However, during the tenure of his successor and the fourth District Collector after the earthquake, Mr. Sharma, the state government priorities had shifted from policy planning to implementation. To achieve the state government's objective of implementing the urban recovery program in Bhuj within the quickest possible time frame, the District Collector's office felt the need to assert control by centralizing the implementation process in the hands of the Bhuj Authority. The new District Collector, Mr. Sharma, decided that a participatory approach involving local groups only presented a hurdle to timely completion of the urban reconstruction program and refused to endorse or recognize Swajan as a local citizen initiative. Instead, the District Collector shifted control of the Swajan initiative from the hands of the local organizations and placed it under the direct control of the Bhuj Authority, which meant that, as a local NGO put it during field interview, "...It (Swajan) became a government body, it did not become a people's body". Consequently, three of the four organizations, the NGO Abhiyan, the newspaper Kutch Mitra, and the planning firm EPC, pulled out of this community based initiative citing the reason that Swajan could not remain a citizen initiative if it was under the control of the

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<sup>19</sup> Environmental Planning Collaborative, an Ahmedabad based planning firm.

<sup>20</sup> Swajan was visualized as a people's organization with four departments. One was to address grievance, one was for organizing people, third to look at policy, and fourth to provide information to the people since information was critical to the recovery process (Source: Interview Data).

Bhuj Authority. This eventually led to the collapse of the Swajan initiative and a local NGO summed it up in the following comment:

“Actually Mr. Gupta if he had been the Collector he would have probably allowed it (Swajan). But Mr. Sharma is a cowboy he likes to get things implemented he doesn’t want anybody interfering with that. He doesn’t even call his own board meetings...So it is a highly undemocratic process where he (Mr. Sharma) wanted freedom to show the world (and) the ADB that he will spend all their money... He comes from an approach of not administration but implementation. When he came here he said that I am a Project Officer I am not a Collector. (For) first couple of years, he himself says, I will not attend to any issues of the district other than making sure that this city is being implemented. That’s the orientation he came with that’s why he was sent here.”

The lack of support for Swajan during the tenure of Mr. Sharma points directly to the link among the state government’s shift in priorities in Bhuj, the resulting frequent change of officials, and its impact on the continuity of recovery programs in Bhuj. In other words there is a clear connection between the state government’s higher priority for a successful housing recovery program in Bhuj and to the Bhuj Authority’s tight control over the recovery program in the city. The Bhuj Authority’s tendency to exert firm control shaped its approach to the extent of NGO involvement in the renter recovery program.

While the number of renter households who lost their houses in Bhuj was around 4000, the rent for available housing units in the city had tripled after the earthquake, making them virtually unaffordable for most renters who had lost their rental units in the disaster. This situation created a housing crisis for renters, and the Bhuj Authority was under pressure from local citizen groups and local NGOs to address the issue of renter housing recovery in Bhuj. Finally, three years after the earthquake, the Bhuj Authority decided to implement a housing recovery program for renters in Bhuj. Renters who had lost their houses would receive a fixed amount of 32,000 rupees (US

\$762) as financial assistance for housing and were eligible to apply to the Bhuj Authority for a 100 square meter housing plot on one of the three new relocation sites<sup>21</sup> at a subsidized fixed price for the plot. The Bhuj Authority then asked various NGOs, like Rotary Club, Caritas India, Kutch Yuvak Sangh, Abhiyan, Gems and Jewelers, and BAPS<sup>22</sup>, to create housing reconstruction projects on the new relocation sites targeting renter households. A renter who was eligible for public assistance could join any one of the NGO housing projects, in which the NGO paid construction costs completely or partially while the renter paid the price of the housing plot and the rest of the building costs using the public housing assistance<sup>23</sup>.

However, while eager to have NGOs build housing units, the Bhuj Authority did not encourage NGO involvement in the actual development of the renter program. Though the Bhuj Authority invited NGOs to initiate housing projects, the role of the NGOs was reduced to nothing more than that of building contractors working for the government. In other words, rather than partners

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<sup>21</sup> Bhuj Authority had established three relocation sites, RTO, Mundra, and Ravalvadi on public revenue land on the outskirts of the city.

<sup>22</sup> BAPS, a religious organization, stands for Bochasanwasi Akshar Purushottam Swaminarayan

<sup>23</sup> Bringing NGOs to build housing units reflected the reluctance of the Bhuj Authority and the GSDMA to get involved in the housing construction themselves. This is because the Gujarat government was careful to avoid the mistakes made by its southern neighbor, the Maharashtra state, during the 1993 Latur earthquake, which impacted about 67 villages in Maharashtra, where approximately 52,600 homes were destroyed and 180,000 houses damaged (World Bank Report, 1994)<sup>23</sup>. At the time, the Maharashtra government proposed a highly centralized recovery program, under which the state would relocate 49 villages, build 23,000 houses at the new resettlement sites, provide essential services of water and sanitation at these sites, and assist another 209,000 homeowners to rebuild or repair their houses. The centralization of projects meant that the Maharashtra government had complete control of the planning and housing projects. The government along with a handful of international NGOs planned and built western style sprawling suburban villages with rows of concrete housing blocks. These housing blocks were inappropriate for the local culture, lifestyle and climate because, first the reorganization of villages from traditional housing clusters into suburban townships increased distances to agriculture fields; second, the local village administrative councils were unable to financially maintain the sprawling public infrastructure; third, the climatically unsuitable concrete housing blocks created uncomfortable living environment; and lastly the house plans designed for urban nuclear families were not appropriate for rural families engaged in agriculture and animal husbandry who needed space for their animals. Moreover, since the state was spread thinly over a huge area of 49 villages, the construction quality of infrastructure and the housing recovery process suffered with recurring problems in areas of water supply and sanitation, the financial compensation process, and discrimination in permanent housing eligibility. A combination of these problems made the newly constructed houses highly unpopular among disaster-affected communities and caused large-scale abandonment of the relocation sites. The GSDMA learnt some important lessons from Maharashtra's experience, and while retaining control of infrastructure rebuilding as part of the town planning process, the GSDMA ruled out government involvement in actual construction of housing units. In other words, the GSDMA saw its own role as that of an enabler by providing financial assistance, building materials and technical help for housing recovery, with the actual building and construction process left to individual homeowners or other private groups.

working together with the Bhuj Authority, the NGOs in Bhuj worked like government contactors. The task Bhuj Authority gave the NGOs was to rapidly construct mass housing units and then hand them to eligible applicants chosen by the Bhuj Authority. This narrow definition of a NGOs role in the renter housing recovery program meant that the NGOs had no say in the design and formation of the renters housing program. In other words, this limited the opportunity that local grassroots NGOs had to provide the Bhuj Authority with ground information that could help the Development Authority in Bhuj to better respond to the needs of renter households.

Moreover, the state government's priorities also impacted squatter housing recovery in Bhuj. The Gujarat government's housing recovery policy had specified public assistance to squatters who had lost their house in the earthquake, but it did not specify aid to squatters whose houses were damaged. In Bhuj, the number of squatters who had lost their houses was far less compared to the squatters whose houses were damaged. Though some local citizen groups and NGOs attempted to convince the Bhuj Authority to address squatter housing recovery, particularly for households who needed some form of assistance to repair their houses, the Bhuj Authority was not keen to consider a squatter housing recovery program in Bhuj.

There were multiple reasons for the Bhuj Authority's reluctance. First, the Bhuj Authority was very sensitive to the state government's goal of completing the housing recovery program in Bhuj within the shortest possible timeframe. Taking on the task of a complex squatter housing recover program meant that the Bhuj Authority would need more time, which would delay the completion of the entire housing recovery program in Bhuj. Second, the number of squatter households in Bhuj is almost five times that of Bachhau with approximately 25,000 squatter housing units. So committing to a squatter housing recovery program on such a large scale potentially presented huge administrative headaches for the Bhuj Authority at a time when it was already overwhelmed

with the complex urban reconstruction and housing program in Bhuj. Third, the higher scrutiny and pressures on Bhuj from the state government and media meant that the Bhuj Authority had less room for any mistakes. In this situation, if the squatter housing recovery program failed, then the entire housing program would come to be defined by its failure. This was a risk that the Bhuj Authority was particularly averse to because the Gujarat government had high stakes in the urban housing recovery program in Bhuj and wanted to see a quick and successful completion of this program. Fourth, the lack of attention to squatters somewhat reflected the local priority of the Bhuj Authority. In Bhuj, while a large number of renters had completely lost their houses, squatters in comparison had suffered lower impact with a larger number of squatter housing units damaged but not destroyed in the disaster. So while the Bhuj Authority found it hard to ignore renters, squatter housing recovery was not an urgent issue for them. Fifth, since the Gujarat government did not have a policy framework to address squatter housing damage, the Bhuj Authority was reluctant to apply itself to anything that went beyond the policy priorities set up by the Gujarat government. In other words, the Bhuj Authority essentially did not want to do anything more than the task it had been expressly sent to do, which was complete the housing recovery program in Bhuj in the most efficient way and within the quickest possible time frame. This approach pursued by the Bhuj Authority meant that most squatters in Bhuj did not receive any form of public assistance and struggled to repair their houses after the earthquake.

In summary, to appreciate the impact of different government approaches on housing recovery in Bachhau and Bhuj, it is important to first know that since the Gujarat government wanted to project a successful urban recovery through the housing recovery program in Bhuj, it thus had higher political stakes in Bhuj than compared to Bachhau. This had a direct impact on the Area Development Authority's approach to housing recovery in both towns. Due to the lower political stakes in Bachhau, there was less pressure from the state government on the Bachhau Authority

for a quick, efficient, and successful completion of the housing recovery program. As a result, the Bachhau Authority was more receptive to involve local NGOs in the housing recovery program and to incorporate their suggestions. The Bachhau Authority's willingness to work closely with Unnati, a local NGO, as informal partners helped forge a squatter recovery program that was closely aligned with squatter housing needs. In contrast, in Bhuj due to higher media scrutiny and the higher stakes involved, the Bhuj Authority tightly controlled the housing recovery program and did not involve local citizen groups or local NGOs in any decision-making process. The role of NGOs in Bhuj was largely reduced to that of building contractors during the renter housing recovery program. In other words, NGOs could not incorporate their grassroots knowledge of renter housing needs into the design of the renters housing program. Moreover, because of the state government's goal of completing the housing recovery program in Bhuj within the shortest possible timeframe, the Bhuj Authority was not interested in considering a squatter housing program. This is because a complex squatter program would need more time to complete, it would present administrative challenges to the already overwhelmed Bhuj Authority, and the program ran the risk of failure that could taint the entire housing recovery program in Bhuj, and the Bhuj Authority was not keen to go beyond its task priorities that were already set by the Gujarat government. So to a large extent the political stakes in Bhuj and Bachhau determined the direction and shape of the housing recovery programs in the two towns.

While this section looked at the difference in the government's approach to housing recovery in Bachhau and Bhuj and its impact on the housing recovery process, the next section will compare housing recovery outcomes between Bachhau and Bhuj for homeowners, renters, and squatters.

## 2. HOMEOWNERS, RENTERS, AND, SQUATTERS: A CAPABILITIES APPROACH

As discussed in Chapter 1, the difference in housing recovery outcomes among different groups is primarily due to a community's own internal resources, its capacities, level of access to external assistance programs, and the community's socio-economic position in relation to its class and caste within the socio-economic structure of the two towns. This section compares housing recovery between Bachhau and Bhuj for homeowners, renters, and squatters to demonstrate that the capability or the actual ability of a community or a group to rebuild their houses was based on the level of access to external resources, such as public government assistance and private NGO aid, and particularly on assistance that was tailored to community needs. This aspect was instrumental in enhancing or decreasing the actual ability of a community to rebuild their houses.

This is especially true for homeowners in Bachhau and Bhuj. Homeowners largely benefited from government programs and NGO assistance, a factor crucial to their housing recovery. But at the same time, it is important to note that many low-income homeowners in Bachhau and Bhuj faced difficulties in accessing public financial assistance. For renters though, the options were severely limited. While in Bhuj renter households had access to public housing assistance or NGO aid that helped them to recover, in Bachhau a majority of renters did not have access to such programs and they struggled to recover. Similarly, among squatter communities, while squatters in Bachhau had access to public housing assistance and NGO aid and were able to rebuild, there were no such programs in Bhuj where squatters found it difficult to rebuild after the disaster. This section argues that the multiple source of financial and material assistance available for rebuilding to homeowners in both towns, to renter households in Bhuj, and to squatters in Bachhau essentially strengthened their capability to rebuild their houses on their own terms, an aspect that largely contributed to housing recovery among these groups in Bachhau and Bhuj. However, the absence

of similar programs for renters in Bachhau and squatters in Bhuj, and their corresponding struggle to recover from the earthquake means that these groups did not receive sufficient support from public programs or private sources outside their own communities that could strengthen their capability to rebuild and recover.

### **Homeowners: Legal Property Title Holders**

Homeowners in both Bachhau and Bhuj were largely successful in rebuilding their houses after the 2001 earthquake. This sub-section will show that though most homeowner households had access to multiple sources of financial and material assistance for rebuilding their houses, public housing assistance played a critical role in shaping final housing recovery outcomes among homeowners.

The first source of assistance for homeowners was from within their communities. Homeowners in both towns are largely from socio-economically strong communities, where a majority of its member households are professionals in the construction industry, work in banks, have administrative positions in the government, own medium or large businesses, and sit on boards of various trusts and foundations. In other words, most homeowners in Bachhau and Bhuj belong to caste-based communities that are not only economically robust, but also have strong networks with their larger caste-based community at the national and international level due to their connections to various trusts and foundations. After the earthquake, the socio-economically strong communities, with organized and well-funded highly active community councils, were successful in raising recovery funds through their professional ties, business links, and their association with various trusts and foundations. It is important to note however, that while these funds helped the communities during the initial months after the earthquake, primarily for

temporary shelters, most communities could not carry their fund-raising efforts into permanent housing to rebuild their homes. Though communities were able to raise smaller amounts of money to help their member households with temporary shelters or emergency cash, most communities did not have the internal capacity or organization and the strong external links to well-funded groups that could bring in the larger amounts needed to fund housing reconstruction.

This shows that while a community's socio-economic strength did give it access to funds for recovery by tapping the social and economic links that existed within the community, the strength of a community's internal organization and external networks, determined the amount of funds that it could actually raise for permanent housing recovery. This point is illustrated by the example of the Jain Vania and the Jain Oswal communities, groups that are essentially two sects of the Jain religion. In both Bachhau and Bhuj, Jain Vania and Jain Oswal are not only the wealthiest communities, but they are also highly organized internally and have strong external links to many charitable groups. Both groups were very successful in raising recovery funds that were used to assist low-income homeowners in their communities to rebuild their houses. For example, in Bachhau, the Jain community councils gave low-income households facing financial constraints the option to participate in a housing project<sup>24</sup>, where participating households had to pay only the price of the house plot, and the community supervised and paid the entire construction cost for new houses (see figure 25 below).

But as discussed earlier, most communities did not have the internal organization and external network capacities that existed within the Jain Vania and Jain Oswal communities in Bachhau and Bhuj, and were thus not able to raise the necessary funds to help their community members financially for housing reconstruction. Moreover, not all homeowners belonged to socio-

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<sup>24</sup> The project eventually included new houses measuring about 250 square feet on a separate piece of land, for eighty-five Jain Vania and twenty-six Jain Oswal households.

economically strong communities. A small number of homeowners were from low-income groups, where the community lacked the financial resources or social networks to initiate any fund raising activity for housing recovery. This meant that apart from low-income homeowners within the Jain community in both towns, homeowners from all communities had to look for housing recovery assistance beyond their communities. In other words, public financial assistance was extremely important to homeowners for housing recovery.



