

Patterns of Adaptation to Agency-Built Villages: A Relocated Community in Gujarat, India

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Abstract

Reconstruction often entails dramatic changes in settlement location and morphologies, housing designs, building materials and construction processes. This paper examines people's strategies to adapt and transform agency-built culturally insensitive houses and villages to meet their needs and preferences. The paper is based on a 3 year interdisciplinary research project that focused on community adaptation to post-disaster settlements' relocation in Maharashtra, Gujarat, and Tamil Nadu, India, funded by the Swiss National Science Foundation. It focuses on one particular case study, a village named Fadsar that was relocated and rebuilt by an external agency after the earthquake that hit Gujarat in January 2001. A first phase of research in Fadsar was conducted in 2004, when we carried out detailed structured observations of the agency-built houses, interviews with key informants, focus group discussions with a stratified sample of villagers and a household survey. Fieldwork over a period of three months was further carried out in 2013 by during which we documented and analysed the individual and collective adaptation and transformations processes of the built environment carried out by the villagers over the last decade. The paper shows that following a disaster, people are not passive recipients of external agencies' reconstruction projects and that they have the capacity to transform housing designs externally to meet their culturally- and livelihood-specific needs. Based on a micro-level case study of a village in Gujarat, it is argued that underestimating communities' capacity to rebuild their own houses and villages and the failure to recognise the inherent functionality of local housing and building culture often leads to increasing communities' vulnerability.

Keywords: Relocation, Adaptation, Transformation, House Designs, Vulnerability, Settlement Patterns.

Introduction

Reconstruction following disasters often entails dramatic changes in settlement location and morphologies, housing designs, and building materials, in particular when the process is driven by external agencies. These considerations raise a number of questions: What are the long-term influences of rapid changes in the built environment on communities' socio-

economic organisation, livelihoods, and overall wellbeing? How do people adapt to post-disaster settlements and dwellings and how do they transform them over the years to meet their socio-cultural and climate-specific needs? How flexible and adaptable are settlements and houses built by external agencies to accommodate the changing needs of their inhabitants? We are currently addressing these questions within the framework of a three-year research project on *“Understanding habitats, housing and social change in post-disaster traditional and relocated settlements in India”* through multi-sited case studies in several villages in three states of India. The traditional built environment of these villages has undergone dramatic changes in relation to massive resettlement and reconstruction projects following some of the country’s most severe disasters in recent decades: the 1993 earthquake in Maharashtra, the 2001 earthquake in Gujarat, and the 2004 Indian Ocean tsunami in Tamil Nadu. The research aims to contribute to a better understanding of the dynamic inter-linkages between socio-cultural factors and the built environment and of the importance of cultural considerations in post-disaster reconstruction.

This paper focuses on one particular case study, a village named Fadsar that was relocated and rebuilt by an external agency after the earthquake that hit Gujarat in January 2001. We first conducted research in Fadsar in 2004. It was among the sample of ten villages of a study focusing on citizens’ perspectives on different reconstruction approaches (Duyne Barenstein 2006). That study revealed that one year after relocation people were still facing serious difficulties in adapting to the new village and accordingly were highly dissatisfied with the reconstruction outcome. This raised our interest in whether and how people would adjust to an entirely new spatial configuration of their settlement and houses in the long-term, and this interest led us to develop our on-going project. The case study is based on fieldwork carried out in the winter of 2012. During this period, we made a detailed documentation of the old and the new village and houses, conducted in-depth interviews with a stratified sample of men and women, analysed the transformation of the agency-built houses carried out by different socio-economic and occupational categories of people through observations and interviews, and last but not least, studied people’s ways of life in relation to their built environment through participant observation.

