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Housing assistance distribution after disasters: does it enable affected households to recover?

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This paper examines how and if the post-disaster distribution of housing assistance in two cities of Bam, in Iran, and Bhuj, in India, fulfilled the broad aim of enabling the stricken population to achieve housing recovery. Drawing on interviews with stricken households and officials as well as document review, the paper provides an account of the housing assistance distribution policies in these cities as they were formed, evolved, interpreted, and implemented as well as the ways they were experienced by disaster-stricken people. The paper investigates who did not receive assistance, who did not recover (yet) despite receiving assistance, and – in contrast to these groups – who recovered/accumulated new assets during the recovery process. While in both cities public policies of assistance distribution expanded the capacity of the majority of the stricken people to recover, they failed to provide a timely and appropriate support for the recovery of lower income groups, tenants, and squatters, in line with their needs and priorities.

Keywords: post-disaster housing assistance; housing recovery; Bam; Bhuj

Recent recovery interventions after major disasters in developing countries have often involved the distribution of financial resources among the disaster-affected households. This injection of financial resources is generally associated with the introduction of a range of policies defining who can access these resources and where and how they can be used. These policies are introduced in the context of pre-existing uneven recovery capacities and disaster impact. Hazard literature has established that people experience disasters and post-disaster recovery differently (Blaikie, Cannon, Davis, & Wisner, 1994, p. 265). Notably, poor or marginalised groups often experience proportionately higher material and human losses in the wake of disasters (Highfield, Peacock, & Van Zandt, 2014) and are more likely to face difficulties in their recovery struggles (Cutter et al., 2008; Fothergill & Peek, 2004). If the broad aim of post-disaster interventions – including distribution of financial resources – is to enable the stricken population to recover, it is essential to understand how this aim can be fulfilled in the context of uneven recovery capacities. Despite the prevalence of housing assistance distribution after recent major disasters, such arrangements have been rarely scrutinised in the light of how (and if) they have enabled disaster-affected people to achieve housing recovery. This gap is more evident in the context of cities of developing countries (ALNAP, 2009; Crawford, Suvatne, Kennedy, & Corsellis, 2010).

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Towards addressing this gap in the literature, this paper investigates two cases of post-disaster housing assistance distribution in the cities of Bhuj in India and Bam in Iran that were affected by earthquakes in 2001 and 2003, respectively. Investigating whether or not policies of housing assistance distribution in these two cities have enabled disaster-affected households to achieve housing recovery involves three questions: first, whether all affected households in need of assistance have received assistance; second, whether those who received assistance achieved housing recovery; and third, did the assistance play a key role in the housing recovery of those recipients who recovered? The paper seeks to address these questions in the context of Bam and Bhuj.¹

Housing assistance distribution policies are often formulated without the direct input of the disaster-stricken communities. They are shaped and reshaped through the years following the disaster according to the changing conditions, social and political pressures, and sometimes in a trial-and-error manner. These policies are also influenced by knowledge transfer at the international level facilitated by key international institutions such as the World Bank. For example, the owner-driven model of housing provision has been highly promoted by the World Bank (Jha, Barenstein, Phelps, Pittet, & Sena, 2010) and has been adopted in recent major disasters in developing countries, such as Sri Lanka and Indonesia after the 2004 tsunami and Pakistan after the 2005 earthquake, as well as in our two case studies. As we discuss, the 'transferred knowledge' is also subject to interpretation by local decision-makers in formulating and implementing public policies. This two case-study research seeks to provide an account of the housing assistance distribution policies as they were formed, evolved, interpreted, and implemented as well as the ways they were experienced by disaster-stricken people.

In the sections that follow, the paper first reviews the existing literature on the role of post-disaster assistance distribution in housing recovery outcomes. Following this is an outline of our research methods. We then describe the two urban disasters and review the main policies concerned with housing recovery that were introduced following the earthquake. We discuss who did not receive assistance, who did not recover (yet) despite receiving assistance, and – in contrast to these groups – who recovered/accumulated new assets during the recovery process. We do not intend to present a comparative study between our two cases. Instead, this study considers the two cases as examples of contemporary urban disaster recovery interventions, with a view to highlighting common policy limitations and common patterns of marginalisation among different social groups. Lessons drawn from these case studies are expected to provide feedback and policy recommendation for future urban disaster responses.

Housing assistance distribution and housing recovery outcomes

The inquiry about the implications of post-disaster policy responses, including housing recovery assistance distribution, often deals with the evaluation of housing recovery outcomes. Earlier studies on housing recovery of households (e.g. Bolin, 1982; Peacock, Killian, & Bates, 1987) found that the most important determinant of household recovery was exogenous aid. Bolin (1982) asserts in his study that the amount of aid received was a significant predictor of recovery outcomes of households.

One of the main themes discussed in the hazard literature is that different social groups often have different levels of access to the assistance. In particular, the literature has established that this differentiated access to aid is a function of household characteristics such as race, caste, and gender of householders (Enarson, Fothergill, & Peek, 2006; Levine, Esnard, & Sapat, 2007). Marginalised groups tend to receive the least assistance (Kamel & Loukaitou-Sideris, 2004; Oliver-Smith, 1990). Berke and Beatley (1997, pp. 187, 188) report that poorer communities 'are less likely to receive their fair share of disaster assistance or to receive it in a timely fashion'. These groups might have less access to information or lower ability to deal with

bureaucracies and gain access to assistance programmes. As Darcy and Hofmann (2003, p. 7) assert, the exclusion from receiving assistance is per se ‘a major vulnerability factor’, adding to the pre-existing vulnerability of these households. These groups often have a lower access to information about assistance programmes, due to a lack of vertical ties or low educational attainment. The result is often a lower speed of housing reconstruction or out migration (Zhang & Peacock, 2009).