**Figure 25: Jain community housing project in Bhuj: Map (left) and image (right) shows housing built by the Jain community in Bhuj that was targeted at low-income households within the Jain community. (Source: Map provided by Jain Community Council, Bhuj; Photograph by author)**

For most homeowners this was not a problem. The Gujarat government's public policy for housing recovery was quite favorable to homeowners because financial assistance<sup>25</sup> was especially targeted to households who had title to the property that they occupied during the earthquake. So homeowners who had legal title to their property were assured of public financial assistance for housing recovery. There was another element to the state government's financial assistance that played an instrumental role in shaping housing recovery among homeowners. The state government conceptualized its housing recovery program as owner-driven reconstruction where homeowners would have direct control and supervision over construction of their house,

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<sup>25</sup> Financial assistance to homeowners for rebuilding their homes was based on the housing damage assessed by government survey teams. The survey teams categorized housing damage into five groups from G1 to G5, with G1 for houses with minor crack and G5 being complete collapse. For single-family homes and apartment units in the G5 category (complete collapse), GSDMA set the financial compensation amount at the rate of three thousand rupees (US \$71) for every square meter of built up area with a maximum limit of fifty square meter eligible for assistance. Public financial assistance for homeowners thus ranged from eight thousand rupees (US \$ 188) for houses in G1 category to one hundred and fifty thousand rupees (US \$3529) for houses in the G5 category.

with local artisans, building contractors or contract laborers doing the actual construction work. What this meant was that the state government policy, while laying out certain seismic safety guidelines, gave homeowners the freedom to choose how to build, who to give the construction contract to, and to design the new house according to their individual needs. This was a very important policy decision because past reconstruction experiences in India, where state government had taken complete control of housing reconstruction projects, had failed due to two reasons. First, homeowners preferred to have control over their housing design, the quality of building materials, and the actual construction because they believed that they could have better quality housing that was well suited to their needs if they built it themselves instead of the government. Second, for homeowners the compensation money gave them the flexibility to pool the funds with their own personal savings to build better quality houses. In other words, homeowners preferred to have complete control of housing recovery funds and the housing construction.

The Gujarat government incorporated these housing recovery lessons from past disasters into their policy for public financial assistance by conceptualizing its housing recovery program as owner-driven reconstruction. This was important because since homeowners could build their house according to their needs and spend financial compensation monies according to their own priorities, the state government's policy strengthened homeowners' capability to rebuild their houses. This approach broadly aligns with Sen's (1999; 1993) argument, that people should have the opportunity to shape their own future and that development should be assessed in terms of the capability of a person to achieve the functions that the person values. To some extent the Gujarat government's policy essentially enabled homeowners to achieve the function of rebuilding their houses on their own terms and based on their own needs (see figure 26 below).



**Figure 26: Rebuilt homeowner housing: Housing construction by a homeowner in the urban core of Bhuj (top left) and newly completed homeowner houses at the Ravalwadi relocation site in Bhuj (top right). Reconstructed houses by wealthy homeowners from the Jain community in Bachhau (bottom left & bottom right). (Source: Photographs by author)**

Yet, many low-income homeowners in Bachhau and Bhuj faced difficulties in accessing public financial assistance. This is because the funds for housing reconstruction to homeowners were released in three installments. Homeowners had to complete their housing construction till the foundation plinth level with funds from their first installment, in order to be eligible for the second housing installment. But most homeowners had spent the funds from their first installment on other expenses, such as emergency medical treatment, and did not have the financial resources to complete the first stage of rebuilding. While high-income households dipped into their savings or had sufficient collateral to be eligible to apply for a bank loan, many homeowners did not have access to other funding sources, and struggled to build their houses to the required level in order to avail their second installment. There are numerous instances where the money ran out in the middle of construction and the homeowner did not have other financial options to complete the work. In other words, a large number of households who had spent their first housing installments

elsewhere could not complete the required amount of construction that would make them eligible for the second and third housing installments. Field visits to Bhuj relocation sites in April 2005 confirm that there were a number of houses that stood with partly constructed foundation plinths or walls, with no indication of further construction activity.

This raises the point that while the Gujarat government's public policy for housing assistance attempted to strengthen the homeowners' capability to rebuild on their own terms, however, in-built procedural mechanisms weakened those very capabilities that the policy tried to build up. The state government had released the first housing installments to homeowners under immense political pressure from the public and media, but had not issued them building permissions<sup>26</sup> that would enable homeowners to begin construction. In this situation, the state government was well aware that without necessary permits in hand to begin rebuilding, homeowners would spend the first installment elsewhere, and would then face problems satisfying the eligibility requirements for second and third installments. While one can argue that this is a problem that homeowners brought upon themselves, however, the state government could have rethought its eligibility requirements for the remaining installments or looked for ways to strengthen the homeowners' capability to fulfill the eligibility requirements. For example, the government could have made housing loans more accessible to households who were facing difficulties in obtaining their second and third installments. Yet, there was no attempt on part of the Gujarat government to find solutions to the problems that it knew would particularly face low-income homeowners, if they were unable to satisfy the eligibility requirements to get their second or third installments of public financial assistance<sup>27</sup>.

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<sup>26</sup> The building permits were delayed because the government was in the process of implementing its urban infrastructure reconstruction in the towns. Without completing the infrastructure projects, such as laying out new streets, plot demarcation could not take place, and the government could not begin issuing building permissions before laying out the plot lines.

<sup>27</sup> During May 2005, when fieldwork for this research ended, many low-income homeowners did not have access to their second and third installments of public financial assistance. The World Bank's deadline for completion of housing

Public assistance for homeowners was thus I would argue a mixed bag. While the policy certainly strengthened the capability of many homeowners to rebuild, it was especially favorable to upper-income homeowners who either had the personal resources to meet emergency expenses after the disaster without having to dip their hand into the first installment of public assistance funds, or had sufficient assets to be eligible for a bank loan or other credit that allowed them to cover any funding shortage and meet the eligibility guidelines for their second housing installment. But the policy was not effective in strengthening the capability of low-income homeowners, who having spent their first housing installments on immediate expenses after the earthquake did not have the financial capacity to satisfy the eligibility requirements for the remaining housing installments. This shows that a blanket public policy for housing recovery assistance that treats homeowners as a homogenous entity without taking into account the nuances of class difference, cannot work. In Bachhau and Bhuj, a deeper understanding of the different types of homeowners was clearly needed to design a public policy for housing assistance that could strengthen the capability of homeowners across different income-groups to rebuild their houses and achieve housing recovery.

Among low-income homeowners there was a small fraction of households, particularly in Bhuj, who decided to participate in housing projects initiated by non-government organizations (NGO). The reason for this was that NGO projects gave homeowners with limited financial means, the choice of choosing from a range of housing options, where on one end of the spectrum were projects in which homeowners had to pay only for the housing plot and the organization paid for

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reconstruction in Kutch was scheduled later that year in October 2005. It meant that the Gujarat government had to spend the installment monies by that time. If the monies were not spent on housing recovery, it is unclear what the Gujarat government decided to do with those unused funds. The research does not have that information.

material and construction, to the other end of the spectrum in which homeowners had to pay for the housing plot and share material and construction costs with the organization.

The NGO projects were inextricably linked to the public assistance funds because only those homeowners who were eligible to receive public assistance were eligible to apply for NGO housing. This is because since the state government had a verification process in place that checked each homeowner's housing assistance application to authenticate genuine applicants and weed out false claims, it meant that if a homeowner's public assistance was approved his application for assistance was genuine. So by allowing only those homeowners whose public housing assistance had been approved to apply for NGO housing project, first, an NGO did not have to go through any other verification process to identify false claims, and second, an NGO was assured that the low-income homeowners would have the funds to pay for their share of the plot or construction costs. Most low-income homeowners who chose to join an NGO project paid the plot price and construction costs from the money they received through public housing assistance. While some low-income homeowners were reluctant to hand over their public assistance monies to an NGO, and preferred to build their house themselves according to their own needs and functional requirements. However, the NGO housing projects did indeed give many low-income homeowners wider options for housing recovery, and played an important role in strengthening their capability to rebuild.

In summary, it is clear that while public financial assistance was the most critical element for housing recovery among homeowners in both towns, NGO intervention also played an important part particularly for housing recovery among low-income homeowners. However, the role of community resources remained very small. Nevertheless, while the Gujarat government's public assistance program strengthened the capability of upper-income homeowners to rebuild their

houses, it was not successful in strengthening the capability of low-income homeowners in Bachhau and Bhuj to achieve housing recovery.

### **Renters: Households Without Property**

While renters in Bhuj were largely successful in recovering from the 2001 earthquake, the same is not true for renters in Bachhau. This sub-section will show that a public assistance program for renters with support from NGO housing projects<sup>28</sup> strengthened the capability of renter households in Bhuj to recover. Yet, the lack of similar programs in Bachhau meant that renter households there did not have the capability to rebuild and achieve housing recovery.

In both Bachhau and Bhuj, long-term renter households shared similar characteristics. First, most renters were low-income households; second, a majority of the renters had been living for more than fifteen to twenty years in rent controlled houses or apartments and were paying extremely low rents; and third, most did not have enough funds to build their own house. A combination of these aspects made renters unwilling to move out of rent-controlled apartments, regardless of the pressure from their landlords, who wanted their properties back to sell it in the booming real estate market.

There are also some differences among renters in Bachhau and Bhuj. The main difference was that in Bachhau 90 percent of all residential buildings were destroyed and the rest 10 percent damaged beyond repair, which meant that all renter households were impacted by the earthquake. But in Bhuj, the earthquake had destroyed or heavily damaged more than 9500 houses in the old city urban core, comprising 20 percent of the city's total housing stock, and another 7000 housing

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<sup>28</sup> Most NGO housing projects were targeted at both renters and low-income homeowners.

units outside the urban core, constituting 15 percent of total houses in the city. From the 9500 houses wiped out in the urban core, renters occupied almost forty percent of those units, while homeowners occupied most of the 7000 units impacted outside the city core. This meant that unlike in Bachhau where all renter households were affected by the earthquake, in Bhuj the impact on renters was limited to those who were living inside the old city urban core. This shows that the relative impact of the earthquake on renters were more severe in Bachhau, where all renter units were wiped out, than in Bhuj. But in absolute terms the number of renter households in Bhuj who lost their houses was around 4000, whereas in Bachhau it was approximately 700. The absolute number of renters impacted by the earthquake is important to note because to a certain extent it shaped the public assistance program for renter housing recovery particularly in Bhuj, which will be discussed later in this section.

During the initial months after the earthquake renter households were able to receive some support from their caste-based communities for temporary shelters. Nonetheless, renters could not rely on community resources to garner financial or material aid for permanent housing recovery. This is because a large number of renters in both towns were not only low-income households, but also belong to socio-economically weak communities with limited means to help their renter households for housing recovery. But at the same time, it is also true that a number of renters were from socio-economically strong communities who were well placed socially and economically to help their member households after the earthquake. This point is illustrated through the Jain Vania and Jain Oswal communities, the wealthiest groups in Bachhau and Bhuj, who as discussed earlier in this chapter, assisted low-income households in their communities to achieve housing recovery by giving them financial support for housing reconstruction. However, while many socio-economically strong communities, with organized and well-funded highly active community councils, were successful in raising funds for temporary shelters, the same

communities could not carry their fund-raising efforts into permanent housing recovery. In other words, though communities were able to raise smaller amounts of money to help their member households with temporary shelters or emergency cash, most communities did not have the internal capacity or organization and the strong external links to well-funded groups that could bring in the larger amounts needed to fund permanent housing reconstruction. This meant that public assistance was an important component among renter households for housing recovery.

However, the Gujarat government's policy for renter housing recovery did not include giving financial assistance directly to renter households. Instead, the state government's policy stated that a landlord could receive housing recovery assistance if he was willing to use the money to rebuild and re-rent the new house to the same tenant. But this policy approach had crucial flaws because it did not recognize the conflict of interest between the landlords and their tenants. Most renter households had been living in rented properties for more than twenty years, and were paying extremely low rents due to rent control laws. In the meantime, land prices in Bachhau and Bhuj had steadily soared and were at an all time high in the 1990s. Consequently, a number of landlords wanted their tenants to vacate their properties prior to the 2001 earthquake. But under the state law, though landlords retain title to the land, long-time tenants develop ownership-rights to the house, and it was not easy to remove them legally. The earthquake changed everything, with the house wiped out only the land remained, which belonged to the landlords, and the landlords were not interested in receiving joint compensation on behalf of tenants or rebuilding the house to rehabilitate the tenant. Moreover, renters had to produce supporting documents such as electricity bill, water bill, ration card, property papers or rent receipts to apply for financial compensation. Since tenant-landlord relationship in Bachhau and Bhuj was not formalized, most landlords did not issue rent receipts, which made it difficult for renters to establish their renter status and get their joint-compensation claims approved.

What this meant was that the state government policy did not give renters the ability to plan housing reconstruction according to their own individual needs or provide financial assistance for alternative rental housing. The policy essentially left renters on the mercy of their landlords, a situation that was not conducive for renter housing recovery. This is particularly true since most landlords were concerned primarily about getting their land back and were not interested in rebuilding their properties. From the state's perspective, which values private property ownership over other considerations, giving landlords control over their legally owned properties was perhaps the right policy approach. But at the same time, Bachhau and Bhuj clearly show that the low-income renter households needed some form of public assistance or intervention to be able to rebuild after the earthquake. Rather than taking a broad approach towards housing recovery with solutions for all socio-economic groups, the Gujarat state government's policy did little to strengthen the capability of renters to recover after the 2001 earthquake.

Instead, it was Bhuj that offered a model for renter housing recovery. As mentioned earlier, the number of renter households in Bhuj who lost their houses was around 4000. This number played a significant role in shaping public assistance for renters in Bhuj because while the number of renters impacted by the earthquake was high, the rent for available housing units had also tripled after the earthquake, making them virtually unaffordable for most renters. This created a situation that was turning into a housing crisis for renters, and had the potential to leave a large number of low-income renter households either homeless, permanently located in temporary shelters, or push them into squatter settlements. As a result, local citizen groups and local NGOs began applying pressure on the Bhuj Area Development Authority (BHADA, referred to as Development Authority in Bhuj or Bhuj Authority in the text) to address the renter issue in Bhuj. Recognizing the impact of the earthquake on such a large segment of Bhuj's renter population,

and at the same time realizing the ineffectiveness of the state government's policy for renters, the Bhuj Authority began to look for more effective ways to assist renter households in the city after almost three years following the earthquake.

The Bhuj Authority eventually decided to expand the housing recovery program for homeowners in Bhuj to include renters. The Development Authority in Bhuj had established three relocation sites, RTO, Mundra, and Ravalvadi on public revenue land on the outskirts of the city. Renters who had lost their houses would receive a fixed amount of 32,000 rupees (US \$762) as financial assistance for housing and were eligible to apply to the Bhuj Authority for a 100 square meter housing plot on one of the relocation sites at a subsidized fixed price for the plot. Also, as part of the renter housing program, the Bhuj Authority asked various NGOs, like Rotary Club, Caritas India, Kutch Yuvak Sangh, Abhiyan, Gems and Jewelers, and BAPS<sup>29</sup>, to create housing reconstruction projects on the new relocation sites targeting renter households<sup>30</sup>. This essentially tied private NGO aid for renters in Bhuj to the public assistance program. Under this program, a renter who was eligible for public assistance could join any one of the NGO housing projects, where the NGO would either pay the construction costs completely or partially while the renter paid the price of the housing plot and the rest of the building costs using the public housing assistance. Renters who were approved for public financial assistance could choose to join one of the NGO housing projects or apply to Bhuj Authority for a housing plot and construct their house themselves (see figure 27 below).

The significance of the housing recovery program for renters in Bhuj was that it created a path for low-income renter households to become homeowners by making land and finance available to them. First, by offering housing plots on relocation sites at subsidized rates, the Bhuj Authority

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<sup>29</sup> BAPS, a religious organization, stands for Bochasanwasi Akshar Purushottam Swaminarayan

<sup>30</sup> Most NGO housing projects targeted both renters and low-income homeowners.

made land available to renters at affordable prices; second, by making public financial assistance accessible to renters, the Bhuj Authority made sure that the low-income renters could pay the price of the housing plots; and third, by urging NGOs to create housing projects targeted at renter households on the relocation sites, the Bhuj Authority attempted to reduce actual construction costs and increase housing recovery options for low-income renters. The Bhuj Authority's program thus played a critical role in building up the capability of renter households to become homeowners and achieve housing recovery.



