

WHAT'S THE BIG DEAL ABOUT TEMPORARY HOUSING? Types of temporary accommodation after disasters: example of the 1999 Turkish earthquake¹

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Abstract

In this paper the author describes nine types of temporary accommodation that are commonly used after disasters. This description includes: the physical characteristics of each type, its effect on family recovery, and its function in the reconstruction continuum. Information is drawn from the author's field research in Turkey after the 1999 earthquakes in the Marmara and Bolu regions, as well as from other published case studies. Temporary accommodation refers to lodging provided for, or built by, the affected population as a place to stay in the interim between the immediate relief phase and the later reconstruction phase. It serves as a safe, private place where the family can begin to recover and go about their daily activities sooner, rather than later, after the disaster. This paper emphasizes how different types of temporary accommodation can be the best-fit option, depending on the particularities of the specific disaster and the timeline for permanent reconstruction. It is Part 1 of a 2-part series on temporary accommodation after disaster. The second paper, Part 2, is titled "Planning considerations for temporary accommodation," and examines the issues that providers, such as governments, non-governmental organisations (NGOs) and aid organisations, need to look at before deciding on a strategy for post-disaster temporary accommodation.

1. Introduction: Filling the Gap

In 2001, 256 million people were affected by disasters, well above the previous decade's average of 211 million people per year. While the number of deaths attributed to disasters has decreased in the last twenty years, the number of people *affected* by disasters has increased quite substantially. Relief and reconstruction for these populations after disaster is an on-going concern of many governments, non-governmental organisations (NGOs) and international agencies. However, the Red Cross World Disaster Report 2001 points out the need for research into managing the 'gap' in time that exists between the relief period and the reconstruction: "There is gap: the relief stops...often a year or more goes by between the disaster and [the start of] reconstruction. People can't wait that long...they begin rebuilding their lives hours after disaster strikes. They aren't interested in relief—they are interested in recovering. That is when people need technical

¹ This paper is Part 1 of a 2-part series on temporary accommodation after disasters. Part 2, titled "Planning Considerations for Temporary Housing" is available on the I-Rec website at www.grif.umontreal.ca

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assistance to reduce future risk” (IFRC 2001). Technical assistance is a complex process that includes, among others, financial aid or incentives, mobilization of resources, social programs and physical construction.

One of the key aspects to filling this gap is finding a suitable lodging solution that allows the affected population to begin rebuilding their lives and to do so quickly. There are many types of *temporary accommodation* that can be implemented after a disaster to fill the housing gap between the immediate relief phase and the results of the permanent reconstruction. Types of temporary accommodation include, but are not limited to, tents, prefabricated temporary housing, shelters in public facilities, homes of family or friends, self-built shelters, or rented apartments. Usually several types of temporary accommodation are used concurrently to fill the housing need of the entire affected population. In some cases, temporary accommodation can be used as an effective housing solution not just to fill the gap, but can continue to be used through more than one phase of the post-disaster rehabilitation process.

Each type of temporary accommodation has its own set of short-term and long-term implications, and some types are more suitable than others, depending on the particular disaster situation. Therefore, the decision to implement a particular temporary accommodation strategy or strategies must be based on knowledge of the short-term and long-term implications of each and an understanding of the particular characteristics of the disaster situation.

After a disaster, families are in need of a place to live, a place to restart, a place to take responsibility for what they have, a place to regain control over their lives for their economic, physical and emotional well-being. If temporary accommodation does not promote this process of reestablishment at the household level, it can hinder the overall recovery of the population and of the region as a whole. It is for this reason that temporary accommodation, and the chosen type of accommodation, is of particular concern after a disaster. In fact, temporary accommodation is inevitably an integral part of a family’s recovery process after a disaster, and the type and availability of temporary accommodation can contribute to or hinder the recovery process.

The temporary accommodation used after the devastating 1999 earthquakes in Turkey illustrate the possible types that can be used after a disaster (Johnson 2000). This paper, which is part 1 of a 2-part series, describes the types of temporary accommodation used in Turkey. The paper considers both the short-term and long-term implications of each type. The second paper, part 2, “Planning considerations for temporary accommodation,” specifies what planning issues need to be considered before governments, NGOs and aid organisations reach a decision as to the type of temporary accommodation that is necessary or the most appropriate².

Incidentally, I would like to point out that one should not look at the question of temporary accommodation without considering that the provision of aid after disasters is a political process. International organisations, NGOs and governments are subject to their political agenda and strategies, which unfortunately can have the tendency to override humanitarian concerns. Although it may often be the case that temporary accommodation decisions are politically biased, in this paper I take a politically unbiased view of its provision; specifically, that the decision as to the type of temporary accommodation to provide after a disaster is or should be based on the best-fit solution and not on political agendas.

² This second paper, part 2, “Planning considerations for temporary accommodation” is available on the I-Rec website at www.grif.umontreal.ca

2. Material and methods

This paper (Part 1) describes the types of temporary accommodation commonly used after a disaster, taking the Turkish example as a case in point.

To define where temporary accommodation lies on the reconstruction continuum, in this paper I begin with an explanation of the stages of post-disaster housing as they are defined by Quarantelli (1995). This is followed by a short description of the 1999 earthquake disaster in Turkey. The next section describes the types of temporary accommodation used, firstly in Turkey and secondly, in other disasters. The last section draws conclusions and highlights the most important points.