At the community level, the capacity of communities in mobilising resources and negotiating with the local authorities can also affect the level of access to assistance (Aldrich, 2010; Mukherji, 2010). Aldrich (2012) asserts that social capital – conceptualised as ‘the networks and resources available to people through their connections to others’ (p. 2) – affects the access of communities to external resources and hence their capacity to recover. Additionally, policy advocacy of NGOs, Community Based Organizations (CBOs), and political actors can lead to changes in policies and provide those excluded with access to assistance programmes (Mukherji, 2010).

Assistance distribution policies (their design and content) can also lead to an uneven distribution of aid. The most common case is differentiated access to assistance based on housing tenure (Comerio, 1998; Peacock, Dash, & Zhang, 2006). Distribution of different forms of assistance (financial assistance, building materials, built houses with differing qualities) among the affected population can also result in uneven housing recovery outcomes (Andrew, Arlikatti, Long, & Kendra, 2013; Ganapati, 2013; Mulligan & Nadarajah, 2012). Additionally, the delivery of the assistance distribution policies plays a role in the distribution of assistance. For instance, Kamel and Loukaitou-Sideris (2004, p. 534) assert that the flexibility in programme administration after the Northridge earthquake allowed circumventing programme limitations and hence providing assistance to underserved communities.

Even with equal access to assistance, people tend to achieve different recovery outcomes; people have differing abilities to convert resources to the outcomes they desire and hence even equal distribution of means might lead to significant disparity (Sen, 2009). This resonates with the concept of vulnerability as defined by Blaikie et al. (1994, p. 9) as ‘the characteristics of a person or group in terms of their capacity to [...] recover from the impact of a natural hazard’. This implies that an equal distribution of housing assistance might not necessarily result in all recipients achieving housing recovery. Therefore, investigating whether or not public policies of assistance distribution fulfilled the broader goal of enabling disaster-affected households to achieve housing recovery needs to be concerned with: first, whether there were groups, in particular those with already lower recovery capacity, who did not receive assistance; second, was assistance adequate to help those with lower recovery capacity to recover; and third, how did assistance distribution play a role in the housing recovery of the recipients? These are the main questions that this paper seeks to address in the cases of Bam and Bhuj.

Research design and methods

The paper draws on field data collection in Iran and India in 2010, 2011 and 2012 (eight weeks in total). The data collection took place in two small-sized cities of Bam and Bhuj almost 8 and 10 years after the earthquakes of 2003 and 2001. The temporal proximity of the two events (two years) allowed for reflection on the experience of public policies for long-term housing recovery. Unlike other major disasters in developing countries where international agencies often play a key role in developing and implementing assistance distribution (e.g. Haitian earthquake and tsunami in Aceh, and Sri Lanka), in these two cases, the involvement of these agencies was limited and central/state government was the major role player in formulating and implementation of policies of assistance distribution. This facilitated our analysis as unlike other cases of disaster recovery where a plethora of actors with their own agendas, policies, and practices operate (e.g. cases of Sri

Lanka, Aceh, and Haiti), in Bam and Bhuj, there were low variations as the main source of recovery assistance was public assistance.

Another major similarity between the two cases was the adoption of the owner-driven model as the main strategy for post-disaster housing provision for homeowners. This model involves conditional and instalment-based financial assistance disbursement to homeowners according to the progress in housing construction (Jha et al., 2010). The owner-driven model is highly promoted by the World Bank, the major funding agency in post-disaster recovery programmes, including recovery programmes in Bam and Bhuj (Tafti & Tomlinson, 2015). Donor-driven and community-driven models often provide a universal housing recovery outcome for the beneficiaries (Andrew et al., 2013). Under the owner-driven model (and cash approach), however, owners can supplement their assistance with their own resources, and therefore, housing recovery outcomes will be different among households.

The research relies on the analysis of public policy documents and reports related to disaster recovery in the two cases. Archives and documents reviewed for the case of Bam included policies and minutes of meetings of Bam Guidance and Policy Task Force (2003–2007), internal reports of the Housing Foundation of Iran, (HFIR, the governmental executive body for reconstruction), reports of the World Bank and UNDP United Nations Development Programme (UNDP), as well as the local monthly newsletter Akhbar-e-Bam (2004–2007). For Bhuj, the reviewed archives and documents included the Gujarat Earthquake Rehabilitation and Reconstruction Program (GERR), Housing Recovery Packages 5 and 7 (2001–2008) issued by the Gujarat State Disaster Management Authority (GSDMA), published or internal reports of GSDMA and Bhuj Area Development Authority (BHADA), reports of the World Bank and the Asia Development Bank as well as 20 related articles in the local newspaper Kutch Mitra. We examined policy objectives, eligibility requirements, assistance disbursement arrangements and progress in housing reconstruction in both cities.

We conducted 20 interviews with informants including senior bureaucrats, heads of departments responsible for reconstruction in HFIR, GSDMA, and BHADA, and local officials. These interviews focused on learning the interviewees' perspectives about public assistance distribution, its delivery, and their perceived obstacles to the implementation.

The research was further developed by exploring the ways public policies were experienced by stricken households. We conducted 95 semi-structured interviews with affected households to learn their perspectives of their recovery processes and experience after the earthquake and their housing recovery outcomes. The number of interviewees in Bam and Bhuj was 35 and 60, respectively. The higher number of the interviewees in Bhuj was because of three influential factors that were absent in Bam: a combination of relocation and *in situ* reconstruction in the city, as well as caste- and religious-based affiliations. Interviews in Iran were conducted in Persian and translated by the author. In Bhuj, interviews were conducted in English, Gujarati, or Kutchi, with the help of three translators. Some parts of the audio-recorded interviews were translated by a second translator to ensure accuracy. We utilised the 'stratified purposeful sampling' strategy (Patton, 2002), in order to capture major variations among the interviewees, in terms of housing tenure, income, and household type and characteristics. The spatial scope of data collection was two of the most heavily affected neighbourhoods in each city.