**Figure 27: Housing units built by NGOs in Bhuj: Unit built by Caritas-India for low-income renter households at the Ravalwadi relocation site (left). Housing project by religious NGO BAPS for low to medium income renters and homeowners who belong to the BAPS religious sect at the Mundra relocation site (right). (Source: Photographs by author)**

While the renter program in Bhuj was well received by the local population, the program did face its share of criticisms. The most widespread criticism centered upon the Bhuj Authority's decision to give housing plots to renters on a long-term (99 years) tenure lease, as opposed to a permanent land title. Renter households heavily criticized Bhuj Authority's policy for giving renters a tenure title, because due to the non-transferable nature of the tenure title, the housing plot title could not be transferred to descendants of the renter. In other words, renters would not be able to transfer the title of the housing plot to their children who would inherit the property<sup>31</sup>. The nature of the

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<sup>31</sup> Another example where BHADA's renter housing recovery program was criticized was when BHADA had initially fixed the price for a 100 square meter housing plot at 50,000 rupees (US \$1190). Local citizen groups like the Bhuj

title also meant that the housing plot could not be sold to a third party in the future without paying the Bhuj Authority a certain percentage of the total transaction cost of the sale. For example, if a renter sold their property within the first year, it would have to pay the Bhuj Authority 75 percent of the total price the property fetched in the housing market, if the property was sold after two years then the Bhuj Authority would be paid 50 percent of this market price, and if the property was sold after five years, then the Bhuj Authority would have to be paid 25 percent of the market price for the property. Renters considered these conditions grossly unfair and perceived the Bhuj Authority as trying to make a quick buck at the renters expense through draconian tenure-title conditions. So while some renters were willing to consider paying the Bhuj Authority a certain fixed amount based on mutual agreement for selling their property, most were loathe to paying a price that was based on the future market value of the property and one where the percentage cut for the Bhuj Authority was so high.

The above discussion shows that there were two different aspects of the Bhuj Authority's housing recovery program for renters in Bhuj. In the first aspect, by giving various options for housing assistance, the Bhuj Authority enabled renters to make housing recovery decisions based on their needs. In the second aspect however, by giving renters a tenure-based title, the Bhuj Authority restricted the ability of renters to decide their future housing options. In asking renters to pay a percentage of the total price fetched in a future property sale, the Bhuj Authority essentially limited renters from making property transactions. As a result, while the public assistance program in Bhuj was successful in achieving housing recovery among renters, the Bhuj Authority's policy to give a tenure based title for housing plots to renters weakened the capability of renters to make future decision regarding their properties.

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Development Council immediately criticized this and argued that low-income renters could not afford to pay a land price of 50,000 rupees (US \$1190). BHADA eventually reduced the plot price to 32,000 rupees (US \$762).

Unlike in Bhuj, Bachhau did not have a housing program for renters. While local citizen groups and NGOs in Bhuj had urged the Bhuj Authority to consider a recovery program for low-income renters, Bachhau did not have an organized group that could present the renters case and advocate on their behalf to the Bachhau Area Development Authority (BhADA, referred as Development Authority in Bachhau or Bachhau Authority in the text). In the initial months after the earthquake, renter households were highly motivated to organize and petition the Bachhau Authority for housing recovery assistance and a citizen group was formed under the leadership of a local politician. However, due to the Bachhau Authority's lack of response to their requests, the group could not sustain its momentum and gradually collapsed as morale among renter households ran low and fewer renters came to participate in the weekly group meetings.

The Bachhau Authority's lack of response was primarily due to three reasons. First, Bachhau Authority officials did not recognize the legitimacy of the local politician, who represented the ad-hoc group formed after the earthquake, as a representative of the renters, particularly since the person was not a renter himself, but was a homeowner. Second, out of the seven hundred renter households in Bachhau, the citizen group for renters was itself not completely certain of how many renter households were long-term residents of Bachhau. The group identified and recognized only about three hundred and fifty renter households as long-term residents, the rest were either government officials temporarily transferred to Bachhau, or people who had moved into Bachhau after the earthquake, or just a transient population. Overall, the residency status of many renters remained highly unclear. Third, the lack of attention to renters to some extent also reflects the priority of the Bachhau Authority. In Bachhau, squatters made up 40 percent of the towns population while renters were less than 10 percent of the total population. So while the Bachhau Authority found it hard to ignore squatters especially in the face of pressure from local NGOs, renters were easier to ignore due to their smaller numbers and the lack of a strong

organized voice or a pressure group that could lobby the Bachhau Authority on behalf of renters. These reasons combined with the fact that most renter households lacked certain documents, such as renter receipts that were required by the Gujarat government to establish their renter status, made the Bachhau Authority wary of recognizing renters and instead its official position was that the town of Bachhau did not have any renter households.

Once the renter movement in Bachhau collapsed, renters in the town were left to largely fend for themselves. Renter households began to approach NGOs like the Lions Club and the Rotary Club, who had indicated a willingness to help renters, for housing assistance. Yet, because of multiple reasons only a small number of renters were successful in obtaining NGO aid in Bachhau. First, the Lions and Rotary Clubs in Bachhau were like independent contractors who generated funds through their international networks to rapidly construct mass housing units and hand them to eligible applicants. But their process of selecting applicants who were eligible for their housing units was highly opaque because it required each member of the Lions and Rotary Clubs to nominate two to three housing applicants for their respective club's projects. This meant that unless a renter household had contacts with a club member it had no chance of being nominated for a housing unit in a NGO housing project. The nomination process put most low-income renters at a disadvantage because the majority of club members were from high-income communities, and they in turn nominated their friends and relatives who also belonged to the same communities. As a result, most of the housing applicants in the Lions and Rotary housing projects were not necessarily in need of housing, but rather middle class households who already had a house and could acquire a second house through their contacts with club members. Second, to be eligible for a housing unit applicants had to pay the housing unit plot price, and in the Lions project applicants had to share the construction costs as well. However, being low-income households most renters were not in a position to afford these costs (see figure 28 below).



**Figure 28: Squatter house of former renter in Bachhau: Temporary shelter built by a former renter by squatting on public land (left) and the inside of the same shelter (right). Many former renters in Bachhau became squatters after the earthquake. (Source: Photographs by author)**

While NGO aid was tied to the public housing assistance program for renters in Bhuj, this was not the case in Bachhau. So unlike in Bhuj where public financial assistance could help renters with their cash crunch, there were no such parallel programs in Bachhau that could help renter households raise the required funds to pay for housing plots or construction costs, which in turn could make them eligible for a NGO built housing unit. What this means is that due to lack of adequate public assistance or NGO support, renters in Bachhau did not have the opportunities to strengthen their capability to recover and remained largely unsuccessful in their efforts towards housing recovery.

In summary, there are three important points to note regarding housing recovery for renters in Bachhau and Bhuj. First, though it was clear that low-income renters needed some form of public assistance to be able to rebuild after the earthquake, the Gujarat government's policy for renter housing assistance did little to strengthen the capability of renters to achieve housing recovery. Second, the Bhuj Authority's public financial assistance program for renters with ties to NGO aid strengthened the capability of renters in Bhuj to achieve housing recovery. However, by giving renters a tenure-based title to their housing plots that limited the actual ability of renters to make property transactions, the Bhuj Authority weakened the capability of renters to take future decisions regarding their properties. Third, renters in Bachhau did not have access to public

assistance or NGO support. This lack of support combined with the fact that renters are low-income households, ensured that renters in Bachhau struggled to strengthen their capability to rebuild and largely failed to achieve housing recovery.

### **Squatters: The Public Land Holders**

Both Bachhau and Bhuj include a large population of squatter communities. After the 2001 earthquake squatters in Bachhau were largely successful in rebuilding their houses, but the same is not true for squatters in Bhuj. This section will show that a public assistance program for squatters, with support from a local NGO called Unnati, strengthened the capability of squatter communities to rebuild their houses in Bachhau. But the lack of similar programs in Bhuj meant that squatter communities there did not have the capability to rebuild and achieve housing recovery.

There is some difference between Bachhau and Bhuj regarding the impact of the earthquake on squatters. In Bachhau, from a total of about 10,000 residential buildings prior to the earthquake, more than 40 percent was squatter housing. This meant that Bachhau had about 4000 squatter housing units. But with 90 percent of all residential buildings destroyed and the rest 10 percent damaged beyond repair, most of the squatter housing in the town was wiped out. In contrast, in Bhuj, most of the earthquake damage was concentrated in the old city urban core, while squatter areas in the town are located outside the old city in the north, the west, and east fringes of the city (see figure 29 below). As a result, while squatter housing experienced damage that ranged from minor cracks in the walls to serious damage to the structure, relatively few housing units suffered complete collapse. This is an important point to note because the impact of the earthquake on

squatters shaped the Area Development Authority's position in Bachhau and Bhuj towards squatter households in their towns, which is discussed later in this section.



**Figure 29: Squatter settlement in Bhuj: Jestha Nagar squatter settlement on the eastern edge of Bhuj city. (Source: Photograph by author)**

While squatters in Bachhau and Bhuj experienced different levels of earthquake impact, they were similar in that all squatters are low-income households, surviving on daily wage jobs<sup>32</sup>, who belong to the socio-economically weakest communities. Therefore squatter households in both towns could not expect any financial or material assistance from their communities because the communities did not have the social ties or economic means to extend housing recovery support to their member households. This means that for squatters in Bachhau and Bhuj some form of public government assistance or private NGO intervention was essential for strengthening their capability to rebuild their houses after the earthquake.

But the Gujarat government's housing recovery policy only briefly discussed public assistance to squatter households. The policy specified some compensation to those squatters whose houses were completely destroyed but did not address assistance for squatter houses that were damaged in the earthquake. Moreover, while the policy provided a framework for the Area Development Authorities in Bachhau and Bhuj to address squatter housing recovery, it did not have clear

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<sup>32</sup> Jobs can be in the transport industry, on construction sites, as vegetable vendors, or as pushcart peddlers. Since many squatters have to find unskilled labor work on a daily basis, on an average a household remains unemployed for about ten days a month, ensuring that the monthly median income for these communities rarely goes above two thousand rupees (\$47).

guidelines on how or on what basis financial assistance would be made available to squatters who had lost their house in the earthquake. The policy stated that destroyed squatter houses<sup>33</sup> would get financial assistance at the rate of 2200 rupees (\$52) for every square meter of built-up area with a maximum limit of 55,000 rupees (US \$1294), and shanty units<sup>34</sup> would get 7000 rupees (US \$165) as public assistance. However, it did not specify a number of aspects, such as how would local authorities verify long-term squatters, what was the definition of a squatter house and a shanty unit, or whether the newly established seismic safety building codes would apply to squatter houses. Not surprisingly, the lack of adequate guidelines and specifics to address squatter needs created much confusion during the execution of the housing recovery program in Bachhau and Bhuj. Moreover, by not addressing the recovery needs of squatters whose houses were damaged but not destroyed in the earthquake, the state government ignored a large segment of the squatter population in its housing recovery policy. Since squatter houses in Bhuj had suffered widespread damage as opposed to complete destruction, this aspect of the policy discounted the need to strengthen the capability of squatters in Bhuj to rebuild after the 2001 earthquake.

In Bachhau however, squatter communities were able to access public financial assistance and most households were largely able rebuild their houses. There were four main reasons for this. The first is the presence of an NGO called Unnati that actively advocated for a housing recovery program for squatters with the Bachhau Authority. To urge the Bachhau Authority to pay more attention to squatter housing recovery, Unnati argued that with 40 percent of housing damage in Bachhau located in squatter areas, the Development Authority in Bachhau could not ignore the rehabilitation of squatter communities. The second reason is that with about 10,000 residential units Bachhau is much smaller in scale compared to Bhuj. So for the Bachhau Authority, a recovery program that included squatters would still be at a manageable scale and had a higher

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<sup>33</sup> Squatter house built with foundations and walls made of mud or burnt bricks with cement mortar.

<sup>34</sup> A small crude dwelling without a foundation and typically made of mud, thatch, cardboards or tin sheets.

chance of success as compared to neighboring towns like Bhuj, which was five times the size of Bachhau with more than 50,000 housing units. This aspect made the Bachhau Authority more receptive to a squatter housing recovery program. Third, being a small trading town Bachhau is not a politically or economically significant urban area, and a squatter rehabilitation program that included giving land tenure did not particularly threaten the economic or political interest of any group within or outside Bachhau. As a result, the Bachhau Authority could initiate and implement a squatter housing recovery program that included giving land tenure, without facing any serious opposition or hurdles. Fourth, in Bachhau, since all squatter housing units were completely destroyed as opposed to Bhuj where most were damaged, it was easier for the Bachhau Authority to work within the Gujarat government's policy framework for squatter housing, which specified compensation only for squatter houses that were totally destroyed.

Once the Bachhau Authority was on board, Unnati worked informally with the agency to interpret the Gujarat government's policy based on local conditions and to establish a squatter housing recovery program in Bachhau. Together, the Bachhau Authority and Unnati not only hammered out details such as seismic safety guidelines for squatter housing and defined the Gujarat government's categories of a squatter house and a shanty house, but they also pushed for two policy changes that helped shape the Bachhau squatter housing recovery program. First, while the state government had specified a maximum amount of 55,000 rupees (US \$1309) for squatters, the Bachhau Authority and Unnati convinced state level officials that the amount was not enough to rebuild given the high costs of materials, and the maximum amount should instead be increased to 100,000 rupees (US \$2380). So squatters who had land tenure<sup>35</sup> in Bachhau were given public

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<sup>35</sup> In Bachhau, a large number of squatters possessed land tenure title to their housing plot since prior to the earthquake. This is because the Bachhau Nagar Panchayat (Bachhau City Council), the local administration who had the power to grant land tenure title, gave tenure to squatter households who were long-term Bachhau residents (residents for more than twenty years) during its administration in the 1980s and early 1990s under its squatter tenure program. The land tenure title granted was essentially a long-term (99 years) lease, which was non-transferable in nature. This meant that the housing plot title could not be transferred to the descendants of the squatter and the plot could not be sold because

financial assistance ranging from 60,000 rupees to 100,000 rupees (US \$1428 to \$2380) depending upon housing damage and construction type<sup>36</sup>. Second, Bachhau Authority and Unnati pushed to establish a land tenure program for squatters as part of the squatter housing recovery policy. So squatters who did not have land tenure but carried a Bachhau ration card, which established their status as Bachhau residents, were eligible for land tenure along with a fixed housing assistance of 55,000 rupees (US \$1309) (see figure 30 below).



**Figure 30: Squatter housing reconstruction in Bachhau: Squatter rebuilding his house in the Bhatpariya squatter settlement in Bachhau (left) and a completed squatter housing unit built by NGO Unnati for the Bhil community, one of the poorest squatter households in Bachhau, in the Bhilvas squatter area (right). (Source: Photographs by author)**

Moreover, since squatters living in a shanty house prior to the earthquake were only eligible for 7000 rupees (US \$165) under the state government's policy, Unnati and its partner NGOs, such as Hunnarshala, Eklavya Foundation, Action Aid, and CARE, provided financial assistance to build new housing units for squatters in this category. The Bachhau Authority and Unnati also set up supporting programs such as a community outreach center to help squatter households put

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the title would not be transferred to the new owner. As Bachhau grew, local administrative authority for the town was transferred in the mid-1990s from the Bachhau Nagar Panchayat to the larger Bachhau Nagarpalika (Bachhau City Municipality), which did not have the authority to grant land tenure title to public lands without authorization from the District Collector (the highest authority at the district level). The process of getting authorization from the District Collector meant that the discretion and decision-making power regarding the squatter tenure program passed from the hands of the local administration to the district level authority. This effectively put an end to the squatter tenure program in Bachhau because unlike the local authorities, the district administration was less sympathetic and not inclined to give land tenure for public lands to squatter households.