Links between Culture, Social Organisation and Housing Patterns

Although there is a growing body of literature focusing on post-disaster reconstruction (e.g. Lizarralde et al., 2009; Lyons and van Schildermann, 2010; Duyne Barenstein and Leemann, 2013), with few exceptions, post-disaster housing reconstruction outcomes are rarely analysed with reference to local housing culture, socio-culturally-specific links between settlement morphologies, social organisation, and livelihoods. It is recognised that built environments are constantly evolving and modified to meet people’s changing needs, but little is known about the long-term adaptability of post-disaster settlements and dwellings. Indeed, studies on post-disaster reconstruction rarely refer to housing in ‘normal’ times, a research domain that has attracted anthropologists for several decades. Early anthropological research emphasised that the built environment, in addition to providing shelter against the elements is to be considered a mirror of the cultures that produced them and as an integral part of social life (Morgan, 1965; Durkheim, 1965; Durkheim and Mauss, 1963). British structural-functionalists, such as Malinowsky (1929) and Firth (1963) interpreted the built environment as an expression of social and symbolic orders.

These views have inspired later ethnographic research such as Bourdieu’s (1973) analysis of the Berber house, which provides a detailed account of the house as a metaphor for gender relations. With reference to Madagascar, Bloch (1996) illustrates how the gradual process of building a house is linked to the consolidation of a marriage and the life cycle of a family. Links between kinship, gender roles, marriage and housing are also emphasised by Carsten (2004). Anthropologists recognise that traditional houses are generally well adapted

to local climatic conditions, but challenge the notion that their patterns are primarily determined by the environment by arguing that building forms and the organisation of space are influenced by a multiplicity of socio-cultural factors. Based on Morgan's assertion that 'primitive' dwellings are a direct expression of social organisation, a significant body of literature has examined the interactions between the built environment, social organisation, and spatial behaviour. However, as underlined by Carsten (2004) people do not always have control over their housing processes that can be influenced or controlled by the state or by colonial powers, which may impose a 'modern' standard of order and building codes that restrict their choice and ultimately lead occupants to undertake cumbersome adaptations (Tipple, 1996, 2000). With reference to India, Lang (1989) underlines the constraints imposed by by-laws and building codes of colonial origin on traditional housing by urban development and social housing programmes which have much in common with agency-driven post-disaster reconstruction projects, such as the one discussed in this paper.

The Gujarat Earthquake

In January 2001, Gujarat was hit by a severe earthquake, which killed over 20,000 people, damaged close to one million houses and completely destroyed 344,000 houses. A total of 7,633 villages and towns were affected and over 300 villages completely flattened. Only two weeks after the earthquake, the government constituted the Gujarat State Disaster Management Authority (GSDMA), which became responsible for developing and implementing a large-scale governmental reconstruction programme. The GSDMA pursued what became known as an owner-driven reconstruction approach that consisted in providing financial and technical assistance to enable people to manage the process of rebuilding their houses by themselves (GSDMA, 2006). At the same time, however, the GSDMA had to cope with hundreds of national and international NGOs and private companies that offered to rebuild full villages. The policy thus allowed villagers to choose between the financial and technical support offered by the government and entering into a memorandum of understanding with a NGO, which would rebuild their houses following their own approach. Given a choice, the majority of people opted for the government support to owner-driven reconstruction, which turned out to be the fastest and most cost-effective approach, and also the one achieving the highest level of citizens' satisfaction (Abhiyan, 2003; Dwyne Barenstein, 2006, 2012). A total of 272 villages, however, allowed their houses to be reconstructed by 72 NGOs or private companies, which in most cases adopted a so-called "contractor-driven reconstruction approach" and rebuilt the new villages in a relocated site. The settlement layout, house designs, and building technologies of these new villages differ dramatically from traditional villages.

The Case of Fadsar

Fadsar is a rural village in Jamnagar district with a total population of approximately 1,200 people. The majority of people belong to a sub-caste of the Ahir community, who are traditionally engaged in cow herding and farming. Although only three persons in the village lost their lives in the earthquake of January 2001, over 75% of the village's houses were partially or fully damaged. The ancient village of Fadsar was a compact settlement located on a slightly elevated ground, which protected it from floods during the monsoon. According to its inhabitants, it was one of the most beautiful villages in the region and was famous for its main temple visited during festivals by hundreds of pilgrims from all over Gujarat. The old village counted a total of 159 houses and was divided in five *vas* or groups of houses inhabited by the same community (sub-caste). These were clustered around a common open space or a private '*cul de sac*'. Each *vas* was and is still known nearly ten years after relocation by the name of the community to which it belonged (see figure 1). After the earthquake, the community leaders succeeded in persuading the whole community to accept

the offer of a NGO to having a contractor to rebuild their village in a new site, adjacent to the old village.