Investigating the impact of assistance distribution policies on housing recovery of households deals with an assessment of their housing recovery outcomes. According to Peacock et al. (2006, p. 265) 'there is almost no literature that focuses on housing recovery itself'. Attempts at conceptualising housing recovery are limited and often uncomprehensive. For instance, Quarantelli (1982, p. 3) asserts that housing recovery involves 'disaster victims returning either to their rebuilt homes or moving into new quarters occupying permanent, residential facilities'. This definition overlooks the importance of housing tenure and location for urban households. Definitions

revolving around the restitution of normal domestic activities (e.g. Bates & Peacock, 1993; Lindell, 2013; Peacock et al., 1987) or the restitution of assets (e.g. Arlikatti, Peacock, Prater, Grover, & Sekar, 2010) also overlook the issues of tenure and location, respectively. Furthermore, none of these attempts directly addresses the issue of timing or speed of recovery. Recovery has no clear end point (Chang, 2010; Olshansky, 2005) and housing recovery can be an incremental process over a long period. As this paper will show, some households might delay their housing recovery for reasons like re-establishing their income.

Considering these conceptual problems, in this research, we rely on the subjective assessment of the affected people about their housing recovery. Our discussion on achieving housing recovery is based on the perception of our interviewees about achieving (or anticipation of achieving) a housing condition equal or preferable to the pre-disaster housing condition in terms of housing quality (e.g. size, materials, structure, services, etc.), location, and tenure. Limitations of the self-assessment method include: interviewees might romanticise their pre-disaster condition or devalue their own housing condition in comparison to the housing recovery outcomes of other people in their localities.

These two cities had different prevalent types of household composition. Furthermore, in both cities, recovery process involved changes in households' composition. As a result, in this research, our discussion about households is based on the perception of residents about their pre-disaster and current households, in terms of how they were or are constituted and how they correspond to the 'home'.

Bhuj earthquake and public policies of housing assistance distribution

On 26 January 2001, Gujarat State in India was struck by an earthquake measuring 7.7 on the Richter scale. In Bhuj, a city with a population of around 130,000, approximately 7000 people died. Most of the casualties were living in high-density old urban areas where 50% of the buildings were destroyed (Balachandran, 2005). The impact of the earthquake on the housing stock in the city was 11,036 collapsed and 27,617 partially damaged houses. Prior to the earthquake 40% of the population consisted of tenants, who were mostly residing in old urban areas (Burns & Tiwari, 2008). It is also estimated that 30% of the urban population consisted of squatters (Balachandran, 2005), living in 18 clusters surrounding the old urban core.

The Gujarat state government formulated GERR that was funded by two loans – totalling US \$771 million – from the World Bank and the Asian Development Bank. Around 40% of the World Bank loan was allocated for housing reconstruction (World Bank, 2009). In Bhuj, the newly prepared urban development plan suggested a combination of *in situ* reconstruction and relocation, aimed at reducing the density of the old urban areas. Three sites were developed to accommodate households who opted to move from the old urban core. The following sections outline the policies introduced relating to the housing assistance distribution and their changes over time.

Homeowners

GERR adopted the 'owner-driven' model as the main strategy for housing recovery of homeowners. The owner-occupiers of destroyed houses could receive a maximum of US\$3225 assistance in three instalments for building a 45 m² house.² Homeowners could choose between receiving a 100 m² plot in one of the new relocation sites and staying in the old urban core. Owner-occupiers could receive only one grant (and one plot) for the reconstruction of collapsed houses.

Pre-earthquake landlords were also eligible to receive the same assistance for rebuilding their damaged rental units within two years, provided there would be restitution of their former tenants'

rights of occupation. Landlords, however, predominantly opted not to receive this assistance. In most cases, the pre-earthquake tenants were living in these rental units for several years paying a very low rent under the Gujarat state rent control law. As a result, it was not a profitable strategy for landlords to invest in their rental units for returning their previous tenants.

Non-home/landowners

Tenants were eligible to buy subsidised land from the government in the relocation sites. Around 1200 tenant households received this subsidy. The local authority invited local NGOs to build housing projects for tenants in these sites, which benefited around 400 households.

Three years after the earthquake and due to the advocacy of CBOs and NGOs, a new policy was introduced for addressing housing recovery of tenants who could not afford land in relocation sites. Under this policy, around 400 low-income tenants, who provided their rent receipts or rent contracts, became eligible to buy 65 m² plots in a poorly located site known as Gujarat Industrial Development Corporation (GIDC) on a 99-year lease. A local NGO, Abhyan, built housing for these households. Seven years after the earthquake, a new policy was introduced for addressing the housing recovery of the remaining low-income tenants. In this policy statement (Package Number 7 issued on 13 August 2008), the Gujarat State Government explicitly recognised that the previous policies left some tenants without a housing recovery option and introduced less strict eligibility requirements for receiving public assistance (e.g. now utility bills are accepted as evidence of tenure). This policy had not been implemented as of 2012 (Tafti & Tomlinson, 2013).

Squatters were also eligible for receiving assistance up to a maximum of US\$1145 for constructing 25 m² built up area in plots of 50 m² at a designated location, only if their housing was completely collapsed in the earthquake.