<sup>36</sup> Public assistance for squatters depended on the level of housing damage and the type of housing construction prior to the earthquake. For example, a house with land tenure made of burnt bricks with cement plaster got higher compensation compared to a house that also had land tenure but was made of mud walls.

together their documents for their public assistance applications. This shows that the collaboration between the Bachhau Authority and Unnati was critical to the development of a squatter housing program in Bachhau. More importantly, the collaboration strengthened the capability of squatters to achieve housing recovery by providing them with appropriate assistance that was based on squatter housing needs.

The program strengthened the squatters' capability to rebuild in two ways. First, by giving land tenure to those households who did not have tenure, the program helped the poorest squatters communities in Bachhau achieve tenure security, which ensured that the squatters could not be removed from their land. This was important because it gave these squatter households the ability to invest financially and materially in their house, which is otherwise difficult for squatters to do if they do not have tenure security and can be removed anytime from the land they occupy. Second, by giving squatters financial assistance, the program enabled squatter households to take decisions and build their house according to their own needs and priorities. In other words, the program gave squatters the ability to achieve the function of rebuilding their houses on their own terms and based on their own requirements.

Unlike Bachhau, Bhuj did not have a squatter housing recovery program. There were three main reasons for this. First, the Gujarat government's policy for squatter housing recovery did not specify public assistance for squatters whose houses were damaged in the earthquake. In Bhuj most of the squatter housing units had suffered minor to major damage in the earthquake and relatively few had been completely destroyed. This meant that a majority of the squatter houses in Bhuj were not eligible for any public assistance under the Gujarat government's policy. Second, since squatter housing had not suffered widespread destruction in Bhuj, it did not receive much attention from local citizen groups or NGOs. These groups, who could have advocated on the

squatters' behalf and played a similar role like Unnati in Bachhau, were mostly occupied with housing recovery of low-income renters, many of whom had lost their houses and were more severely impacted in Bhuj. In other words most NGOs were busy with renter recovery and so the pressure group for squatter was not strong. As a result, while the Bhuj Authority found it hard to ignore renters, squatter housing recovery was not an urgent issue for them. Third, the Development Authority in Bhuj was not keen on addressing squatter housing recovery issues because the number of squatter households in Bhuj is almost five times that of Bachhau with approximately 25,000 squatter housing units. So a squatter housing recovery program on such a large scale potentially presented additional administrative headaches for the Bhuj Authority, particularly when it was already overwhelmed with the complex urban reconstruction and recovery program underway in Bhuj. So in the absence of public assistance and lack of private NGO support, squatter households in Bhuj struggled to repair and restore their houses and lacked the capability to achieve housing recovery (see figure 31 below).



**Figure 31: Squatter housing damage in Bhuj: Damaged squatter units at Vaghari Vas squatter settlement (left) and Bhil Vas squatter area (right) in March 2005, four years after the 2001 Gujarat earthquake. (Source: Photographs by author)**

The difference in squatter housing recovery outcomes between Bachhau and Bhuj underlines the critical need for a policy framework that not only addresses all socio-economic groups but also looks at the range of recovery needs within different groups. It is clear that in both Bachhau and Bhuj the Area Development Authorities needed at least some basic policy guideline from the Gujarat state government in order to address squatter housing recovery needs. In Bachhau, while

the collaboration between Bachhau Authority and Unnati was essential to the development of the squatter housing recovery program, yet the Bachhau Authority was only able to proceed with the program because the state government had specified public assistance for recovery of destroyed squatter housing. The presence of this policy guideline was critical because it enabled the Bachhau Authority to grasp this essential policy thread and expand its boundaries to build a squatter housing program. In Bhuj, where the majority of squatters had suffered damage to their houses, the Bhuj Authority's hands were essentially tied because the Gujarat government's policy did not address damaged squatter housing. So if in case the Bhuj Authority were willing to consider a squatter housing recovery program, there was no guiding principles in place around which the Bhuj Authority could frame its squatter recovery program in Bhuj. In other words, the housing recovery policy put together by the Gujarat government included some financial provision to assist with the recovery of destroyed squatter housing, which helped the Bachhau Authority form its program for squatter housing reconstruction. But since the policy did not include any provision for the recovery of damaged squatter housing, the Bhuj Authority did not have the required policy framework to pursue a program for squatter housing repair.

Apart from the lack of policy guideline, the importance of the advocacy role played by Unnati in Bachhau cannot be stressed enough. As a local NGO that was actively working on urban development issues, Unnati was familiar with Bachhau and with the housing needs of urban squatters. Along with its experience, its long presence in Bachhau gave Unnati the credibility to push for a squatter housing program with the Bachhau Authority. To persuade the Bachhau Authority and eventually the Gujarat government about the importance of squatter housing recovery, Unnati gave detailed reports of the extent of squatter housing destruction relative to the size of Bachhau and how it could impact the local economy of the town. Moreover, using the findings from its field research, Unnati was also able to persuade the state government to increase

the maximum limit for financial assistance for squatters from an initial amount of 55,000 rupees (US \$1309) to 100,000 rupees (US \$2380). In other words, Unnati was not only a pressure group that drew attention to squatter housing recovery in Bachhau, but also the medium through which the government was able to get critical information on squatter housing needs and capacities. This was a crucial factor that fundamentally strengthened the ability of the Bachhau Authority to provide effective government response towards squatters, and to improve its housing recovery program to meet squatter needs. But there was no similar presence in Bhuj that could act as a pressure group to push the Bhuj Authority to develop a housing program for squatters. The absence of an NGO like Unnati in Bhuj meant that, first, there was no one who could offer information and detailed studies on squatter conditions in Bhuj; second, without information on squatter housing the Bhuj Authority did not have a clear sense of squatter housing needs in the city, which impacted its ability to respond to squatter housing recovery; and third, without the presence of a local pressure group that could bring attention to squatter housing needs the Bhuj Authority did not feel the urgency to establish a squatter housing program.

In summary, there are three points to note regarding housing recovery for squatters in Bachhau and Bhuj. First, while the Gujarat government's housing recovery policy included public financial assistance for destroyed squatter housing, it did not include assistance for damaged squatter housing. As a result, in Bachhau, where squatter houses were destroyed, the Bachhau Authority was able to take advantage of the state government's financial provision for destroyed squatter housing and build a program for squatter housing reconstruction. But in Bhuj, where squatter houses were damaged but not destroyed, the Bhuj Authority did not have any policy framework to work with in order to produce a program for squatter housing repair. Consequently, due to the absence of public assistance and lack of private NGO support for damaged squatter housing, squatters in Bhuj struggled to repair and restore their houses and lacked the capabilities to achieve

housing recovery. Second, due to the absence of public assistance and lack of private NGO support for damaged squatter houses, squatter households in Bhuj struggled to repair and restore their house and lacked the capabilities to achieve housing recovery. Third, in contrast to Bhuj, squatters in Bachhau were able to rebuild their houses. This is because unlike in Bhuj where there was no support for squatter housing, in Bachhau, the Bachhau Authority and the NGO Unnati were willing to push for and set up a squatter housing program recovery program for destroyed squatter houses. This strengthened the capabilities of squatters in Bachhau to achieve housing recovery because the program not only stressed upon the ability of squatters to rebuild themselves by assisting them financially, but also gave land tenure to the poorest squatters who were without tenure, thus enabling them to invest in their houses.

### 3. HOUSING RECOVERY IN BACHHAU AND BHUJ: A DISCUSSION OF FINDINGS

The previous sections compared housing recovery between Bachhau and Bhuj for two reasons. The first was to examine the difference in the government's approach at the state and local levels towards housing recovery in Bachhau and Bhuj, and the resulting impact on housing recovery processes in the two towns. The second was to investigate housing recovery among homeowners, renters, and squatters to examine the reason for difference in housing recovery outcomes among different communities in Bachhau and Bhuj. This section of the chapter discusses the findings based on the comparative analysis from the previous sections. It demonstrates that the difference in the capabilities of a community or a group to rebuild their houses was primarily due to the difference in the availability of appropriate financial or material support for homeowners, renters, and squatters from public sources such as government programs or private groups such as NGOs. In particular, public assistance was critical to recovery. When presented with public financial assistance that met their needs and capacities, communities were able to strengthen their

capabilities to rebuild their houses. However, when faced with the lack of appropriate public assistance communities in Bhuj and Bachhau struggled to rebuild and recover. The section concludes with a brief policy discussion of the Gujarat government's urban housing recovery policy.

### **Comparative Analysis Results**

The primary objective of this study is to compare housing recovery between Bhuj and Bachhau to examine why some people were able to rebuild and improve their overall housing conditions after the 2001 earthquake, while others were unable to achieve even pre-disaster housing standards. To understand the process and outcomes of housing recovery through the experiences of local communities, the study looked at eighteen caste-based communities in Bachhau and twenty-one caste-based communities in Bhuj for this comparison. Most communities comprised of three housing groups, homeowners, renters, and squatters. The comparative analysis between Bachhau and Bhuj in the previous section indicates that the recovery process and the final housing recovery outcome for each of these three groups were different in the two towns. Based on the previous discussions this research finds one important reason for these differences, which points towards why some communities were able to rebuild their houses and recover, and others were not able to do so.

The research shows that except for the wealthiest communities, community resources alone were not enough to strengthen the capabilities of individual households to rebuild their houses. While all communities needed some form of external support either from public programs or private interventions, public financial assistance for housing recovery was the most critical factor that influenced and strengthened the capability of communities to rebuild or repair their houses. The

availability of public financial assistance that met their needs and capacities, was the key reason why some communities were able to rebuild their houses and recover, and others were not able to do so.

Public financial assistance was an important aspect in the recovery of a large number of homeowners in both Bachhau and Bhuj. High-income homeowners were offered public assistance that was appropriate to their financial needs, which strengthened their capabilities to rebuild their houses and recover. But low-income homeowners faced more difficulties in accessing their second and third installments of financial assistance. This is because the Gujarat government had released the first installment of public financial assistance for housing recovery to homeowners prior to completing its town planning and without giving building construction permits to homeowners. With no building permissions in hand, most homeowners spent the public assistance funds on other immediate expenses. Once homeowners got the building construction permits, they had to look for alternate financial resources to complete the first stage of rebuilding in order to receive the second and third installment of public assistance funds. Many low-income homeowners, who did not have other funding sources, were thus unable to access the full amount of the public assistance funds for which they were eligible, and struggled to rebuild their houses.

The problems low-income homeowners faced was primarily because the Gujarat government's public assistance program was designed to treat homeowners as a homogenous entity without taking into consideration their class differences, in other words the difference in their socio-economic capacities. The housing recovery program was suitable to the needs of wealthy homeowners, but it had not taken into account the capacities of low-income homeowners. Wealthy homeowners who had spent their first installment funds on other needs had alternative resources and funding sources to complete the government's building requirements and access

their remaining installments. But low-income homeowners did not have similar sources of alternative funding. Consequently, wealthier communities that had a larger percentage of high-income homeowners had a better chance of being able to rebuild and recover, than economically weaker communities that had a larger number of low-income homeowners.

Public financial assistance was also a critical factor in the recovery of some renter households in Bhuj. The Gujarat government's policy for renter housing assistance did not particularly pay attention to renter housing needs. The renter policy stated that a landlord could receive housing recovery assistance if he was willing to use the money to rebuild the house and re-rent the new house to the same tenant. The policy did not take into account the fact that while tenants needed some assistance to recovery, landlords were not interested in receiving joint compensation on behalf of their tenants or rebuilding the house to rehabilitate the tenant. The needs of the landlord and the renters were thus clearly different. In most cases, without their landlord's cooperation, renters found it difficult to get public assistance.

In Bhuj however, the Bhuj Authority decided to create a housing recovery program only for renters that included public financial assistance, granting land tenure title for a government subsidized house plot, and recruiting private NGO aid for housing construction. This program played a crucial role in enabling a majority of renter households in Bhuj to achieve housing recovery. Bachhau in contrast did not have a recovery program for renter households, and so there was no public assistance available to renters. This combined with the fact that most renters are low-income households meant that many renters in Bachhau struggled to achieve housing recovery. While the Bhuj Authority's renter housing program, designed to meet renter needs and capacities, was critical for housing recovery among renters in Bhuj, however, the absence of a similar housing program in Bachhau meant that most renters there struggled to rebuild. The

difference in renter housing recovery between Bhuj and Bachhau shows that a public assistance program built around renter needs and capacities was crucial for renter housing recovery. In both Bachhau and Bhuj, wealthier communities had a lower percentage of renter households, whereas economically weaker communities had a higher number of renters. Consequently, in Bhuj, low-income communities that consisted of a large number of renter households were successful in achieving housing recovery, but in Bachhau, similar communities struggled to achieve housing recovery.

Similar to homeowners and renters, public assistance was also a critical aspect of housing recovery among some squatters. The Gujarat government's urban housing recovery policy included some financial assistance for completely destroyed squatter houses, but did not address the recovery needs of squatters whose houses were damaged. Particularly in Bhuj, where a large number of squatter housing had suffered damage but were not completely destroyed, the state government's policy impacted housing recovery outcomes among squatters. Without any form of public assistance for damaged squatter housing, squatter households in Bhuj struggled to repair and restore their houses. In contrast, in Bachhau, where squatter houses were completely destroyed, the Bachhau Authority took advantage of the state government's policy for destroyed squatter houses to set up a squatter housing recovery program. The Bachhau Authority pushed the boundaries of the state government's policy to build a squatter program that included public financial assistance, granting land tenure title, and private NGO aid for the poorest squatter communities in Bachhau. This program, designed around squatter housing needs and capacities, strengthened the capabilities of most squatters in Bachhau to rebuild their houses. As a result, squatters in Bachhau were able to use public assistance to rebuild and recover, but the lack of similar programs in Bhuj meant that squatters there struggled to repair their houses.

Previous research (Vatsa, 2004; Berke, Kartez, & Wenger, 1993; Siembieda, 2002; Blaikie et al, 1994; Bates, Killian & Peacock, 1984) suggests that the difference in housing recovery outcomes among communities is primarily due to the community's own resources and assets, its internal and external capacities, the type of public or private recovery assistance programs it had access to, and the community's socio-economic position in relation to its class and caste within the socio-economic structure of the two towns. In Chapter One this study argued that the capabilities or the actual ability of a community to rebuild their houses in Bachhau and Bhuj was based on a combination of two or more of these reasons. The comparative analysis in the previous section shows that a community's own resources and assets, its internal (organization) and external (links to other groups) capacities, and its socio-economic position did play an important role in housing recovery particularly for wealthier communities. Economically wealthier communities, where a larger number of households were high-income homeowners, had more resources, better capacities, and a stronger socio-economic position in the society, and were thus well placed to use their own resources to strengthen their capacities to achieve housing recovery as opposed to economically weaker communities.

However, most communities in Bachhau and Bhuj did not have the community resources, the internal organization or external network capacities, nor a strong socio-economic position to help households within their community to rebuild. This research instead extends the argument of previous researchers to suggest that the factors mentioned above actually played a limited role in producing a significant difference in housing recovery outcomes among various communities in the two towns. Indeed, as the comparative analysis indicates, it was the difference in the availability of public financial assistance designed to meet the needs and capacities of the targeted community that dictated the difference in housing recovery outcomes among various communities in Bachhau and Bhuj.

Among all communities, whether they comprised of homeowners, renters, or squatters, access to public assistance was a critical aspect of strengthening their capabilities to achieve housing recovery. But a community's access to public assistance did not simply depend upon the mere existence of a housing recovery program. Indeed, as previous discussions show, the Gujarat government's housing recovery policy did include financial assistance for all three housing groups, homeowners, renters and squatters. So if recovery simply depended upon having a housing recovery policy in place, then all homeowners, renters, and squatters should have been able to rebuild and recover in Bhuj and Bachhau. But as this study shows, this was not the case. The fundamental reason for the different in recovery among various groups is that the state government's policy was narrowly defined. The policy was detailed in terms of the dollar amount that the housing recovery program would disburse to a homeowner, renter, or squatter but did not pay attention to the process of housing recovery. The policy did not take into account the capacities and needs of the communities that it targeted. Instead of first understanding the needs of various groups and then designing a housing recovery policy that was based on the needs and capacities of these groups, the state government's housing recovery policy was simply centered around the amount of money to be given to each group and how to disburse it.