Figure 1: Old village caste map before earthquake. Source: authors.

The Traditional House

Rather than to a physical dwelling, the notion of home in rural India refers to a homestead plot inhabited by one or more kin-related households in which there are generally a number of dwellings with different functions (see figure 2). The typical house in rural Gujarat is accessed through the *deli*, a threshold between outside and inside where primarily men and also elderly women like to rest and interact with their neighbours. Those families who can afford it also own a *bethak*, a small separate room where the elderly men of the family entertain their guests. The *deli* leads to *faliyu*, an internal courtyard leading to the principal dwelling located at the opposite end of the *deli*. This dwelling is accessed through the *pankh* (veranda), a shaded area where the family members rest and carry out all sorts of domestic chores and where some of its elderly members may also sleep during the hot summer nights. The *pankh* leads to the *osri* (interior veranda), a private space where the women rest and receive their female visitors and that is off limits to men not belonging to the family. The *osri* finally leads to two to four *ordo*, the most private rooms of a house, which are used for storage and sleeping by recently married couples. The *rasodu* (kitchen) constitutes an independent unit that is generally located in the north-eastern corner of the *faliyu*. While farmers keep their bullocks in their *wada* (farms) surrounding the village, milk cows, buffalos and calves are kept in a covered space in the *faliyu* named *dela*. Also in the *faliyu* one can often find a *Chokdi* (bathroom). In the old village hardly any house was equipped with sanitary latrines, which may also be explained by the extreme shortage of water that prevailed in the village before the earthquake¹. Most rooms are adaptable to serve multiple

¹ Before the earthquake, the village was not connected to a governmental water supply system. People used to fetch water from a public well in the outskirts of the village, which in the summer would

functions depending on the time and season. Spaces such as the *pankh*, the *osri* and the *bethak*, may be used for carrying out domestic chores, resting, and entertaining visitors during the daytime and serve as sleeping areas in the night. Also typical of rural Gujarat is that, in particular, children and elderly people do not have a fixed place where they sleep, which much depends on the season and temperatures. The traditional *Khatla* (beds) are thus regularly moved around from one place to another.

In the old village, the spatial organisation within the homestead clearly reflected the culture and lifestyle of Gujarati traditional farming communities. This spatial organisation highlights a strong sense of privacy, and a strict division of gender roles and spaces. Within the homestead, there is a gradual move from public male spaces more or less accessible to outsiders to the private female spaces that are generally not accessible to men not belonging to the family. Typical of rural India, and clearly related to the local climatic conditions and livelihoods, is a homestead-based outdoor-oriented lifestyle; indeed people tend to spend most of their time in open shaded spaces rather than inside their dwellings. The importance of the family composition and age also needs to be underlined. In fact, most houses are inhabited by joint families, i.e. by a group of vertically and horizontally related households; young women, and in particular new brides, are expected to cover their faces not only in front of strangers, but even in front of their fathers-in-law. As a consequence, when a son marries and a new bride moves into the house, the family patriarch tends to spend more time in the *deli* and even sleeps possibly together with a grown-up unmarried son in the *bethak*, so as to avoid restricting the freedom of the young women.

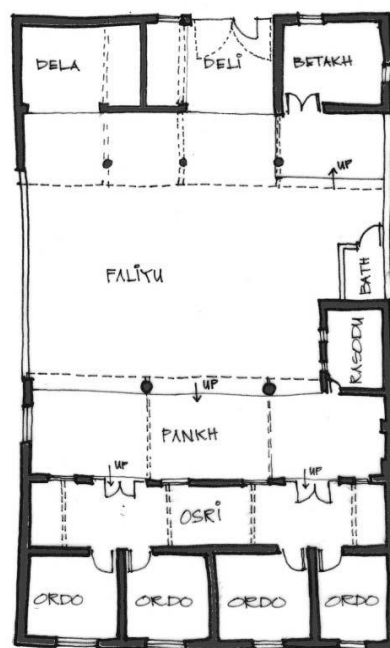


Figure 2: Plan of a typical traditional house in Fadsar. Source: authors.