Bam earthquake and public policies of housing assistance distribution

Two years after the Bhuj earthquake, on 26 December 2003, the historic city of Bam in Iran was affected by an earthquake registering 6.6 on the Richter scale. With a population of 104,469, Bam lost 23,503 people, almost one quarter of its population. More than 80% of the buildings in the city and around 24,598 urban housing units were severely damaged (World Bank, 2010). Before the earthquake, around 18.8% of the population consisted of tenants (Ghafory-Ashtiany & Mousavi, 2005).

The central government introduced a number of policies and projects for the recovery of different sectors. These policies and projects primarily relied on public funds and a US\$220 million loan from the World Bank. Around 68% of this loan was allocated for the reconstruction of damaged residential and commercial units. The new development plan of Bam suggested an *in situ* reconstruction for the city. Policies relating to the housing assistance distribution were formed and evolved as outlined below.

Homeowners

Similar to Bhuj, the 'owner-driven model' was adopted for the housing recovery of homeowners. Homeowners were eligible to receive a maximum of US\$17,647 (combination of a grant and forgivable loan) in three instalments for building an 85 m² house. Homeowners were entitled to housing assistance for each of their collapsed housing. The government did not ask for collateral for the loans nor did it introduce (and according to our interviews, it does not intend to introduce) any mechanism for loan repayments. According to the World Bank (2010, p. 11) 'the

demand for housing finance was kept high because of the promises made by high ranking officials to general population that loans may be converted to grants in case of difficulties'. All our homeowner interviewees assumed that they would not be asked to repay this loan. In total, 24,849 assistance packages were paid in Bam and Bravat (a small town located next to Bam).

Non-home/land owners

Initial policies considered no assistance payment to non-home/landowners. Two years after the earthquake, new policies were introduced whereby tenants, new couples and extended households could receive a US\$11,764 forgivable loan, provided that they bought/owned a plot (or a share of it) or could build a second unit in their extended household's plot. In practice, this policy has changed the assistance beneficiaries from homeowners to landowners (Tafti & Tomlinson, 2013). According to the internal reports of HFIR, 2335 extended households and 4950 tenants and new couples received this assistance in Bam and Baravat.

Did public assistance distribution enable the affected population to recover?

In both cities, the objective of public assistance distribution was stated as to provide earthquake-stricken households with the minimum tool that 'enables them to rebuild their houses' (e.g. GSDMA, 2001, p. 1). This tool, however, was unevenly distributed among the disaster-affected population and carried different implications for their housing recovery. Table 1 presents a summary of these two housing assistance distribution arrangements. The following sections seek to address our three research questions. In addressing each question, the focus is to understand the common shortcomings of policies concerned with housing assistance distribution.

Who did not receive housing assistance?

In the brief introduction of the public policies in the two cities, we explained that access to public assistance was primarily defined based on pre-earthquake housing tenure. In these cities, three social groups were excluded from receiving housing recovery assistance.

The first group were lower income tenants and sharers. The first sets of policies in both cities focused on providing assistance to landlords to rebuild their damaged rental housing. This approach did not result in adequate supply of affordable rental units in either of the cities. The second sets of policies, again similarly, considered tenants as eligible for receiving assistance, provided they owned or could buy a plot in the city. This excluded lower income tenants – who could not afford land – from receiving housing assistance. Later changes in policies in Bhuj excluded the lower income tenants who did not provide rent receipts or contract (despite having other documents like utility bills). In Bam, policy-makers asserted that their reluctance to introduce additional measures for low-income tenants was related to the difficulties in identifying these households in the absence of an effective rental property registration system. In fact, it was mostly our homeowner interviewees who identified their family members as their tenants who received housing recovery assistance for tenants in Bam. In both cities, low-income tenant interviewees were living in temporary housing or self-built rooms.

The second group excluded from receiving housing assistance was women without land rights in Bam. According to the then civil laws of the country, widows could not inherit land from their deceased spouses.³ Land, however, was the only remaining part of the collapsed properties after the earthquake. Widows who had children could live with them, as the children were the main inheritors of land.⁴ UNDP (2008) reports that the central government asked international institutions to assist female-headed households only if they possessed land within the city. According

Table 1. Public assistance allocation and housing recovery policies in Bam and Bhuj.

	Bam	Bhuj
Housing Provision Strategy	For owner-occupied units: owner-driven model For rental units: assistance to landlords Later changed to: cash approach for shifting the housing tenure of tenants to ownership	For owner-occupied units: owner-driven model For rental unit: assistance to landlords, with restitution of their former tenants Later changed to: owner-driven and donor-driven models for shifting the housing tenure of tenants to ownership
Unit of assistance	Owners of damaged housing Later changed to: landowners of plots with residential land use	Owner-occupiers of the damaged housing units Later changed to: ration card holders with land ownership
Eligibility criteria for receiving housing assistance	For homeowners: formal and documented homeownership Later changed to formal and documented landownership of plots with residential or residential and commercial land use (regardless of the presence of a damaged house) For tenants, new couples and extended households: full or partial formal ownership of a plot in the city, or the formal permit of a landowner for building a new residential unit in his/her plot New couples: should be married before March 2004 Tenants: formal rent contract of their previous place of residence	For homeowners: formal documentation of homeownership of a house categorised as G5 damage (the policy mentions 'owner-occupiers' but no measure introduced for establishing the residents of the damaged dwellings) Tenants: tenants with formal rent contract or rent receipts of a damaged house Later changed to those who could present their utility bills and ration card for establishing their places of residence Squatters: those whose houses assessed as completely collapsed in government assessment
Assistance	Owners: \$US12,377 subsidised loan and \$62 per square metre building assistance with a max of \$5270 for building a 85 m ² residential unit Tenants, new couples and extended households: US\$11,764 forgivable loan	Owners: US\$71.5 per square metre building with a max \$3225 for a 45 m ² residential unit Tenants: land subsidy Later addition: built houses for tenants (built by NGOs)
Assistance disbursement method	Owners: payment in three instalment (first, construction till the foundation plinth level, second, construction of walls till the roof level and third, completion of roof) Tenants: one-off payment	Owners: payment in three instalments (first, construction till the foundation plinth level, second, construction of walls till the roof level and third, completion of roof)
Time frame for assistance disbursement	For homeowners: December 2006	For homeowners: October 2005 For landlords and tenants one year after receiving the assistance (extendable to two years)
Enforcement of construction within the time frame	Next instalment would be paid but the delay carries a \$US 1175	The next instalment would not be paid