For example, the state government's policy for renters was designed to disburse public financial assistance as a joint compensation to the landlord and the tenant. While this policy was clear on the compensation amount and the method of disbursement, it failed to recognize the difference in the needs of the landlord and the tenant. Landlords in most cases only wanted to reclaim their land and were not interested in receiving any form of joint compensation on the behalf of their tenant. In contrast, tenants needed some form of assistance to build their own house or look for alternative rental housing. Nevertheless, the renter policy only focused on the dollar amount

needed to rebuild the destroyed rental property without understanding the needs and capacities of the people who were involved in the rebuilding of that housing unit.

Similarly, the state government's policy for squatters was specific about the amount of money to be given for squatter housing reconstruction. But the policy did not account for the fact that the recovery needs of squatters was different than that of other housing groups and just giving out financial compensation was not the only solution. The Bachhau Authority's squatter recovery program shows that giving land tenure to squatters was central to the need of squatters. Having land title meant that Bachhau squatters could now have land security and in turn the freedom to invest in their own houses without the fear of being displaced from the land. So by not bringing land tenure into its housing recovery policy the Gujarat government ignored a key aspect of squatter housing recovery. Moreover, by not including assistance for damaged squatter houses in its recovery policy, the state government ignored the recovery needs of thousands of squatters whose houses were damaged and needed repair, particularly in Bhuj.

In summary, I would argue that the key reason why some communities were able to rebuild in Bhuj and Bachhau while others struggled to recover is due to the lack of appropriate public assistance. Public assistance that was designed keeping in mind the needs and capacities of the targeted group did lead to successful recovery, for example among wealthy homeowners in both towns. Conversely, narrowly defined public assistance that did not understand the needs of the targeted groups was instrumental in the failure of those groups to rebuild and recover, as seen among renters in Bachhau and squatters in Bhuj. Since the Gujarat government's urban housing recovery policy dictated the design of its public assistance program, the policy thus played a critical role in contributing to the difference in housing recovery outcomes among various communities in Bachhau and Bhuj. The fundamental value of a post-disaster public policy for

housing recovery that speaks to various housing groups and tackles class differences within communities by avoiding blanket policies that treat communities as homogenous entities is the subject of discussion in the next section.

### **Public Financial Assistance: A Policy Discussion**

The discussion in the previous chapters shows that following the 2001 earthquake the Gujarat state government faced complex urban reconstruction programs in Bachhau and Bhuj. While the state government was quick to release its urban housing recovery policy, published within a period of just two months after the earthquake, it took the Gujarat state government longer to implement its urban reconstruction program in Bachhau and Bhuj. This was due to the complex nature of the recovery program, a result of the extensive of damage in urban areas. Overall, about 25,000 housing units were destroyed and another 40,000 damaged. Moreover, there was large-scale damage to the public infrastructure. The state government was faced with the daunting task of not only initiating housing recovery but also rebuilding the infrastructure in the destroyed towns, such as laying out new roads, sewage lines, water supply, and electricity, while making sure that the new building codes were compatible with seismic safety requirements.

Along with the complexity of its rebuilding project, the state government also faced pressures from the public and the World Bank from whom it had borrowed 380 million US dollars for urban housing recovery. Public pressure was due to the fact that the state government could not begin housing recovery in urban areas until it had completed its urban infrastructure including laying out roads and demarcating housing plot lines. Without the plot and road layouts in place the Gujarat government could not give building permissions to homeowners to begin construction on their houses. But homeowners wanted to begin rebuilding immediately, and as a result were

pressuring the state government to release the first installment of its public financial assistance for housing reconstruction to homeowners. At the same time, the World Bank, which was concerned with misappropriation of public funds and unhappy over the delay in the state government's implementation schedule, was also putting pressure on the state government to release housing recovery funds to homeowners<sup>37</sup>. Overall, not only was the state government facing a complex rebuilding program in Bachhau and Bhuj, it was simultaneously grappling with multiple pressures to quicken the pace of its housing recovery program and release reconstruction funds to homeowners.

Government officials, during field interviews, argued that under such trying circumstances, the Gujarat government did a fairly good job of designing and implementing an urban housing recovery policy that addressed the housing needs of a large number of households in Bachhau and Bhuj. I would however argue that in spite of the complex nature of urban recovery and the multiple pressures that were bearing down, the Gujarat government missed the opportunity to design and implement a housing recovery policy that could have indeed addressed one of the fundamental causes why some communities were able to rebuild and improve their overall housing conditions after the 2001 earthquake, while others were unable to achieve even pre-disaster housing standards. The critical reason as discussed in the previous sections show that while some communities could strengthen their capabilities to rebuild because of public assistance programs that were designed to meet their needs and capacities, many were not able to bolster their capabilities due to the absence of similar programs. Urban housing recovery in Bachhau and Bhuj needed a policy that not only addressed all housing groups such as homeowners, renters and squatters, but also one that understood the local socio-economic

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<sup>37</sup> This is discussed in greater detail in Chapter Two

structures and the class nuances it produced and addressed the housing needs of different socio-economic groups.

To a certain extent, a housing recovery policy with such a vast scope seems just too complex and difficult to conceptualize, frame, and implement. Nevertheless, I would suggest that in Bachhau and Bhuj, the question was not whether the state and local governments could conceptualize and implement a complex project. Indeed, the earlier discussions show that the state government and the Area Development Authorities were quite competent in handling the complexity and scope of the urban housing recovery program in Bachhau and Bhuj. These programs included disbursing public financial assistance to a large number of homeowners in both towns, and providing support to squatter communities in Bachhau and renter households in Bhuj. I would thus argue that the question whether the state government could conceptualize and implement a complex housing recovery program that addressed multiple needs and groups, is the wrong one to ask. Instead, the question that I would ask is were the state government and Area Development Authorities willing to recognize the needs of all communities? If yes, were they willing to apply themselves to finding housing recovery solutions for their diverse needs while taking into account the difference in their socio-economic capacities.

This study shows that when the government was willing to recognize and find solutions to the needs of a community, they applied their discretion and authority to address the task, and sometimes even went beyond the state government's urban recovery policy framework to find adequate solutions. For example, though the state government's housing recovery policy for squatter communities was not well defined, in Bachhau, the Bachhau Authority worked closely with Unnati, a local NGO, as informal partners to forge a squatter recovery program that was closely aligned with squatter housing needs, and that stretched the boundaries of the Gujarat

government's recovery policy for squatter communities. In Bhuj, the Bhuj Authority went beyond the state government's policy framework, and extended the housing recovery program for homeowners to include the large number of renter communities who had lost their houses in the disaster. In both these examples, the local Area Development Authorities recognized the needs of a certain housing group, squatters in Bachhau and renters in Bhuj, and were willing to apply themselves to find housing recovery solutions for them in ways that used the state government's recovery policy as a starting point but at the same time expanded and pushed the boundaries of the policy.

Indeed, it was only when the government either refused to recognize certain communities or was unable to apply itself to finding adequate housing recovery solutions that communities could not recover. For example, since the Bachhau Authority refused to recognize the existence of renter households, renters in Bachhau were not eligible for any form of public assistance and struggled to recover. In Bhuj, the Bhuj Authority recognized that a large number of squatter households whose houses were damaged but not destroyed in the earthquake also needed public financial assistance. But as discussed in the earlier sections the Bhuj Authority was hesitant to apply itself to finding solutions that could help squatters repair their houses. Not surprisingly, most squatter households in Bhuj struggled to rebuild and recover.

The ability of the Area Development Authorities to recognize and address the needs of all communities and socio-economic groups at the local level in Bachhau and Bhuj in order to help them strengthen their capability to recover was certainly important. The larger point I wish to make however is that a similar recognition and adequate housing recovery solutions were also needed at the state level. Yet, the Gujarat government's urban housing recovery policy focused primarily on homeowners with legal titles to their property. The criteria for awarding financial

compensation for housing damage was based on housing property owned legally by homeowners prior to the earthquake. While the policy was detailed in its information for providing financial assistance to property owners, it barely mentioned details and remained largely silent regarding assistance to those households who did not own legal properties. This approach excluded low-income groups such as squatters and renters from the housing recovery process. Since the policy was based on private homeownership, it meant that most of the public funds for housing recovery were directed towards households who are considered the middle or upper middle class in India and are the largest group of homeowners. Historically, the middle class has been a strong supporter of the BJP, the ruling political party in Gujarat state and at the national level during the earthquake, and I would argue that the Gujarat government's housing recovery policy was naturally inclined towards its traditional voter base.

The lack of ability of certain groups to house themselves adequately, leads to questions about the basis of the Gujarat government's housing recovery program in Bachhau and Bhuj, and in particular, raises larger questions of public benefits and eligibility. This research shows that certain communities consisting of low-income renters and squatters needed some form of public assistance or intervention to be able to rebuild after the disaster. According to the Census of India, 2001, in most urban areas, squatter and renter housing together constitute between 40 to 60 percent of the total housing stock. I would argue that this fact raises serious questions on whether post-disaster public assistance should be based on property ownership and legal title. Critics have pointed out that since legal property owners are also the taxpayers, they are entitled to the taxpayer's monies in terms of public financial assistance. I would however contend that as residents of an urban area, every household contributes to the local economy and is a citizen of the state, which in itself makes them equally eligible for public benefits.

Indeed, the Gujarat government's urban housing recovery policy begs a fundamental question. Does a post-earthquake public financial assistance program based on private property ownership of land and housing even make sense in a country like India, where more than half of the population lives as squatters and renters. Not surprisingly, the state government's lack of adequate policy guidelines to address the needs of groups other than homeowners created much confusion during implementation of the housing recovery program in Bachhau and Bhuj. The result was varied interpretations of the policy guidelines by the Area Development Authorities who were responding to ground realities at the local level.

For example, the Gujarat government's policy for squatters briefly mentioned a financial assistance of 7,000 rupees (166 US dollars) for collapsed shanty units and up to 55,000 rupees (\$1294) for collapsed squatter housing unit. However, this was a vague and inadequate definition for squatters, that did not even begin to address the complex categories of squatter housing, that range from households who have land tenure with solid brick houses to those who are tenants renting a plot in a squatter settlement, or the very poor squatters without land tenure whose homes are a one room shed made of tin or asbestos. The poorly defined state government's policy for squatter recovery produced different approaches to squatter housing in Bachhau and Bhuj. In Bachhau, where more than 40 percent of the housing damage was among squatter households, the Bachhau Authority faced a situation where it could not ignore the local need for a squatter housing recovery program. Consequently, the Bachhau Authority along with an NGO called Unnati, set up a program for squatters that went beyond the state government's policy for squatter recovery. This was done by raising the public financial assistance limit for squatters from 55,000 rupees (US \$1294) to a 100,000 rupees (US \$2380) and also by providing assistance to squatters who did not have land tenure. In Bhuj however, the Bhuj Authority approached the issue of squatter housing recovery differently. Most squatters in Bhuj had suffered housing damage and

only a few had experienced complete destruction of their house. But since the Gujarat government had not specified public assistance for squatter housing repair, the Bhuj Authority was reluctant to apply itself to look for solutions for squatter housing recovery. Unlike Bachhau where the Bachhau Authority actively looked for solutions beyond the Gujarat government's policy prescriptions, the Bhuj Authority was hesitant to go beyond the policy guidelines set up by the state government.

As discussed earlier in the literature review in the first chapter, to achieve more equitable post-disaster recovery among various communities, hazard researchers (Berke & Beatley, 1997; Bates & Peacock, 1993; Oliver-Smith, 1990, Anderson & Woodrow, 1989; Bates, Killian & Peacock, 1984) have increasingly called for greater local participation within long-term development, based on local goals and suitable to local needs, as a strategy for recovery planning. Sen (1999) has defined development as a process that focuses on people and looks at human functionings and the capability or the actual ability of people to achieve those functionings. Functioning, according to Sen (1999), are the various things that a person may want to do or to be, and can range from being adequately nourished, being in good health, and well sheltered, to complex functionings such as achieving self-respect and being socially integrated.

In Bachhau and Bhuj, housing recovery was a functioning that every household wanted to achieve, but while some had the capability to do so, many did not. Public financial assistance and private aid strengthened the ability of most homeowners in both towns to achieve housing recovery. In Bachhau, the Bachhau Authority's squatter housing program and private NGO aid tailored to meet the needs of low-income squatter households allowed squatters to acquire the capability to rebuild their houses. But the lack of assistance for squatter housing repair meant that squatter households struggled to recover in Bhuj. In the case of renters, the lack of well-defined

public assistance program meant that most renter households did not have the capability to adequately house themselves. In Bhuj, the Bhuj Authority's renter recovery program, that included public financial assistance and NGO aid for housing construction, strengthened the capability of renters to recover. But the absence of public monies for renter housing assistance in Bachhau left most renters there struggling to recover.

One of the primary reasons for the lack of government response towards renters and squatters as cited by local government officials in Bachhau is that post-disaster housing compensation usually requires the beneficiary to provide the government with paperwork and documentation to prove ownership and residency. Governments find it easier to verify legal documents that establish private ownership, as opposed to verifying a squatter or a renter, which can present the local administration with bureaucratic headaches and challenges. For example, verifying the location and size of a squatter housing plot can be challenging because there are no legal documents, drawings, or records that delineate the precise location and size of plot. Moreover, government policy makers equate legitimate housing stock to single-family housing with legal title, and renter housing or squatter settlements are not considered as housing loss that needs to be compensated. These reasons have prevented policy makers from taking a broader approach that looks at housing recovery for all socio-economic groups ranging from homeowners to squatters.

These reasons however sound inadequate and make little sense in a country like India where 40 to 60 percent of the total housing stock in most urban areas is made of squatter and renter housing together. As discussed in greater detail in the previous section, instead of a post-disaster housing recovery policy that only targets homeowners, the State needs to focus on and respond to a larger number of people who although not homeowners, are citizens of the State and contribute to its economy. Post-disaster housing recovery programs that focus on the actual ability of various

socio-economic groups to house themselves would be better able to reach a wider population, and adequately target and strengthen the capabilities of communities to rebuild their houses. This is discussed in greater detail in the next chapter, where based on its research findings the study makes suggestions for a broad-based housing recovery policy that can better capture the needs and capacities of various socio-economic groups.

## **CHAPTER SIX: STATEMENT OF FINDINGS AND CONCLUSION**

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In the chapters two through five of this dissertation I looked at how the World Bank funds and factors such as community initiatives, NGO interventions, and government programs impacted the capability of communities to rebuild their houses in the two towns. In the previous chapter of this study, Chapter Five, I compared the government's housing recovery approaches at the state and local levels in Bachhau and Bhuj to understand how it impacted the final housing recovery outcomes in both towns. This final chapter of the dissertation presents the main findings of this research and its contribution to the hazards literature. The chapter is divided into two sections. The first section lays out the study findings by explaining the critical factors at various levels of the housing recovery process that affected recovery outcomes in Bhuj and Bachhau. It also makes suggestions for a broad-based housing recovery policy that understands and considers the needs and capacities of diverse communities. The second section of the chapter states how these findings contribute to the hazards scholarship and in particular to the housing recovery literature.

### **1. REVIEW OF RESEARCH FINDINGS AND POLICY OPTIONS**

This dissertation has compared housing recovery processes in the towns of Bhuj and Bachhau, with the goal of understanding why some communities have been able to rebuild and improve their overall housing conditions after the 2001 Gujarat earthquake, while others have been unable to achieve even pre-disaster housing standards. The research finds that there were factors at every level, from state level policy making to program implementation and innovation at the local level that impacted housing recovery among various communities in Bhuj and Bachhau. This section revisits these key reasons and causes to explain why some communities could rebuild their houses in the two towns while others could not.