Before the earthquake, the majority of the houses had stone or brick masonry walls and tiled roofs (see figure 3). However, only fifty to seventy years ago, the most common walling materials were adobe blocks or wattle and daub and thatch for the roofs. The relatively recent introduction of building materials such as poor quality stones and bricks may explain why the housing stock was so vulnerable, leading to high levels of earthquake damages.

often dry out. In such cases, water had to be carried from an ancient step well located about 1 km from the village.



Figure 3: Traditional house of a poor family in the old village. (Source: authors).

Post-earthquake Reconstruction

Fadsar was reconstructed by a large NGO, which rebuilt nine villages and a total of nearly 3000 houses after the Gujarat earthquake. The reconstruction approach, settlement morphology, house designs and building materials in all villages were exactly the same (see figure 4). While varying in size, they basically all had the same design, reflecting the housing style of an idealistic urban nuclear family: a small porch leading to a living room, one to two bedrooms, and a small kitchen in the backside. Each house was equipped with a separate sanitary latrine, but no room for bathing.



Figure 4: The NGO's housing project in new Fadsar in 2004. Source: authors.

The NGO offered different house and plot sizes to different categories of people depending on their ownership of agricultural land, with the assumption that large farmers needed more space than small and landless ones, thus disregarding other important determinants such as family size and cattle ownership (see figure 5).