to the head of State Welfare Organisation in Bam, three years after the earthquake, around 300 non-landowner female-headed households were still living in temporary housing with no other housing option.⁵

The third group, squatters in Bhuj, were initially considered eligible to receive public assistance if their houses were completely collapsed (GSDMA, 2001). Housing recovery policies considered no assistance payment to those with damaged dwellings. The government survey considered the majority of these housing as damaged (Mukherji, 2008). Out of the 13,335 squatter households in the city (EPC, 2002), only 45 squatter households – whose housing was pulled down for the implementation of new ring roads in the city – received a house in the GIDC site (Mukherji, 2008).

The exclusion of the aforementioned households resulted from two different mechanisms; The first mechanism involved the exclusion of low-income tenants (completely in Bam and partially in Bhuj) and mostly reflected an inadequate knowledge of decision-makers as to how to address the housing recovery of these groups (Tafti & Tomlinson, 2013). For instance, in Bam, one of the government officials asserted that ‘If all landlords reconstruct their damaged housing, then tenants can find rental housing’ (Interview BM-O01-05/01/2011). Such assumptions, as noted, did not hold true in Bam eight years after the disaster.

The second mechanism involved the exclusion of women without land rights in Bam and squatters in Bhuj, which needs to be seen within the broader political, social, and institutional processes and frameworks in these countries and as an extension of the systemic marginalisation of these groups. Although the difficulties these groups faced after the earthquake were reported numerous times in local newspapers, no policy adjustments were accordingly introduced in either case. Disasters can create an opportunity for addressing some of the pre-existing disparities, when there is political will as well as policy advocacy by civil society, both of which were absent in Bam and Bhuj. Cases of Chennai after the 2004 tsunami (Mulligan, Ahmed, Shaw, Mercer, & Nadarajah, 2012) and Bachhau after the 2001 earthquake in India (Mukherji, 2010) have already demonstrated the possibilities of collaboration between the state and other actors like NGOs in addressing the housing recovery of squatters.

Concerning the housing recovery of tenants, we identified common shortcomings in these policies as follows:

The first major problem in both sets of policies was defining eligibility criteria for receiving assistance based on pre-earthquake land/homeownership or financial ability of the recipients to become a land/homeowner. Providing assistance, therefore, was not needs based but was based on the ability to pay. As a result, the two sets of policies excluded these households, who had already a lower recovery capacity.

The second major problem was defining strict eligibility criteria for tenants for accessing assistance. Setting rigid eligibility criteria for proving pre-disaster tenure (like rent contract or receipts) implies the exclusion of the poor, because it is mostly affordable units that are rented or shared without issuing written contracts or receipts. In such conditions, community-based enumeration and survey could be a more effective way for identifying pre-earthquake tenants and sharers, as it has been the case in other disasters (e.g. Zaidi, Kamal, & Baig-Ansari, 2010). Producing this knowledge by the affected population themselves could provide a more reliable informational basis for policy-making. Such information would be different from that gathered in the government surveys that in both cases were exclusively concerned with damages to the formally registered, physical assets and not with people who lost their places of residence.

Thirdly, both sets of policies failed to encourage or support an adequate supply of affordable rental units. In both cities, only few rental housing were built/rebuilt 8 and 10 years after the earthquake. These newly built units, in line with findings of other studies (Bolin & Stanford, 1998; Comerio, 1998), were often unaffordable. One alternative could be to provide effective support

to poor landlords for the reconstruction of affordable rental units in the form of microloans or other incentives. This could help them in terms of livelihood recovery, while also providing rental housing in appropriate locations. Additionally, providing regulatory incentives and subsidies to NGOs could encourage them to act as a vehicle for the supply of rental units.

Who received assistance and could not recover (yet)?

Among both groups of assistance recipients, homeowners and non-homeowners, there were households who could not achieve a stable housing condition 8 and 10 years after the earthquake. Here, we explain how the inadequacies in policies of housing recovery played a role in this outcome.

As noted, both sets of policies adopted the owner-driven model as a mechanism for housing reconstruction, with an instalment-based disbursement of assistance upon the completion of the different stages of construction. This instalment-based disbursement primarily aims at ensuring the safe housing construction practices (Jha et al., 2010). In our cases, those homeowners who consumed their first (or second) instalments for meeting their more pressing needs were not able to construct up to the stage where they were eligible to receive the next instalment. Consequently, they either failed to finish their housing reconstruction or experienced a slow recovery process. In Bhuj, nine months difference between payment of the first instalment and the formal start of the reconstruction process heightened the probability of this issue. As Table 2 shows, 22% and 29% of homeowners did not receive their second and third instalments. In Bam, the policy was later changed to include paying the next instalments to such homeowners but to cut a considerable penalty from the assistance. Those interviewees who were penalised were mainly lower income households who faced difficulties such as loss of family members, especially death or injury of the main income earner, loss of income, and a change in the household headship.