## **Revisiting Housing Recovery: Key Findings**

Before visiting the reasons for the difference in housing recovery among various communities in Bhuj and Bachhau, this section first looks at which communities could successfully rebuild their houses and which communities could not. There are four main findings in this regard.

First, the research findings show that in both Bhuj and Bachhau, communities that had a higher percentage of high-income homeowners were largely successful in rebuilding their houses after the earthquake. Second, communities with a larger percentage of low-income homeowners had some difficulties in rebuilding their houses. Third, communities with a high percentage of renter households were able to recover in Bhuj, but they struggled to achieve their pre-disaster housing standards in Bachhau. Fourth, squatter communities in Bachhau were able to rebuild their houses and recover, but those in Bhuj struggled to rebuild.

Previous research suggests that a combination of factors such as, a community's resources, its organizational capacities, its social class and ethnicity, and public or private financial assistance program it has access to, impact housing recovery outcomes among various communities (Vatsa, 2004; Berke, Kartez, & Wenger, 1993; Siembieda, 2002; Blaikie et al, 1994; Bates, Killian & Peacock, 1984). The research further argues that since recovery policies and programs are often based on housing loss, public funds directed to rebuild pre-existing housing stocks after disasters is mostly captured by middle and upper classes (Freeman, 2004), and that these programs give the lowest priority to low-income groups, such as renters or squatters (Comerio, 1998; Oliver-Smith, 1990). However, in contrast to these arguments, along with middle-class homeowners, renters in Bhuj and squatter communities in Bachhau were also able to use public assistance that was designed to suit their needs and capacities. Based on its findings, this dissertation argues that the

ability to use public assistance was the key reason why some communities recovered in Bhuj and Bachhau, while others struggled to rebuild.

The question then arises is that why contrary to previous research were renters and squatters able to access public assistance whereas some homeowners communities struggled to rebuild? The research findings suggest three main reasons. First, the Gujarat state government's recovery policy was well designed to meet the housing reconstruction needs of homeowner communities. Yet, the government's disbursement strategy, to release the first installment of public financial assistance prior to issuing building permits, did not plan for the limited capacities of low-income homeowners. Second, the state government policy for renters failed to meet renter housing needs and capacities. But in Bhuj, the Bhuj Authority created a renter recovery program that was built around renter needs and capacities and enabled low-income renters to recover. In contrast, Bachhau did not have a program for renters, and renter households there struggled to recover. Third, similar to renters, the Gujarat government did not pay much attention to squatters in its housing recovery policy. Nevertheless, in Bachhau, the Bachhau Authority, in collaboration with a local NGO, Unnati, pushed to establish a squatter housing recovery program targeted to meet squatter needs and capacities. Consequently, squatters in Bachhau could rebuild but the lack of similar programs in Bhuj meant that squatters there struggled to repair and restore their houses.

These initial findings however beg the question that what was different in Bhuj and Bachhau that allowed local governments to design public assistance programs, which in turn enabled renters in Bhuj and squatters in Bachhau to recover? And why was it difficult to establish similar programs that could have helped renters in Bachhau and squatters in Bhuj, along with low-income homeowner households who were struggling to rebuild? These questions are answered by some of the more in-depth findings of this study, and are discussed in greater detail here. The

discussion first looks at factors at the local level before moving on to some of the key causes at the state level that impacted housing recovery in Bhuj and Bachhau.

### *Presence of Local NGO*

A fundamental reason at the local level for squatter recovery in Bachhau and renter recovery in Bhuj was the presence of local NGOs who understood local issues and pushed Area Development Authorities for an expansion of the housing recovery program. Compared to the number of NGOs in rural areas, local or otherwise, very few NGOs were active in the urban areas of Kutch. This is because of two main reasons. First, most NGOs did not have experience in urban recovery issues and thus concentrated their efforts in rural areas. Second, a majority of the NGOs had already spent their monies in rural reconstruction, which began earlier than urban recovery, and so did not have the funds later to spend in urban areas. However, a local NGO named Unnati, who came to Bachhau immediately after the earthquake, focused its attention and resources solely on Bachhau. Unnati's presence was important for the squatter program in Bachhau for three reasons. First, because Unnati had prior experience in urban issues, it was able to identify squatter housing needs in Bachhau through independent field research. Second, its extended local presence gave Unnati the legitimacy it needed to push for squatter housing with the Bachhau Authority. Third, Unnati's knowledge of squatter issues and technical expertise in seismic safety gave it the tools to help the Bachhau Authority set up a squatter housing program.

Similarly in Bhuj, Abhiyan and the Bhuj Development Council were both locally based groups, who were deeply familiar with Bhuj and the local issues confronting the city. Like Unnati in Bachhau, these groups were in a position to identify the renter housing crises in Bhuj after the

earthquake, and had knowledge of renter housing needs to push the Bhuj Authority to expand their recovery program to include renters.

*Fear of Failure v. Willingness to Take Risks*

The fear of failure in the face of immense public pressures or conversely, the willingness to take risks shaped the orientation of local government's policy priorities. In Bhuj, the Bhuj Authority was able to justify the risk of taking up a housing program for renters because it had a high stake in projecting successful recovery. Since rental units in Bhuj comprised almost half the number of housing that was completely destroyed, the Bhuj Authority could not publicly project a successful recovery without addressing the renter housing issue. Yet, at the same time, the Bhuj Authority was not willing to take up a squatter housing program. Fears of jeopardizing the entire housing recovery program made the risk of pursuing squatter housing recovery, which may or may not succeed, too great for the Bhuj Authority. In this instance, the Bhuj Authority was bogged down by pressures to meet tight project completion deadlines, high expectations from the public and state government for a successful recovery program, and great fear of failure to meet these goals.

In Bachhau, the Bachhau Authority did not operate under such pressures, and so did not have to contend with the fear of failure or expectations for a successful recovery. This made the Bachhau Authority more willing to invest resources towards squatter housing recovery. But at the same time the Bachhau Authority was not willing to pursue a similar housing program for renters. In both Bhuj and Bachhau, housing recovery among squatters and renters was possible only when the local Area Development Authority's willingness to take the risk of pursuing these programs outweighed their fear of failure to meet housing recovery goals.

### *State Control and Continuity in Local Leadership*

Rigid control by the state government on the local administration lead to discontinuity in recovery programs as officials in leadership positions were changed frequently. With the stakes high in Bhuj, the state government exercised tight control over the Bhuj urban reconstruction program. Bhuj Authority officials were changed as frequently as the state government's political priorities shifted. The Bhuj Authority CEO changed four times between October 2001 when the Bhuj Authority was first established and August 2003 when the fourth CEO was appointed. These changes impacted the continuity of recovery programs, such as the Swajan initiative, in Bhuj as new officials brought in their own ideas and approaches to recovery. In contrast, since Bachhau was not as politically important to the state government as Bhuj, there was less state control over the Bachhau Authority. The Bachhau Authority CEO and the Mamlatdar in Bachhau were at their respective posts continuously for a period of more than three years starting in 2002 and still remained in 2005 after the conclusion of fieldwork. This resulted in continuity of programs such as the squatter housing program in Bachhau.

While the previous findings, the presence of local NGOs and the willingness of local officials to take risks were important factors in pushing through new initiatives and programs, it was only the continuity in local government leadership that ensured that the implementation of these programs were carried through to its conclusion.

### *Shortcomings of the State Policy*

One of the most critical factors at the state level that impacted housing recovery was the Gujarat government's recovery policy itself. Rather than a broader focus on the recovery of people, the

policy was narrowly oriented towards the recovery of destroyed and damaged housing property, particularly legally owned units. Ideally, a housing policy focused on the people could lead the state government to examine how the disaster impacted different communities or groups such as homeowners, renters, and squatters and to find appropriate housing recovery solutions for each group. But since the policy focused solely on the reconstruction of private housing units, it was naturally inclined towards homeowners while ignoring squatters and renters. The policy thus fell short of addressing the housing recovery needs of groups other than private homeowners.

It was at the local level that the Area Development Authorities responding to ground realities in Bhuj and Bachhau, tried to address the housing recovery needs of groups other than homeowners. In Bhuj, the Bhuj Authority made land available to low-income renters at subsidized rates and brought in NGOs to help partially finance housing for renters. In Bachhau, the Bachhau Authority gave land tenure to squatters, a key aspect of housing security for squatter households, along with some financial assistance to rebuild. While these local recovery efforts are definitely noteworthy, they were created due to local pressures and conditions. Without an overarching housing recovery policy at the state level providing a broad consistent framework for the recovery needs of diverse housing groups, these efforts remained inconsistent and sporadic across different urban areas of Kutch.

#### *Public Assistance Disbursement Strategy*

Housing recovery among homeowners was largely possible because of the World Bank financed housing reconstruction program that was designed to meet homeowner needs and capacities. But the Gujarat government's disbursement strategy did not plan for the limited capacities of low-income homeowners, who faced problems accessing their housing assistance. In order to meet the

World Bank's time schedule and procedural guidelines, the focus and orientation of the Gujarat government's funding disbursement plan shifted from ensuring successful housing recovery to making sure that the World Bank loan money was spent on time. With World Bank deadlines in mind, the state government began to disburse public assistance installments before town planning was complete, and when homeowners did not have building permissions in hand. This was not a problem for wealthy homeowners who, having spent the assistance funds, could still assemble that amount of money through person resources at a later date and build their house to the required level to be eligible for the next public financial installment. But for low-income homeowners, once they had spent their first installment it was difficult for them to gather that amount at a later date and build their house to be eligible for their second installment.

While it is important to note that without World Bank funding it might have been difficult for the Gujarat state government to offer a public assistance program for housing recovery. Yet, at the same time it is true that rather than the requirements of the housing recovery program, it was the World Bank's funding guidelines that dictated the state government's disbursement plan, which in turn impacted the ability of low-income homeowners to access public assistance.

In summary, these in-depth findings point to factors at the state and local level that shaped public assistance for housing recovery. First, at the state level, the Gujarat government's policy focus on housing recovery rather than the recovery of people, its rigid control over local implementation, and lack of a well-thought out disbursement plan were some of the critical factors that dictated the availability of appropriate public assistance among communities in Bhuj and Bachhau. Second, at the local level, the presence of NGOs with experience in urban issues and the willingness of Area Development Authorities to take risks rather than or in spite of fears of

failure, were some of the important factors that decided the type of housing recovery assistance available to homeowners, renters, and squatters.

### **Policy Notes**

The primary finding of this research shows that the availability of appropriate public assistance that met the housing recovery needs of the targeted community was a significant reason why some communities were able to recover while others struggled to rebuild. Previous discussion points to some of the in-depth reasons at the state and local levels that shaped the type of public assistance available to various communities in Bhuj and Bachhau. Based on these findings, this section offers a few policy pointers for future post-disaster housing recovery policies.

Among the findings discussed previously, the factors at the local level, such as the presence of NGOs, that impacted housing recovery are seen to be inconsistent and changed from place to place depending upon local conditions and political context. For example, it is difficult to predict the presence of local NGOs with experience in urban issues in areas hit by disasters. Similarly, while local Area Development Authorities initiated squatter recovery in Bachhau and renter recovery in Bhuj, these efforts were not uniformly replicated. Consequently, the presence of a state level policy that provides a broad consistent framework is critical for housing recovery.

Research findings show that the first task for policy makers in a post-disaster situation is to understand the recovery needs of different communities. Instead of an approach that looks solely at ways to rebuild housing units, the policy needs to focus on the housing recovery needs and capacities of local communities. The study shows that there were three broad housing groups among communities in Bhuj and Bachhau, homeowners, renters, and squatters, and each of these

three groups had different needs and capacities. The discussion in this section thus provides a broader approach to housing recovery policy that focuses not only on homeowners but also on the housing recovery needs of renters and squatters.

### *Homeowners*

The Gujarat government's housing recovery policy for homeowners worked well for a large number of homeowner households and could be used as a model in future housing recovery situations. The main aspect of this policy was to give homeowners direct control by having them supervise the construction of their house. The government perceived itself in a supporting role by assisting homeowners financially and technically. While homeowners had to follow certain basic criteria's and guidelines, they had the freedom to design their house themselves and use their financial assistance as they deemed fit.

While this policy worked especially well among high and medium income homeowners, it was not as successful among low-income homeowners. The main reason for this lay in the execution of the policy. The Gujarat government's disbursement plan for public assistance was not well thought out and was implemented hurriedly, creating problems among low-income homeowners. The state government released its first installment early due to multiple pressures from the public, who wanted to begin rebuilding immediately, and from the World Bank, who wanted the state government to adhere to its previously agreed timetable for disbursement. The housing funds were released before town planning was complete and when homeowners did not have building permissions in hand, and resulted in most homeowners spending the money on other immediate expenses. But for low-income homeowners, once they had spent their first installment it was difficult for them to gather that amount at a later date and build their house to be eligible for their

second installment. Ideally, the Gujarat government should have waited to release the first installment of public assistance until after the completion of town planning and once building permissions were issued to homeowners. However, this situation is not unique. Political and other pressures always exist in post-disaster situations, and governments will often find themselves forced to bend to multiple pressures regardless of its future consequences. Yet, simple policy measures could have helped to reduce the domino effect of the state government's actions.

The Gujarat government was aware that releasing the first installment of public finance early might create problems later among some homeowners. In this situation the state government could have done several things. It could have negotiated with the World Bank to reduce the percentage amount of the first installment and increase the percentage of second and third installments. Originally the first and second installments were 40 percent each of the total assistance amount, while the third installment was 20 percent. The government could have made the first installment to every homeowner no more than 15 to 20 percent of the total assistance amount and distributed the rest over the remaining two installments. This would have satisfied the public demands for releasing assistance, met the World Bank's need to follow its procedural guidelines to some extent, while making sure that a smaller first installment amount, if spent on other expenses, would be easier for homeowners to arrange later once they received the building permissions. As an alternative the state government could have also made low-interest housing loans available to low-income homeowners who were facing problems accessing their second and third installments.

Overall, the broader framework of the housing recovery policy for homeowners in urban Kutch was largely well conceived and could be used as a model in the future. Nevertheless, its

implementation guidelines and procedures needs further re-thinking and fine tuning in order to match the needs and capacities of different homeowner groups.

### *Renters*

The Gujarat government's housing policy for renters was poorly conceived because it did not design the policy according to the housing needs and capacities of renters. The idea of giving joint compensation did not work for either the landlords or their tenants. However, the Bhuj Authority's program for renters could serve as a basic framework for future renter housing policy. Similar to homeowners, the overarching principle here was the same. The Bhuj Authority gave direct control of housing construction to the renters, while playing a supporting role itself by providing financial and other assistance. Renters were asked to follow some guidelines, but had the freedom to choose how to use the financial assistance, by either building the house themselves or using the money to participate in one of the NGO housing programs.

The goals of this renter program were simple and addressed renter housing needs and capacities. First, by offering housing plots on relocation sites at subsidized rates, the Bhuj Authority made land available to renters at affordable prices; second, by making public financial assistance accessible to renters, the Bhuj Authority made sure that the low-income renters could pay the price of the housing plots; and third, by urging NGOs to create housing projects targeted at renter households on the relocation sites, the Bhuj Authority attempted to reduce actual construction costs and increase housing recovery options for low-income renters.

However, the Bhuj Authority's decision to give housing plots to renters on a long-term (99 years) tenure lease, as opposed to a permanent land title was problematic. Because of the non-

transferable nature of the tenure title, the housing plot title could not be transferred to descendants of the renters and could not be sold to a third party. This was an unrealistic policy and even Bhuj Authority officials acknowledged that housing property transactions with third parties or the transfer of a house to the owner's descendants could not be stopped. In other words, this policy ensured that renters would engage in illegal property transactions in the future.

Moreover, while Bhuj had designated relocation sites on public revenue land that could offer housing plots to renter communities, this may not be the case in other post-disaster situations. In densely urbanized regions with tight housing markets land may not be available for relocation. Consequently, the land aspect of this renter housing recovery policy needs to be reconsidered. Alternatively, instead of giving public land at subsidized rates, the government, while following the same goals and principles as the Bhuj Authority's program, could use a combination of grants, vouchers, low-interest housing loans, and partnership with NGOs to enable renter households to either look for alternative rental housing or buy or build their own house.