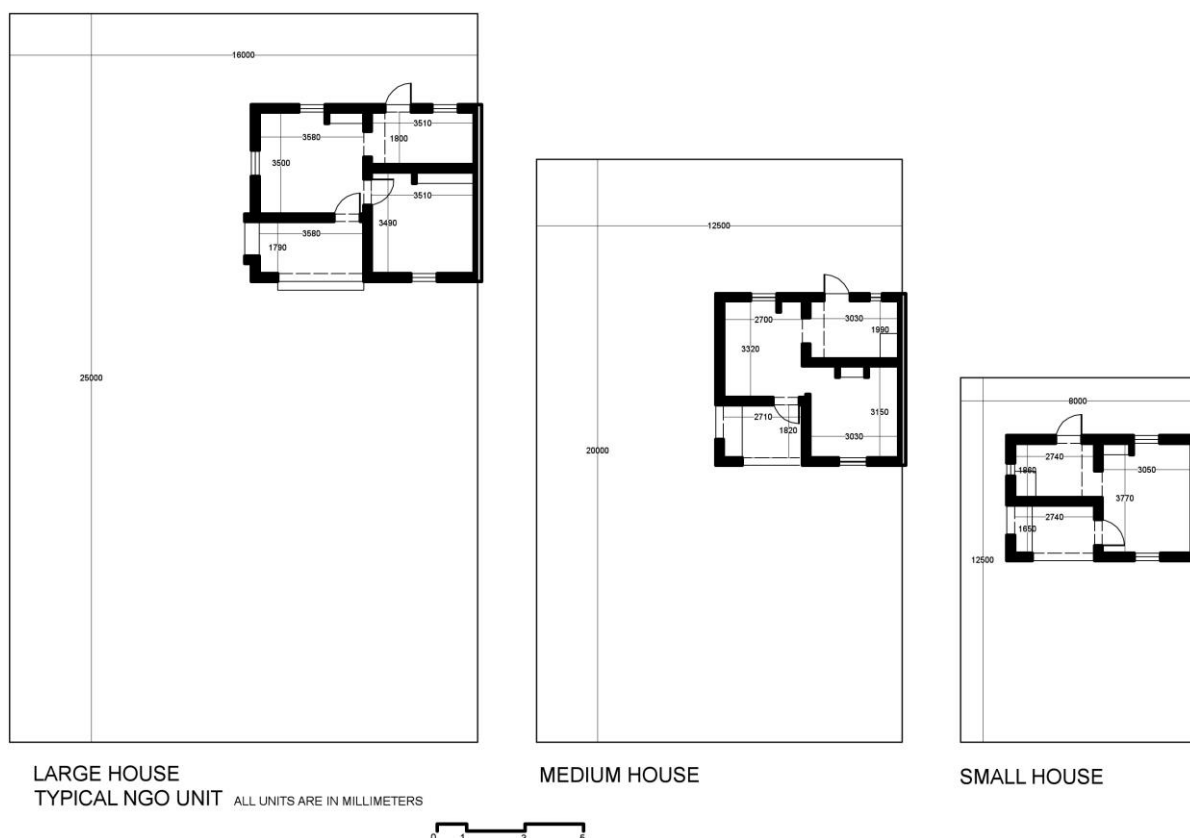


Figure 5: Plan of NGO houses in Fadsar. Source: HEKS 2001.

In Fadsar, as shown in Table 1, the NGO built 84 large houses, 165 medium-sized houses and 68 small houses, whereby each dwelling consisted of two separate housing units. The houses were rebuilt by a construction company closely associated with the NGO. Only the village elite knew which would be their future houses, while the majority were allotted their house by the village elite upon their completion.

Table 1: Number of houses built by the NGO by size and cost in Indian Rupees. Source: HEKS 2001.

House Category	Plot size	House Size	Target Group	Cost in Indian Rupees	No. of houses built
A	400 m ²	50 m ²	Large landholders (more than 4 has of agricultural land)	157,500	84
B	250 m ²	40 m ²	Medium landholders (1-4 has of agricultural land)	127,500	165
C	100 m ²	30 m ²	Landless and marginal landholders (<1 ha of agricultural land)	97,500	68
Total/Av		40 m²		127,500	317

Although the NGO claims that they consulted the community, its house designs, its reconstruction approach, and the decision to relocate the village, were not negotiable, and the only people with whom the NGO interacted with on issues related to reconstruction were the village elite. According to numerous individual and group interviews held with men and women from different castes and socio-economic backgrounds, after the earthquake, the majority of the people would have preferred to obtain financial compensation from the government and rebuild their houses by themselves. The decision to accept the NGO offer to rebuild the village through a contractor on a relocated site was imposed upon them by the village power elite. It was no secret that the reason why they favoured NGO-driven

reconstruction was related to their personal benefits, which the NGO offered them for persuading the village to accept their houses. These consisted, among others, in the possibility of obtaining more than one large house and extensive homestead plots, and also large amounts of agricultural inputs (seeds, fertilizers and cattle) that the NGO distributed for free as part of what they called a 'livelihood restoration programme'. Indeed, although all families who lived in the old village at the time of the earthquake received at least one house, the more influential families were able to obtain several houses, often in the name of migrated relatives or unmarried sons belonging to the same households.

Patterns of Adaptation

The majority of the Fadsar families moved to the new village in 2003. The settlement morphology and house designs in the new village differed profoundly from the old village (see figures 2, 5 and 6). The houses in the new village are built in grid-patterned rows on low-lying agricultural land subject to seasonal inundations, initially infested by snakes and scorpions. The flat-roofed reinforced cement houses are hot in the summer and cold in the winter, a problem that was exacerbated by the absence of trees. The houses are too small for an average family and their cattle, and their design incompatible with their traditional lifestyles. The absence of compound walls entailed a complete deprivation of privacy. People recall that for the first two years after moving to the new village, they were in such a state of shock that they were unable to react. Thus, it is not surprising that when we studied the reconstruction outcome of Fadsar in 2004, our research findings showed that over 90% of the people were highly dissatisfied with their new houses and that several families refused to relocate.



Figure 6: Old and New Fadsar (Google map, 2005).

Nearly ten years have passed since residents moved to the new village. Whereas in 2004, people's perspectives on the reconstruction outcome clearly indicated that contractor-driven reconstruction and relocation should by all means be avoided, our longitudinal research, though confirming the multiple negative consequences of relocation and agency-driven reconstruction, has shown that nonetheless, people had the capacity to adapt their village

and houses to meet their livelihoods and socio-cultural requirements. This adaptation process occurred through different collective and individual strategies and entailed transformations both at the settlement as well as at the house level.