In both cities, income support, in forms of cash distribution and cash for work programmes, was mainly limited to the relief phase (the first six months), while housing reconstruction began almost two years after the earthquake when the new development plans of each city were sanctioned. Within this time period and even during the reconstruction phase, many households did not achieve their income recovery. Given that in cities income is the key to accessing basic needs including water, food, and services, a failure to achieve livelihood recovery affected the housing recovery of lower income households.

Post-disaster recovery interventions need to consider housing recovery as a part of the overall recovery process of households. This has two implications for policies concerned with disaster recovery: first, housing supply strategies need to take into consideration other critical needs and priorities of households including access to livelihood and urban services and infrastructure. Second, housing recovery policies need to be supplemented by longer term livelihood recovery strategies that target lower income households. Even if the prime objective of the intervention is the housing recovery of urban residents, this objective cannot always be achieved solely through housing policies.

Table 2. The number of recipients of housing assistance for unrepairable houses in urban areas in Kutch district in Gujarat as in February 2008 (seven years after the earthquake).

	Sanctioned cases	1st instalment	2nd instalment	3rd instalment
Recipients	17,559	17,559	13,720	12,475

Source: Burns and Tiwari (2008, p. 27).

In Bam, recipients of the housing assistance could select a plan for their new housing. Most of them chose the 85 m² plans in order to receive the maximum assistance (in both cases, assistance to homeowners was calculated based on the built-up area). This assistance was almost adequate for building an 85 m² house, provided that the recipients could start and finish their housing reconstruction within one year (This did not happen due to delays in preparing the new urban plan). Households were not informed about the real construction costs after taking the double-digit inflation rate (that was varied between 13% and 18%) into account (Natural Hazard Institute of Iran, 2008). This later caused difficulty for many in finishing their housing reconstruction. As Figure 1 demonstrates, the construction of more than one-third of the residential units was not completed in Bam as of 2009.

In both cities, non-homeowners who received assistance also did not always finish their housing reconstruction. In Bam, tenants and newly married couples who were able to buy a plot received assistance, albeit less than that of homeowners and at a later date. The construction costs in the city soared by at least 50% during the first three years after the earthquake (Natural Hazard Institute of Iran, 2008). As a result, some of these interviewees faced difficulty in finishing their housing construction and were still living in temporary housing as of 2011. In total, around 7510 households were still living in temporary housing or tents eight years after the earthquake (SCI, 2011).

In Bhuj, allocating housing assistance to low-income tenants was tied to a particular site located far from the city and livelihood opportunities, with low-quality social infrastructure such as schools and healthcare facilities. In one section of this site, with 92 houses, we found that 52% of the beneficiaries sold or rented out their houses and moved to other areas – sometimes to informal settlements – closer to the city to access livelihood opportunities and services. Despite gaining financial assets through such transactions, the housing condition of these households is not of equal or better quality compared to their pre-earthquake conditions. In Bam, often, low-income tenants could only afford land in nearby rural areas and faced considerable difficulty in

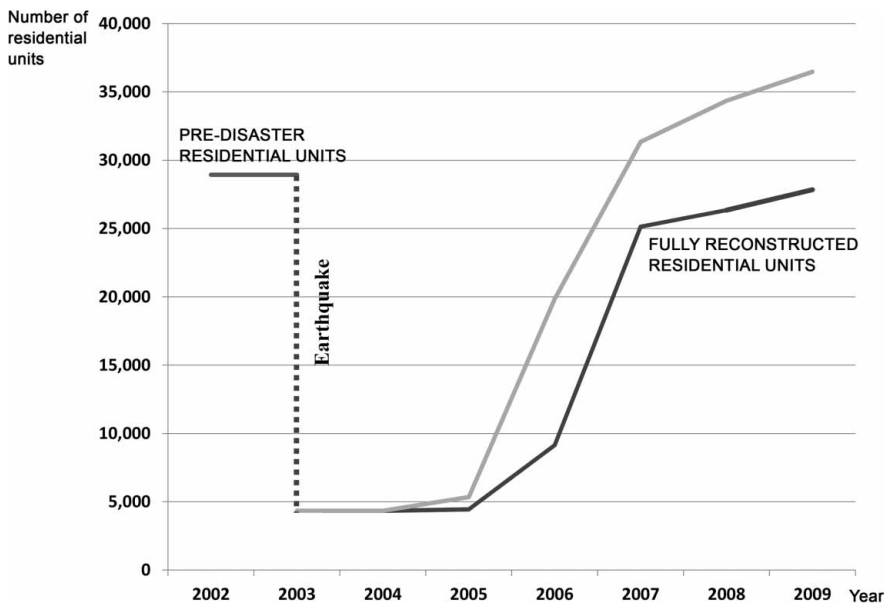


Figure 1. Number of constructed residential units in Bam.
Source: The Housing Foundation's annual progress reports.

accessing jobs and services. Housing literature in cities of the global south (e.g. Payne, 2002; Turner, 1977) has highlighted the importance of location for the urban poor (as compared to housing tenure), as it relates to the potential for enhancing their livelihood prospects. The question of housing recovery, therefore, is beyond providing a shelter; it deals with access to jobs, services, and social networks as well as affordability.

Aside from a lack of appropriate policy provisions for livelihood recovery, the common shortcomings in both sets of policies can be summarised as follows:

First, the inflexible arrangements in the housing assistance payment mechanism resulted in penalising those with already lower recovery capacity. The unified model of payment assumed a universal recovery capacity among the recipients. There was a need for more flexibility in payment of instalments, in particular for lower income households and for those facing contingencies such as the injury or death of household members. A better designed disbursement arrangement could also allow lower income groups to build their houses incrementally over time, instead of directing them to build a maximum housing area in the short time frames of such recovery programmes.