Overall, the Bhuj Authority's renter housing program incorporates renter housing needs and capacities well, and the program's overarching goals and principles could be used as a guiding framework for future policies. However, the question of making land available to renters needs to be reconsidered and reworked in future policies.

### *Squatters*

The Gujarat government did not have a squatter housing recovery policy to speak of. Instead, a future policy for squatter housing recovery can be modeled upon the Bachhau Authority's squatter recovery program. Similar to the underlying principle for recovery assistance to

homeowners and renters, the Bachhau Authority gave squatters direct control for rebuilding their houses while supporting them through financial assistance and other methods.

The program addressed one of the most fundamental needs of squatters, that of land security. The Bachhau Authority's program offered tenure title for 50 sq. mt. of land to squatters who did not have title, thus giving them a measure of security. The program also offered financial assistance to squatters to rebuild their houses and brought in NGOs to assist the poorest squatter households. Moreover, supporting programs, such as a community outreach center to help squatter households put together their documents for their public assistance applications, were also set up. Together these steps were able to meet the squatters' need for land security, for financial assistance for housing, and for help with application procedures since most squatters were illiterate.

Overall, the Bachhau Authority's squatter housing program was well thought out and was built to match the housing needs and capacities of squatters. The program's approach and details could serve as a useful model for future squatter housing recovery policies.

In summary, the policies discussed above for homeowners, renters, and squatters all have one fundamental aspect in common. Each of them gives people direct control over rebuilding their houses and designates the government in a supporting role. This underlying principle, that gives people control over rebuilding, was at the core of the reason why these three policies, designed by different people and targeting different groups (housing policy for homeowners was formed at the state level, renter policy was conceived in Bhuj, and squatter policy happened in Bachhau) were largely successful in achieving their goals. Consequently, this basic principle needs to be at the forefront of any future housing recovery policy.

## 2. REVISITING THE LITERATURE: CONTRIBUTION TO HOUSING RECOVERY

Based on the findings of this study, outlined in the previous section, this part of the chapter discusses the main contributions of this research to the housing recovery literature and to the larger hazards scholarship.

### **Critical Role of Public Assistance**

The first contribution this research makes to the hazards scholarship is that it challenges the current paradigm in housing recovery literature, which suggests that a community's own resources and assets, its internal (organization) and external (links to other groups) capacities, and its socio-economic position dictates the difference in post-disaster housing recovery outcomes among various communities (Vatsa, 2004; Berke, Kartez, & Wenger, 1993; Siembieda, 2002; Blaikie et al, 1994; Bates, Killian & Peacock, 1984). This research instead argues that these factors actually played a limited role in producing a significant difference in housing recovery among communities in Bhuj and Bachhau. Based on findings from its comparative analysis, the study contends that it was due to the difference in the availability of appropriate public assistance, designed to meet the needs and capacities of the targeted community, that why some communities were able to rebuild their houses while others struggled to recover in the two towns.

Hazard researchers (Vatsa, 2004; Berke, Kartez, & Wenger, 1993; Siembieda, 2002; Blaikie et al, 1994; Bates, Killian & Peacock, 1984) have argued that the difference in housing recovery outcomes among communities is primarily due to four factors. First is a community's own assets, such as cash, savings, land, livestock, knowledge, and kinship network. The more assets people have, the better they are in their ability to cope with and rebuild after a disaster (Vatsa, 2004).

The second is a community's internal and external capacities. Internal capacity helps community to organize well and participate in local decision-making processes, whereas external capacities can help the community to expand its economic or material resources through its larger social and economic links during post-disaster recovery (Berke, Kartez, & Wenger, 1993; Siembieda, 2002). The third factor is a community's socio-economic position in relation to its class and caste within the local socio-economic structure because these factors can influence access to resources like stable employment, types of income, and ties to local institutions (Blaikie et al, 1994). The fourth factor is the type of recovery assistance programs available to the community (Bates, Killian & Peacock, 1984).

The literature however does not examine whether all four factors equally impact recovery, and if not, then which of these four factors can have a greater impact on housing recovery outcomes. Using the findings from its comparative analysis of Bhuj and Bachhau, this study argues that the first three factors, a community's resources, capacities, and socio-economic position, did play a part in housing recovery, but its role was limited and that they did not produce a significant difference in housing recovery outcomes. Instead, it was the difference in the availability of public assistance designed to meet the needs and capacities of the targeted community that was instrumental in deciding why some communities could recover while others struggled to rebuild. Among all communities, wealthy or otherwise, and whether they comprised of homeowners, renters, or squatters, public assistance was a critical aspect of strengthening their capabilities to achieve housing recovery. The findings show that when communities, regardless of their assets, capacities, and socio-economic position, were able to use public assistance that was built around their needs and capacities, they could rebuild their houses and recover.

For example, renter communities in both Bhuj and Bachhau shared similar characteristics in terms of their assets, capacities, and socio-economic position. Nevertheless, while renters in Bhuj were able to recover, renter households in Bachhau could not. This is because, while the Gujarat state government policy for renters failed to meet renter needs and capacities, in Bhuj, the Bhuj Authority created a renter housing recovery program that was built around renter needs and capacities. The Bhuj Authority made land available to these low-income renter communities at affordable prices, gave public financial assistance, and arranged additional support from private NGOs for renter communities. This public assistance program was a crucial factor for successful housing recovery among low-income renters in Bhuj. Unlike Bhuj, Bachhau did not have a similar program for renters, and renter households there struggled to recover.

Similarly, low-income squatters communities in both Bhuj and Bachhau were alike in that all squatters are low-income households, surviving on daily wage jobs, and who belong to the socio-economically weakest communities. After the earthquake, the Gujarat government's policy did not pay much attention to squatter housing recovery. Yet, while squatters in Bachhau were largely successful in rebuilding their houses, the same was not true for squatters in Bhuj. The main reason for this was that the Bachhau Authority, in collaboration with a local NGO named Unnati, pushed to establish a squatter housing recovery program in Bachhau, targeted to meet squatter needs and capacities. But unlike in Bachhau, there was no support for squatter housing in Bhuj. The lack of similar programs in Bhuj meant that squatter communities there struggled to repair and restore their houses.

The examples above show that though they shared similar characteristics in terms of their assets, capacities, and socio-economic position, renter communities in Bhuj were able to recover but those in Bachhau were not, and while squatters in Bachhau were able to rebuild but those in Bhuj

were not. Successful recovery among renters in Bhuj and squatters in Bachhau was due to the availability of public assistance that was designed keeping in mind the needs and capacities of the targeted group. Conversely, narrowly defined public assistance that did not understand the needs of the targeted groups was instrumental in the failure of those groups to rebuild and recover, as seen among renters in Bachhau and squatters in Bhuj.

The dissertation thus argues that not all four factors, discussed earlier in this section, had an equal impact on housing recovery in Bhuj and Bachhau. The study suggests that the first three factors, a community's resources, capacities, and its socio-economic position, played only a limited role in shaping the difference in housing recovery among various communities. Instead, the research argues, that the key reason why some communities were able to rebuild in Bhuj and Bachhau while others struggled to recover is due to the difference in the availability of appropriate public assistance designed to match community needs and capacities.

### **Use of Social Capital in Community-Based Housing Recovery**

A second contribution this research makes to the hazards literature concerns the use of social capital in housing recovery following disasters. The research argues that while social capital can help to conceptualize community-based recovery efforts, at the same time it is important to understand how social capital is produced or formed among communities. This is because not all communities can create social capital. The study findings demonstrate that social and economic capacities of communities impact their ability to produce and use social capital after disasters. The dissertation suggests, that understanding the process of social capital production is an integral aspect of using social capital to look at community-based initiatives for housing recovery. Doing otherwise would mean a failure to realize the difference in socio-economic capacities among

communities, which in turn would lead to policies and programs that fail to take these capacity differences into account. As previous discussion points out, this failure was a key reason why some communities were able to rebuild while others struggled to recover in Bhuj and Bachhau.

Recent studies in the hazards field have argued that disasters can trigger the formation of new social capital among impacted communities through the emergence of civic networks (Ganapati, 2005), and that social capital can increase the ability of communities to recover after disasters through collective action (Nakagawa & Shaw, 2004). Social capital according to Putnam (2000) refers to the collective value of all social networks and the tendency of these networks towards collective action, based on common values, shared interests, trust, and reciprocity within the community, for their own benefit. Ganapati (2005) also argues that social capital following disasters develops in the context of interactions among the state, the media, donor agencies, and the local community; due to cognitive factors such as solidarity among community members and attachment to a place; and other conditions such as effective leadership and the location of civic networks.

The hazards literature however, does not discuss a fundamental aspect of social capital formation, which is that social capital formed after disasters is very much a class based product. This is because the social and economic strengths and capacities of communities can impact their ability to produce and use social capital. Using the findings from comparative analyses of community initiatives for housing recovery among 18 communities in Bachhau and 20 in Bhuj, my study argues that not all communities are able to create or use social capital after disasters. The research shows that wealthy homeowner communities in Bhuj and Bachhau were able to generate and use social capital following the earthquake. In contrast, communities with a high percentage of low-income homeowners, renters, or squatters, were not able to produce or use social capital for

housing recovery. In other words, the socio-economic capacities of the communities impacted their ability to form and use social capital.

The generation of social capital for housing recovery among all communities in Bhuj and Bachhau was connected to two primary factors: the economic strength of a community and its internal organization since prior to the earthquake. The process of social capital formation began when caste-based communities attempted to organize themselves internally through their community councils in order to help their community members. The communities used their social and economic networks to generate financial and material resources for temporary shelters or permanent housing. Among these groups, the high-income homeowner communities, who had a high percentage of homeownership among its members, were wealthy, and highly organized, quickly came together after the disaster to use their collective networks to generate resources for housing recovery. These communities used their professional ties, business links, and other associations to generate resources to varying degrees. In contrast, among communities, who had a higher percentage of low-income homeowners, renters, and squatters, such initiatives were non-existent. These low-income communities were not well-organized, had many internal divisions due to sub-caste groups, and did not have the same level of socio-economic networks as available to high-income homeowner communities that could be used to generate resources. In short, the social and economic capacities of low-income communities limited their ability to first, come together, and second, to generate resources for housing recovery.

These findings align with studies (Edwards and Foley, 1998) outside the hazards field, which argue that social capital is not created equally but rather depends on the socio-economic position of the source, which is the community here. The difference in the degree of social capital generated among high-income homeowner communities and the complete lack of social capital

among low-income communities indicates that social capital was not created equally in Bhuj and Bachhau. The production and use of social capital in both towns was strongly linked to the socio-economic strength of a community since prior to the earthquake.

This research thus suggests that a study, which uses social capital in post-disaster housing recovery to conceptualize community-based initiatives, needs to also explain the reason for the difference in social capital production among communities by examining how social capital is formed. The study argues that a framework, that uses social capital but does not take the process of social capital formation into account, fails to understand the difference in socio-economic capacities among communities. In other words, it cannot explain the difference in social capital creation among communities. Without understanding this aspect it is difficult to design policies and programs that can strengthen community capabilities for housing recovery. This is because the lack of attention to socio-economic capacities among communities can lead to housing recovery policies and programs that do not match the capacities of local communities. As discussed earlier, the lack of appropriate assistance, built to meet the capacities of targeted communities, is a fundamental reason why some communities were able to rebuild in Bhuj and Bachhau while others struggled to recover.

### 3. CONCLUDING NOTE

In August 2004, as I began my fieldwork in India, I went to attend a conference on Community Based Disaster Management in New Delhi. This regional conference was a pre-cursor to the United Nations World Conference on Disaster Reduction scheduled the following year in January in Kobe, Japan. The aim of this conference was to look for strategies to include disaster mitigation into development planning and practice. The people attending the preparatory

conference were mostly government officials, policy makers, non-government organizations, a handful of academics, and a couple of odd students like myself. I decided to attend a session titled, Civil Society and Community Based Disaster Management, hoping to learn how public and private organizations looked at disasters from the perspective of local communities. I was happy to note that the session I attended seemed like one of my graduate seminars at Berkeley, where all of us sat around a large table to discuss the topic at hand.

My initial excitement quickly ebbed as I realized that instead of the wonderful discussion on community-oriented strategies that I was expecting, the conversation around the table revolved around vaguely defined buzzwords. Phrases like community participation, vulnerable sections, community empowerment, community preparedness, developmental approach to community based disaster management flew back and forth across the table. It was soon clear that while the conversation centered upon the idea of community, nobody could really define a community. Silence greeted my queries like what did a developmental approach to community based disaster management look like. Impatient to move on, the chair of the session suggested that in a developmental approach assistance is directed to the poorest of the poor or the most vulnerable sections. I wondered who the poorest of the poor or the most vulnerable were. Suffice to say that I left the conference with more questions than answers.

The reason I choose to visit this experience in my conclusion is because these questions and issues that the policy makers and non-government organizations were grappling with during the 2004 conference are some of the very same themes that weave through this dissertation. The foremost among them is what is a developmental approach to community based disaster recovery, particularly in the context of developing countries like India. I have struggled with this question in various ways throughout this research, and in doing so I decided to break it into two separate

chunks, community based disaster recovery and developmental approach to recovery, to make it easier to approach the question.

I first tried to reach some basic understanding of a community based disaster recovery. To do so I initially grappled with the definition of a community before empirical research from the field suggested that the community is a highly localized concept that changes from place to place. This empirical reality meant that rather than community definitions based on geographic proximity, I needed to follow the Kutch local population's caste-based definition of a community. But at the same time communities are not homogeneous entities. To understand class based differences or differences in socio-economic capacities I began to look at the percentage of homeownership within each community. Housing, one of the basic markers of social and economic capacities, gave some indication of class differences within each group and among different groups.

Once the fundamental framework of a community was in place, I decided to examine housing recovery from community-based perspectives using Sen's (1999; 1993) capabilities approach. The capabilities approach argues for a method that focuses on people and looks at human functions such as, being adequately nourished, being in good health, and well sheltered, and the capability of people or the freedom a person has to achieve those functions (Sen, 1999; Nussbaum & Sen, 1993). The capabilities framework was a useful tool for a community-based approach to housing recovery because it provided an understanding of the capabilities of communities to pursue housing recovery, and the ways in which to strengthen these capabilities.

While these were part of the community-based approach to study housing recovery, I also wanted to arrive at some understanding of a developmental approach to community-based housing recovery. The capabilities approach addresses the underlying argument within post-development

literature that instead of being passive recipients of development programs, people should be actively involved and have the opportunity to shape their own future. By emphasizing the capabilities of people and communities to pursue housing recovery and the ways to strengthen these capabilities, the capabilities framework brings in perhaps one way of looking at a developmental approach to housing recovery. This approach also hints at the idea that disasters are windows of opportunity to bring about social change and using the capabilities framework as a developmental approach could help find ways to address this goal.

In this view of a developmental approach to housing recovery the role of the state remains critical. As my study findings show, apart from wealthy homeowner, most communities, particularly those with a high percentage of low-income homeowners, renters, and squatters, needed some form of public assistance appropriate to their needs and capacities to strengthen their capabilities to recover. Moreover, the recovery of renters in Bhuj and those of squatters in Bachhau shows that there was some attempt towards addressing socio-economic inequalities during housing recovery.

Yet, the idea of government involvement in future post-disaster recovery situations in developing regions can become elusive as funding options get tighter, the frequency of disasters increases in rapidly urbanizing countries like India, and public expectations for recovery assistance becomes higher. My research shows that the role of the state is critical during post-disaster housing recovery, particularly for low-income groups like renters and squatters who make up more than 50 percent of the population in India. However, it is not too hard to imagine that state resources will be stretched thin in future post-disaster situations and eventually cause some shift of public responsibility to the private sector.