Collective Adaptation Strategies

Collective adaptation to the new village occurred through three main strategies, namely by means of: (i) efforts to reproduce caste-based neighbourhoods; (ii) moving of deities and construction of new temples; and: (iii) re-appropriation of the old village. These strategies are briefly discussed in the following sections.

Reproduction of Caste-based Neighbourhoods

When the village elite, against the will of the majority of the people, accepted the NGO offer to rebuild a new village adjacent to the old one, they were primarily motivated by their personal advantages, i.e. by the possibility to obtain large plots of land and houses for free. At the same time, however, they were concerned about maintaining the old social order. Thus, although officially the houses were distributed through a lottery system, the village leaders carefully managed this process so as to ensure as much as possible that the new village would also be organised in caste-based neighbourhoods.

By providing houses and homestead plots of different sizes to different people based on their ownership of land, the NGO did not treat all people equally by clearly creating neighbourhoods based on socio-economic rather than caste-based distinctions and by insisting that the houses in the new village should be distributed randomly. This was not acceptable to the people in Fadsar for whom living in a caste-based neighbourhood means staying near people belonging to the same lineage with whom they share important cultural features, such as a common *kuldevi* (family deity). Sub-caste based neighbourhoods are particularly important for women, who can move freely among people belonging to their own lineage, but are not supposed to move around the village as a whole. Accordingly, it is not surprising that there was a strong consensus among women and men of all castes and socio-economic categories that in the new village, people belonging to the same caste should continue living together. As a consequence, the distribution of the NGO houses in the new village was not done as proposed by the NGO through a lottery system, but was carefully managed by the village leaders, who also made sure that the small houses for the landless low-caste and 'untouchable' families would be located at the tail end of the village, opposite to the large houses of the village elite. However, due to the fact that people belonging to the same caste do not necessarily own similar amounts of land, reproducing caste-based neighbourhoods was not fully possible. This led to several people selling or exchanging their original house in order to be able to move nearer to their relatives. It also led to some 'anomalies,' such as the fact that the only Brahmin family (highest ranked in the caste hierarchy, but landless) got a small house in the low-caste neighbourhood. However, even though the attempt to recreate caste-based neighbourhoods was relatively effective, interviews with key informants and our close interaction with the villagers over a period of three months revealed that nobody in the new village refers to particular clusters by the name of the community living there; moreover, people belonging to the same community have not been successful in recreating a sense of neighbourhood.

Shifting Deities and Building New Temples

The NGO that rebuilt the new village, in addition to the residential dwellings, built a number of public buildings, such as an office for the *gram panchayat* (local government), a school, and a primary health care centre. It neither built nor provided the space for the construction of temples. For people in Fadsar, however, repairing shrines and temples in the old village,

and building new temples in the relocated villages, was a priority and of pivotal importance for their wellbeing and to re-establish a sense of place (see figures 7, 8). Even today, the most important religious festivals take place in the old village, but there is also a growing number of temples and shrines in the new village. Four NGO houses have been donated or sold by their owners to the community and transformed into temples. In particular, *kuldevis*, i.e. deities worshipped by specific families, are gradually being moved to the new village. This is a complex and highly ritualised process that requires the consensus of the deity (obtained through the mediation of a *Bhuwa*² and takes several months of preparation). The considerable costs involved in the rituals related to moving the deities (which include offering a cooked meal to the whole community) and the fact that not all of them seem to be willing to move to the new village may explain why even today there are more shrines and temples in the old village (a total of 32) than in the new one, where at present there are 15. However, as will be further discussed below, the large number of temples, shrines, and holy landmarks, as well as the vibrant religious life in the old village, may also be interpreted as a strategy of the community to re-appropriate this culturally- and emotionally-meaningful space.