Secondly, both sets of public policies failed to provide supplementary sources for supporting lower income households such as introducing subsidised microloans, facilitated and managed by CBOs and NGOs (as the direct providers or intermediaries) or local financial institutions. In both cases, policies concerned with economic recovery focused on landmark developmental projects or rural areas. In Iran, 'the issue of Bam's economic future and employment generation needs [...] have not been taken up by any agency as a major part of reconstruction activities' (World Bank, 2010, p. 32). In the absence of access to formal finance for lower income households – as was the case in Bam and Bhuj – these financial arrangements could serve as a buffer against contingencies during the recovery process and provide these households with a more flexible source of assistance, as opposed to the inflexible instalment-based housing assistance payment.

Thirdly, allocating assistance for shifting the housing tenure of tenants to ownership did not necessarily assist very low-income tenants to recover in general. The main reason is the availability of this option was often only in peripheral areas with low land price. This approach, as discussed, did not necessarily provide these groups with a housing option aligned with their needs and priorities.

Who received assistance and achieved housing recovery/accumulated new assets?

Homeowners were the major beneficiaries of public assistance distribution policies in both cities. The majority of the recipients of the assistance to homeowners were able to finish their housing reconstruction. In Bam, the construction of around 28,000 residential units and in Bhuj the construction of around 12,500 residential units was completed in 2009 and 2008, respectively. As we will discuss, however, these figures do not necessarily represent the number of households who achieved housing recovery.

Housing assistance provided a real opportunity for lower income homeowner interviewees to achieve housing recovery, as, to a large extent, it covered construction costs. Many of the interviewees drew on their labour or sought help from their friends and relatives for completing their housing construction. Their housing recovery outcomes were often a smaller house but of a higher quality, in terms of building materials and facilities, compared to their pre-earthquake houses. According to the interviewees, this outcome was not possible without public assistance. This was also the case for Bammi households covered by the public safety net whose houses were reconstructed by the public sector.

In line with findings of other studies (e.g. Bolin & Stanford, 1998; Kamel & Loukaitou-Sideris, 2004), in our two case studies, public assistance distribution largely benefited middle-class

homeowners. Housing assistance supplemented the available resources of these households such as savings and formal finance. For higher income interviewees, however, housing assistance covered only a small portion of their housing reconstruction costs (for some interviewees only 10% of the costs) and therefore did not expand their opportunity for achieving housing recovery; they had already the capacity to recover without public assistance.

Lastly, middle-income tenants who received assistance mainly achieved housing recovery. In both cities, however, housing assistance provided more an incentive than a critical tool to these households to shift their housing tenure to ownership as a fast and independent option for housing recovery. In Bhuj, the land subsidy provided an incentive for tenants to buy a plot and build a house, for which they should either completely rely on their financial assets and/or their social networks to benefit from NGO's housing projects. Similarly, in Bam, assistance provided an incentive to middle-income tenants to buy a plot and build a house which cost at least two times the received assistance, so they were also relying on their own assets.

In both cities, policy contents and their delivery also provided opportunities for accumulating new assets (i.e. residential units) during the recovery process. In Bhuj, public policies specified assistance beneficiaries as 'owners of collapsed houses' and in the case of land allotment, as 'families'. This generic definition overlooked the prevalence of multiple ownership of property in the old urban areas due to traditional inheritance practices. Moreover, policy contents overlooked that the prevalent household type was joint families. In order to address these shortcomings, later, the Indian ration card⁶ was introduced as an additional measure for identifying household beneficiaries, which added another layer of complexity to the problem. Our interviews showed that while the more educated households hold multiple cards for one joint family, others, and in particular the Below Poverty Line cardholders, hold only one card, due to difficulties of obtaining these cards. As a result, some households received multiple plots and multiple assistance packages for one damaged house on the grounds of holding separate ration cards.

In Bam, the unit of assistance was the collapsed residential unit. Later, landowners were also eligible to receive tenants or new couples housing assistance. The owners of larger plots subdivided their plots, received multiple grants, and acquired new assets. They either registered a share of a plot to a family member and received housing assistance for it or introduced family members as their tenants and received tenants housing assistance. Figure 2 shows how the owner of two houses in an expensive area in Bam eventually built 11 houses. Those who

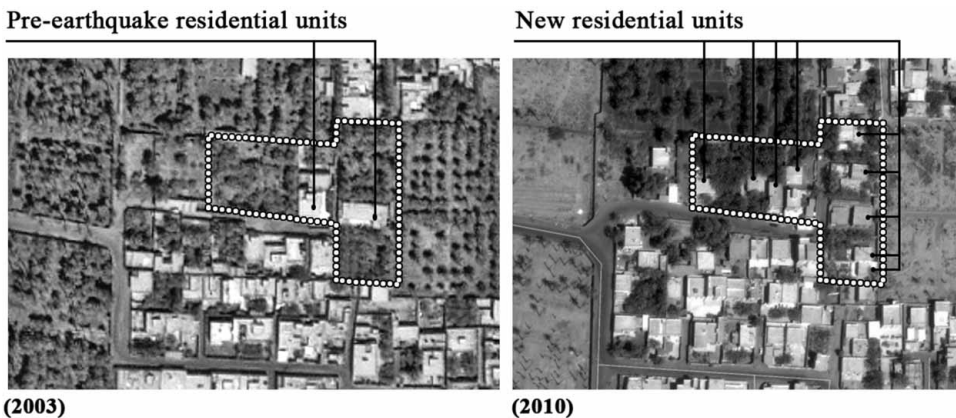


Figure 2. Subdivision of large plots and building multiple housing in Bam. Source: ICOMOS aerial photo of the city in 2003 and Google Earth (2010).

began to build multiple units, however, often faced difficulties in completing the construction of all their projects due to the high inflation rate. As [Figure 1](#) demonstrates, the construction of one-third of the publicly funded residential units has not been finished as of 2009. The overall number of residential units (including those under construction) was 130% of the pre-disaster number in 2009.