To some extent a shift in responsibility from the public to the private has already begun with private NGOs playing a larger role than ever during post-disaster housing reconstruction. Moreover, ideas such as social capital and self-help wrapped in the language of community empowerment, is beginning to gain traction within the hazards literature. While social capital is a useful tool to conceptualize community initiatives, the way it is used is often problematic because it does not consider some of the critiques of social capital. As this study illustrates, to use social capital as a theoretical tool in the context of a developing nation like India with a large population of renter and squatter communities, it is important to first understand how differences in socio-economic capacities impact the creation of social capital among communities. An approach that asks people to lift themselves up by their bootstraps, without taking into account their socio-economic capacities, brings in a completely different view and meaning to a developmental approach to community based housing recovery.

What kind of future implications this might have for the role of the state and how will it impact a development approach to post-disaster housing recovery. This is a question that is part of my ongoing attempt to reach some understanding of a developmental approach to community based disaster recovery. This is still very much a work in progress and one that I expect to continue to grapple with in my future research.

## REFERENCES

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- AlSayyad Nezar. 1993. Squatting and culture: A comparative analysis of informal developments in Latin America and the Middle East” in *Habitat International*, vol. 17, no. 1, p. 33-44
- Anderson, Mary B. & Woodrow, Peter J. 1989. *Rising from the Ashes: Development strategies in times of disaster*. Boulder, CO; San Francisco, CA: Westview Press
- Angel, Shlomo & Benjamin, Stan. 1976. “Seventeen reasons why the squatter problem can’t be solved” in *Ekistics*, vol. 242, p. 20-26
- Bacchetta, Paola. 2000. “Sacred space in conflict in India: The Babri Masjid affair” in *Growth and Change*, Spring 2000, vol. 31, no. 2, p. 255-284
- Bankoff, Gregory. 2001. “Rendering the world unsafe: ‘Vulnerability’ as a western discourse” in *Disasters*, vol. 25, no. 1, p. 19-35
- Bates, Frederick L. & Peacock, Walter Gillis. 1993. *Living Conditions, Disasters and Development: An approach to cross-cultural comparisons*. Atlanta: University of Georgia Press
- Bates, Frederick L., Killian, Charles D. & Peacock, Walter Gillis. 1984. “Recovery, change and development: A longitudinal study of the 1976 Guatemalan earthquake” in *Ekistics*, vol. 308, September/October 1984, p. 439-445
- Bayat, Asef. 1997. *Street Politics*. New York: Columbia University Press
- Berke, Philip R. & Beatley, Timothy. 1997. *After the Hurricane: Linking recovery to sustainable development in the Caribbean*. Baltimore, MD; London: John Hopkins University Press
- Berke, Philip R., Kartez Jack, & Wenger, Dennis. 1993. “Recovery after disaster: Achieving sustainable development, mitigation, and equity” in *Disasters*, vol. 17, no. 2, p. 93-109
- Berke, Philip R., Beatley, Timothy, & Feagin, Clarence. 1992. *Hurricane Gilbert Strikes Jamaica: Institutional design implications for recovery and development*. Hazard Reduction and Recovery Center, Texas A&M University, College Station, Texas
- Bhatt, C & Mutka, Parita. 2000. “Hindutva in the west: Mapping the antinomies of diaspora nationalism” in *Ethnic and Racial Studies*, vol. 23, no. 3, p. 407-441
- Blaikie, Piers, Cannon, Terry, Davis, Ian, & Wisner, Ben. 1994. *At Risk: Natural hazards, people’s vulnerability, and disasters*. London; New York: Routledge
- Bolin, Robert & Stanford, Lois. 1998. “The Northridge earthquake: Community-based approaches to unmet recovery needs” in *Disasters*, vol. 22, no. 1, p. 21-38
- Bolin, Robert & Stanford, Lois. 1991. “Shelter, housing and recovery: A comparison of U.S. disasters” in *Disasters*, vol. 15, no. 1, p. 24-34

- Bolin, Robert. 1985. "Disasters and long-term recovery policy: A focus on housing and families" in *Policy Studies Review*, vol. 4, no. 4, May 1958, p. 709-715
- Bromley, Ray. 2004. "Power, property, and poverty: Why De Soto's 'Mystery of Capital' cannot be solved" in Ananya Roy & Nezar AlSayyad (ed.), *Urban Informality: Transnational perspectives from the Middle East, Latin America and South Asia*. New York: Lexington Books
- Burgess, Rod. 1982. "Self-help housing advocacy: A curious form of radicalism. A critique of the work of John F.C. Turner" in Peter Ward (ed.), *Self Help Housing: A critique*. London: Mansell
- Cardoso, F. & Faletto, R. 1979. *Dependency and Development*. Berkeley; Los Angeles, CA: University of California Press
- Castells, Manuel & Portes, Alejandro. 1989. *The Informal Economy*. Baltimore, MD: John Hopkins University Press
- Castells, Manuel. 1988. "Squatters and the State in Latin America" in Joseph Gugler (ed.), *The Urbanization of the Third World*. New York: Oxford University Press
- Castells, Manuel. 1985. *The City and the Grassroots: A cross-cultural theory of urban social movements*. Los Angeles, CA: University of California Press
- Clark, David A. 2006. "Capability Approach" in David Clark (ed.), *The Elgar Companion to Development Studies*. Northampton, MA: Edward Elgar Publishing, Inc.
- Comerio, Mary C. 1998. *Disaster Hits Home: New policy for urban housing recovery*. Berkeley; Los Angeles: University of California Press
- Comerio, Mary C. Comments during conference held at the Disaster Management Center, Oxford Polytechnic, 2-5 September 1990 in Aysan, Yasemin. 1990. "Disasters and the Small Dwelling" in *Disasters*, vol. 15, no. 4, p. 77-81
- Corbridge, Stuart. 1986. *Capitalist World Development: A critique of radical development geography*. London: Macmillan Education Ltd.
- Cuny, Frederick C. 1983. *Disasters and Development*. New York: Oxford University Press
- Cuny, Frederick. 1981. "Disasters and the small dwelling: The state of the art" in *Habitat International*, vol. 5, no. 5/6, p. 741-751
- Davis, Ian. 1982. *Shelter after Disaster: Guidelines for assistance*. New York: United Nations
- Davis, Ian. 1981. "Disasters and settlements: Towards an understanding of the key issues" in *Habitat International*, vol. 5, no. 5/6, p. 723-740
- De Soto, Hernando. 2000. *The Mystery of Capital: Why capitalism triumphs in the West and fails everywhere else*. New York: Basic Books

- Drabek, Thomas E. 2002. "Following some dreams: Recognizing opportunities, posing interesting questions, and implementing alternative methods" in Robert A. Stallings (ed.), *Methods of Disaster Research*. Xlibris Publishing.
- Dumont, Louis. 1980. *Homo Hierarchicus: The caste system and its implications*. Chicago, IL: University of Chicago Press
- Edwards, Bob & Foley, Michael W. 1998. "Civil society and social capital beyond Putnam" in *American Behavioral Scientist*, vol. 42, no. 1, p. 124-139
- Eisenstadt, S.N. 1973. "Social change and development" in S.N.Eisenstadt (ed.), *Readings in Social Evolution and Development*. Oxford, UK: Pergamon Press
- Enarson, Elaine & Morrow, Betty Hearn (eds.). 1998. *The Gendered Terrain of Disaster: Through women's eyes*. Westport, CT: Praeger Press
- Escobar, Arturo. 1995. *Encountering Development: The making and unmaking of the Third World*. Princeton, NJ: Princeton University Press
- Esteva, Gustavo & Prakash, Madhu Suri. 1996. *Grassroots Post-Modernism: Beyond human rights, the individual self, and the global economy*. New York: Peter Lang
- Fass, Simon. 1977. "Families in Port-au-Prince: A study on the economics of survival", USAID
- Fine, Ben. 2001. *Social Capital Versus Social Theory: Political economy and social science at the turn of the millennium*. New York: Routledge
- Frank, Andre Gundur. 1969b. *Capitalism and Underdevelopment in Latin America*. New York: Monthly Review Press
- Freeman, Paul K. 2004. "Allocation of post-disaster reconstruction financing to housing" in *Building Research & Information*, vol. 32, no. 5, September/October 2004, p. 427-437
- Ganapati, Emel N. 2005. "Rising from the Rubble: Disaster victims, social capital, and public policy – Case of Golcuk, Turkey", Doctoral Dissertation, University of Southern California, December 2005
- Gilbert, Alan. 2004. "Love in the time of enhanced capital flows: Reflections on the links between liberalization and informality" in Ananya Roy & Nezar AlSayyad (ed.), *Urban Informality: Transnational perspectives from the Middle East, Latin America and South Asia*. New York: Lexington Books
- Gupta, Dipankar (ed.). 2004. *Caste in Question: Identity or hierarchy*. New Delhi, India: Sage Publications
- Haas, Kates & Bowden (eds.). 1977. *Reconstruction Following Disaster*. Cambridge, MA: MIT Press
- Hardoy, Jorge E. & Satterthwaite, David. 1986. "Shelter infrastructures and services in Third World cities" in *Habitat International*, vol. 10, no. 3, p 245-284

- Harms, Hans. 1982. "Historical perspectives on the practice and purpose of self-help housing" in Peter Ward (ed.), *Self Help Housing: A critique*. London: Mansell
- Harriss, John. 2002. *Depoliticizing Development: The World Bank and social capital*. London, New York, New Delhi, India: Anthem Press
- Hewitt, K. (ed.). 1983. *Interpretations of Calamity*. London: Allen and Unwin
- Kirpes, Martha P. 2000. "Reducing earthquake vulnerability through environmental justice: A case comparison from India", in *Proceedings of the 12th World Conference on Earthquake Engineering*, New Zealand Society for Earthquake Engineering, Upper Hutt, New Zealand, 2000, Paper No. 0508
- Kreimer, Alcira. 1984. "Housing reconstruction after major disasters as a vehicle of change" in *Ekistics*, vol. 308, September/October 1984, p. 470-475
- Lal, Deepak. 1983. *The Poverty of Development Economics*. London: Institute of Economic Affairs
- Lal, Deepak. 1980. *A Liberal International Economic Order*, Essays in International Finance, No. 139. Princeton, NJ: Princeton University Press
- Lekachman, R. 1966. *The Age of Keynes*. New York: Random House
- Lekachman, R. 1959. *A History of Economic Ideas*. New York: Harper & Row
- McMichael, Philip. 1996. *Development and Social Change: A global perspective*. Thousand Oaks, CA: Pine Forge Press
- Moggridge, D.E. 1980. *The Collected Works of John Maynard Keynes*. London: Macmillan
- Nakagawa, Yuko & Shaw, Rajib. 2004. "Social Capital: A missing link to disaster recovery" in *International Journal of Mass Emergencies and Disasters*, vol. 20, no. 1, p. 5-34
- Nussbaum, Martha C. & Sen, Amartya (eds.). 1993. *The Quality of Life*. Oxford, UK: Clarendon Press
- Oliver-Smith, Anthony. 1990. "Post-disaster housing reconstruction and social inequality: A challenge to policy and practice" in *Disasters*, vol. 14, no. 1, p. 7-19
- Oliver, Paul & Aysan, Yasemin. 1987. *Housing and Culture after Earthquakes: A guide for future policy making on housing in seismic areas*. Oxford, UK: Oxford Polytechnic
- Oommen. T. K. 2005. *Crises and Contention in Indian Society*. New Delhi: Sage Publications
- Peatite, Lisa. 1981. "What is to be done with the 'informal sector': A case study of shoe manufacturers in Colombia". Department of City and Regional Planning, M.I.T. Manuscript
- Peet, Richard. 1999. *Theories of Development*. New York: The Guilford Press

- Pelling, Mark. 2003. "Paradigms of risk" in Mark Pelling (ed.), *Natural Disasters and Development in a Globalizing World*. London; New York: Routledge
- Perlman, Janice. 1986. "Six misconceptions about squatter settlements" in *Development*, vol. 4, p. 40-44
- Portes, Alejandro & Walton, John. 1981. *Labor, Class, and the International System*. New York: Academic Press
- Prebisch, Raul. 1972. *International Economics and Development*. New York: Academic Press
- Pugh, Cedric. 2001. "The theory and practice of housing sector development for developing countries, 1950-99" in *Housing Studies*, vol. 16, no. 4, p. 399-423
- Putnam, Robert. 2000. *Bowling Alone: The collapse and revival of American community*. New York: Simon & Schuster
- Rahnema, Majid & Bawtree, Victoria. 1997. *The Post-Development Reader*. New Jersey; London: Zed Books
- Rapoport, Amos. 1990. *Meaning of the Built Environment: A non-verbal communication approach*. Tucson, AZ: University of Arizona Press
- Roberts, Bryan. 1995. *Making of Citizens: Cities of peasants revisited*. New York: Arnold
- Rosenstein-Roden, P. 1943. "Problems of industrialization of eastern and south-eastern Europe" in *Economic Journal* vol. 53, p. 205-216
- Roy, Ananya. 2004. "The gentlemen's city: Urban informality in the Calcutta of new communism" in Ananya Roy & Nezar AlSayyad (ed.), *Urban Informality: Transnational perspectives from the Middle East, Latin America and South Asia*. New York: Lexington Books
- Rubin, Claire, Saperstein, M., & Barbee, Daniel. 1985. *Community Recovery from a Major Disaster*. Monograph 41, Boulder, CO: Institute of Behavioral Sciences, University of Colorado
- Sachs, Wolfgang (ed.). 1992. *The Development Dictionary: A guide to knowledge and power*. London: Zed Books
- Seers, Dudley. 1962. "A theory of inflation and growth in under-developed countries based on the experience in Latin America" in *Oxford Economic Papers*, vol. 14, p. 173-195
- Sen, Amartya. 1999. *Development as Freedom*. New York: Anchor Books (Random House Inc.)
- Shiva, Vandana. 1989. *Staying Alive: Women, ecology and development*. London: Zed Books
- Siembieda, William J. 2002. *Choosing a Paradigm for Disaster Recovery: A research report*. Tampa, FL: Center for Disaster Management and Humanitarian Assistance

- Singer, H. 1992. "Lessons of post-war development experience: 1945-88" in S.Sharma (ed.), *Development Policy*. New York: St.Martin's Press
- Smith, Adam (ed.). 1937. *The Wealth of Nations*. New York: Modern Library
- Turner, John. 1977. *Housing by People*. New York: Pantheon Books
- Turner, John. 1968. "Housing priorities, settlement patterns and urban development in modernizing countries" in *Journal of the American Institute of Planners*, vol. 34
- Turner, John. 1966. *Uncontrolled Urban Settlements: Problems and policies*. Pittsburgh, PA: University of Pittsburgh Press
- Vatsa, Krishna S. 2004. "Risk, vulnerability, and asset-based approach to disaster risk management" in *The International Journal of Sociology and Social Policy*, vol. 24, no. 10/11
- Ward, Peter & Macoloo, G. Chris. 1992. "Articulation theory and self-help housing practice in the 1990s" in *Urban Studies*, vol. 16, no. 1, p. 60-80
- Ward, Peter (ed.). 1982. *Self Help Housing: A critique*. London: Mansell
- Watts, M. 1983. "On the poverty of theory: Natural hazards research in context" in K. Hewitt (ed.), *Interpretations of Calamity*. London: Allen and Unwin
- White, Gilbert F. (ed.). 1974. *Natural Hazards: Local, National, Global*. London: Oxford University Press
- Williamson, Jeffrey, ed. 1990. *Latin American Adjustment: How much has happened?* Washington, D.C.: Institute for International Economics
- Winchester, Peter. 1992. *Power, Choice and Vulnerability: A case study in disaster mismanagement in South India 1977-1988*. London: James & James Science Publishers Ltd.
- Wisner, Ben. 1993. "Disaster vulnerability: Scale, power and daily life" in *Geo Journal*, vol. 30, no. 2, p. 127-140
- World Bank Independent Evaluation Group. 2006. *Hazards of nature, risks to development: An IEG evaluation of World Bank assistance for natural disasters*. Washington, D.C.: The World Bank (Digital copy available at <http://www.worldbank.org/ieg>), Accessed February 15, 2008