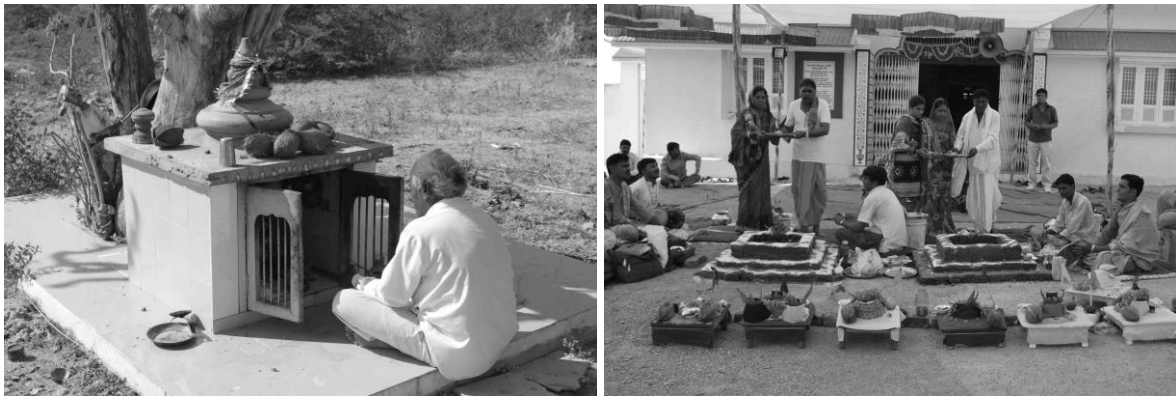


Figure 7. Left: a shrine in the old village; Right: Inauguration of repaired temple in the old village.

Re-appropriation of the Old Village

The new village was built on land that was acquired by the government and given to its inhabitants for free at the condition that they would relinquish their properties in the old village. It is unclear whether the people in Fadsar intended never to give up their old village from the beginning, or whether the re-appropriation of the old village is related to the emotional and practical needs it continues to fulfill. It is clear, however, that the old village never lost its importance, which made its complete abandonment unconceivable. At present, most farmers keep their bullocks, agricultural tools, and fodder in their partially repaired houses in the old village. There are more temples and shrines in the old village than in the new one, and major investments have been made to repair its main temple. Several *kuldevi* (family deities) continue to be housed in the dilapidated houses. These have been declared as temples, a sacred meaning that is conveyed through red flags. There is no doubt that investments in temples and shrines in the old village reflect genuine religious feelings; at the same time, however, some people also admitted that by transforming houses into temples, and by reviving the religious importance of the old village, it would become politically highly-sensitive and virtually impossible for the government to completely displace people from their ancestral village.

² A *Bhuwa* is a person who has the ability to communicate with spirits and deities by falling in a sort of trance. *Bhuwas* can be male or female and belong to any caste. *Bhuwas* are respected by all castes even when they are low caste or untouchable.

Household-level Adaptation Strategies

Several authors found that when external agencies build culturally-inappropriate houses in a relocated site, people often refuse to occupy them and end up returning to their old village (Barakat, 2003; Oliver Smith, 1991; Jha et al., 2010). In Fadsar, only three families out of a total number of approximately 300 families sold their NGO houses to return to the old village or rebuild a house on their own. The majority of the families decided to stay in the relocated site, but made considerable efforts and investments to adapt their new houses to their specific requirements. Indeed, by the end of 2012 over 78% of the NGO houses have been to some degree transformed by their owners.

One of the first extensions made by the majority of the people is the construction of compound walls. This investment was of pivotal importance to regain a sense of privacy and the traditional outdoor-oriented lifestyle. Almost equal importance was given to building a *pankh*, an extension aimed at gaining outdoor thermal comfort and that was constructed in 76% of the houses. The employed building materials and quality of construction vary significantly depending on affordability. In most cases, the materials employed were tin sheets fixed on pre-cast cement or wooden pillars. Many people had obtained some tin sheets as relief material for building temporary shelters or could salvage the required materials from their old houses. The construction of an external kitchen was another important priority, while providing a shaded space for milk cows and buffalos was a basic requirement for the large number of families owning cattle. The majority of the people also planted some trees to gain shade, fodder and fuel. Some families invested resources to repair the roofs, which from the beginning were leaking due to poor construction quality. Our survey revealed that approximately 40% of the families built a bathroom, while 56% transformed the sanitary latrines into a bathroom. This transformation was partly the consequence of the poor construction quality of the latrines, which made them unusable, and to the fact that even if the village is now connected to a governmental regional water supply system, there continues to be a shortage of water -- in particular in the poor neighbourhood located at the tail end of the village-level distribution system. The majority of the people continue practicing open defecation in designated gender-differentiated areas around the village. Only some of the better-off families use the toilets provided by the NGO. These, however, had to replace the soak pit, which was too shallow.