The common limitation in our two case studies can be summarised as follows:

First, both sets of policies introduced a generic definition of the beneficiaries of housing assistance, which, in most cases, differed from the reality of households and their housing arrangements. This left enough room for interpretation by already better off groups and resulted in their greater access to public funds. Likewise, both sets of policies failed to establish a clear unit for housing assistance allocation in conjunction with land tenure status and property rights. This is a critical step for preventing plot subdivision, land rights transfers, and opportunistic behaviours in particular in urban disasters.

Second, both sets of policies failed to develop and rely on an accurate account of housing and land tenure and property rights. In both cases, the informational basis for decision-making consisted of technical surveys that reported detailed damages incurred to buildings and mapping the statutory ownership of properties. The result was assistance distribution arrangements that reflected the pre-disaster patterns of access to assets.

Hazard literature has established that, often, patterns of access to the post-disaster exogenous assistance reflect the pre-disaster patterns of access to resources and entitlements (Bolin & Stanford, 1998). This research shows that in addition to the pre-existing distribution of entitlements, post-disaster distribution of resources and the ways access to resources were defined and interpreted influenced the distribution and formation of entitlements during the recovery process. These policy outcomes are highly questionable as, in both cases, the major funding source for housing assistance was foreign lending (from the World Bank) that has to be paid back through public funds.

Conclusion

This paper focused on two cases of housing assistance allocation and examined how well they fulfilled the broader aim of enabling disaster-affected households to achieve housing recovery. We explained that although, in both cases, housing assistance distribution policies played a role in the housing recovery of the majority of affected households, they largely failed to provide housing recovery options for households with already lower recovery capacity: lower income tenants and squatters received no or less assistance and later than homeowners. Assistance allocation arrangements were geared towards producing tangible outcomes – number of built residential units – and not the recovery of the affected households. A number of policy implications can be drawn from these two case studies.

First, the paper showed the shortcomings of two mechanisms embedded in the owner-driven model of housing provision: first, calculating assistance based on the dwelling size, and second, the instalment-based disbursement of housing assistance. These two mechanisms did not allow lower income households to build a smaller house (and later expand it) and allocate a portion of their assistance to their income recovery. Calculating assistance based on the dwelling size imposed what households should consider as their recovery priorities. Furthermore, the universal and inflexible instalment-based disbursement of assistance penalised and disadvantaged the lower income households and those facing contingencies following the disaster. The owner-driven model has to be supplemented by livelihood recovery provisions, such as NGO-led microfinance programmes, to work for the urban poor.

Second, defining access to public funds based on pre-earthquake tenure raises serious concerns. Assistance allocation should be linked to people themselves and not their assets. Furthermore, tying assistance allocation to housing ownership, like allocating assistance to tenants and squatters only in case of shifting their housing tenure to ownership, overlooked the diversity of the housing arrangements in cities and the priorities of the urban poor.

Third, the focus of policy-makers on the ‘reconstruction of rental housing’ did not guarantee the ‘housing recovery’ of lower income tenants. The newly built rental units were often unaffordable and their reconstruction was slower than owner-occupied houses. Housing recovery programmes need to adopt measures like microloan for the lower income landlords and regulatory incentives and subsidies to NGOs to supply affordable rental housing in locations near to job opportunities and services. At the same time, allocation of rental vouchers to tenants might better support the housing recovery of the lower income tenants.

Fourth, while trial and error in decision-making after major disasters seems to be unavoidable, a number of issues are predictable and should be considered in policies. This includes an increase in construction costs (in particular, in countries with an already high inflation rate), inaccessibility of finance for the lower income groups, delay in reconstruction of private rental housing, and the significant presence of lower income households without formal or documented housing or land tenure.

Finally, defining eligibility criteria based on generic and formal measures, like rent contracts, disadvantaged the urban poor. In the absence of efficient housing registration mechanisms in cities of developing countries, community-based enumeration methods can provide an information basis closer to the realities of the affected communities and make disaster-affected groups like squatters, tenants, and sharers more visible.

Policy formulation and financial arrangements for supplying a large quantity of affordable housing adequate for different socio-economic groups is one of the most difficult recovery tasks. Enabling disaster-affected people to achieve housing recovery, requires a needs-based approach, attentive to the realities of those with lower recovery capacity, such as informal housing and income arrangements, lack of access to formal finance as well as poverty. A universal assistance distribution, without additional support for these groups, is likely to exacerbate the pre-disaster disparities.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes

1. The paper does not investigate housing assistance distribution concerned with the repair of damaged houses. Such policies were introduced in both cities of Bam and Bhuj.
2. Houses were categorised into five groups based on the level of damage incurred in the earthquake. The amount of public assistance differed for each group.
3. Article 936, Iran Civil Code.
4. Children can inherit land regardless of their gender. Based on Article 907 of Iran Civil Code, however, girls inherit only half of their male siblings from their parents’ land and properties. In such cases, the housing assistance was allocated to the child(ren). When the child was younger than 18, it was his/her guardian – that is often mother or grandfather – who received the assistance and managed housing reconstruction.
5. MehrNews (15 September 2006), Retrieved March 2012, from <http://www.mehrnews.com/fa/NewsDetail.aspx?NewsID=372328> (in Persian).
6. Indian ration cards are issued by local governments and are used in claims for rationed foods and cooking oils. Cards are issued to the head of family and are proof of residence.

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