The construction of new rooms around the house provided by the NGO are increasingly also determined by demographic changes and often occur in relation to the marriage of a son. The type and quality of the extensions and related financial investments primarily depend on the socio-economic status of the family, which is also correlated to the number of houses obtained, the size of the houses, and the size of the homestead plots. Several influential families have been able to receive more than one house and relatively large plots of land. This allowed them to recreate traditional spatial arrangements, including the construction of *bethak*, *deli* and *dela* (see figure 8). However, the financial condition of the house owner is not the only factor determining transformations. Due to the small size of the plots, families who only obtained the smallest houses and plots are spatially constrained, even when it comes to building compound walls (see figure 9). Accordingly, it is not surprising that the 72 houses that have not undergone any transformation are primarily located in the 'poor' neighbourhood, where financial and spatial constraints often coincide (source: own survey).



Figures 8: Transformations of large NGO houses belonging to wealthy farming families.



Figures 9: The transformation of small NGO houses belonging to poor families.

Conclusions

The case of Fadsar shows that agency-driven post-disaster reconstruction tends to be culturally-inappropriate, causing stress and discomfort to affected people over prolonged periods of time. This is particularly the case when there is a strong discontinuity between old and new settlement morphologies, house designs and building technologies, and when people are not involved in decision-making and building processes. At the same time, we have seen that people are not passive victims of external agencies' inappropriate projects and that they have the determination and ingenuity to transform agency-built houses to meet their needs. The effectiveness and sustainability of their strategies, however, is constrained by house designs that failed to recognise occupants' needs and desire to transform and extend them by spatial limitations and by many families' restrictive economic situations. Given the fact that landless households, regardless of the number of family members and ownership of cattle, have received the smallest dwellings and plots, they have been particularly penalised by the NGO's reconstruction approach, which clearly exacerbated inequalities and social tensions within the village.

However, when communities are not relocated too far from their original village, their livelihoods are not dramatically disrupted -- in particular if they are successful in maintaining a control over the resources in their old village. The escalating land and housing prices in Gujarat and the overall improvement of infrastructure and services may explain why people in Fadsar -- nearly ten years after relocation -- are no longer as strongly dissatisfied with the reconstruction outcome as they were for the first two years after relocation, even if not all of them could afford to transform their agency-built houses into an adequate homes.

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Authors' Biography



In 2012-2014, the authors worked on a joint research project funded by the Swiss National Science Foundation: “*Understanding habitat, housing and social changes in post-disaster traditional and relocated rural settlements in India*”. Jennifer Duyne Barenstein, the Project Director, has a PhD in social anthropology. Her research interests focus on the socio-cultural dimensions of housing, post-disaster reconstruction, and resettlement. She conducted research in Asia and Latin America. She is the head of the World Habitat Research Centre of the University of Applied Sciences of Southern Switzerland.



Akbar Nazim Modan has a MA in Architectural Regeneration and Development from Oxford Brookes University and specialised in post-disaster reconstruction. He has over five years of professional experience in Gujarat, Kashmir, UK, Northern Cyprus, Turkey, Iraq and Haiti. From 2012 to 2014, he was a senior researcher with the World Habitat Research Centre of the University of Applied Sciences of Southern Switzerland.



Katheeja Talha, is an architect from MEASI Academy of Architecture, Chennai, India. Her thesis and concurrent work with the *Blank Noise Project* and the student collective *Reclaim Our Beaches* focuses on gender and the political implications of space. She was part of the research team and is currently a volunteer with the Chennai Solidarity Group for Koodankulam Struggle.



Rajendra Menaria was also part of the research team. He was an architecture student at the Indubhai Parekh School of Architecture in Rajkot, India. His interests lie in Regional Responses in Architecture and his thesis was on ‘Regional Responses in Traditional Architecture: A study of the streets of Udaipur’.