There are nine types of temporary accommodation used after disasters, as found in Turkey and elsewhere. While doing field research in Turkey, there were five main types of temporary accommodation I observed and recorded. These were: prefabricated temporary houses, wooden temporary houses, paper temporary houses, winterised tents, and self-built shelters. There are four types of other temporary accommodation referred to in other case studies, which are mobile homes, public facilities retrofitted as lodging, homes of family or friends, and rented apartments.

This paper describes the physical characteristics of each type, its effect on family recovery, and its function in the reconstruction continuum. The information presented here is derived partly from my field research in the earthquake-affected region of Turkey in June and July 2000, approximately ten months after two devastating earthquakes in the Marmara and Bolu regions of Turkey in 1999 (Johnson 2000). Additional information is also taken from other published case studies on temporary accommodation from various disasters in the United States; the 1995 earthquake in Kobe, Japan; the 1999 floods in Venezuela; and elsewhere.

3. Definition of Terms: Stages of Post Disaster Housing

In disaster research the terms “housing” and “sheltering” are often used interchangeably, with little distinction between the terms. The vagueness apparent in these terms must be clarified to precisely define the phenomena of housing after a disaster. Quarantelli (1995) situates the concept of ideal: “In social science, the ideal does not refer to [what is] desirable, but how the phenomena would look like if it existed in a pure form. Thus, the [ideals] we advance are not intended to be exact descriptions of social reality but as ways of thinking about such realities.” Quarantelli then defines the four stages of housing after a disaster as:

1. Emergency sheltering
2. Temporary sheltering
3. Temporary housing
4. Permanent housing

Actual or potential populations seeking quarters outside of their own permanent homes for short periods utilize *emergency sheltering*. Emergency shelters are typically used for a few hours or possibly for a one-night stay. This stage does not require the arrangement of food for the affected people since the stay is so short. *Temporary sheltering* refers to the populations’ temporary displacement into other quarters with an expected short stay. This could take the form of a tent, a second home, a family member’s/friend’s house, a motel, or a public facility where people will stay for more time than just the height of an emergency. There is no attempt to re-establish household routines; however, there must be an arrangement for the provision of food. The distinction between *housing* and *sheltering* is made on the basis that *housing* involves the resumption of household responsibilities and activities in the new living quarters, whereas during *sheltering*, normal daily activities are put on hold.

In addition to the four terms, as defined above by Quarantelli, in this paper I also use the term *temporary accommodation*. The term *temporary accommodation* is used to refer to the all the different types of temporary lodging commonly utilised after a disaster. It is important to distinguish between *temporary accommodation* and *temporary housing*, as *temporary housing* usually refers only to very specific types of *temporary accommodation* i.e. dwellings clustered in settlements and built by organisations using industrialised components and standardised designs. But *temporary accommodation* can also take the form of tents, self-built shelters, mobile homes, homes of family or friends' homes, or apartments, where the family will resume their household responsibilities and activities in a location that is intended to be temporary.

Permanent housing refers to the affected population returning to their repaired or rebuilt houses, or moving into new quarters in the community. In most disaster situations in developed countries there is a sharp distinction between temporary and permanent housing. However, in less developed countries this distinction can be blurred: what is initially intended as temporary housing can become permanent housing over the long-term, particularly if none or insufficient formal permanent housing is constructed.

4. Turkey: The 1999 Earthquakes in the Marmara and Bolu Regions

In the latter half of 1999, two devastating earthquakes shook the Marmara and Bolu regions of Turkey, the industrial heartland of the country to the east of Istanbul. The first and larger earthquake on August 17th (M7.4) caused widespread damage to the towns of Gölcük, Yalova and Adapazari as well as the industrial town of Izmit (population 1 million) and eastern parts of Istanbul. The second earthquake on November 12th (M7.2) largely affected the mountainous towns of Düzce and Bolu, about 100 kilometres to the east of Izmit (fig. 1). It is estimated that, in total, 380,000 buildings were damaged or had collapsed. A total of 120,000 dwellings were damaged beyond repair leaving more than 250,000 people in need of housing. The combined death toll from both earthquakes is recognized as being around 18,000.

Fig. 1: Towns in Turkey affected by the 1999 earthquakes (IFRC 2000)



The Turkish government instigated a three step accommodation strategy for those affected by the earthquake, beginning with the provision of temporary shelter, then temporary housing and later permanent housing. Tents were provided as temporary shelter for earthquake survivors throughout the affected areas immediately following both earthquakes. Since the winter after the earthquake was quite severe, relief organizations distributed as many winterised tents as possible. During the first winter, as many as 135,000 people stayed in 109 tent camps established both inside and on the outskirts of the cities and towns in the affected region. Many people were also living in small self-provided tent camps set up near their destroyed homes or they constructed self-made structures to serve as temporary lodging.

In October 1999 the Turkish Ministry of Housing announced plans to provide approximately 47,000 prefabricated temporary houses to accommodate up to 151,000 people affected by the August earthquake. This plan was extended after the November earthquake to include survivors in need of housing in the newly affected areas. In August 2000, the first anniversary of the earthquake, governments and NGOs had provided 42,000 prefabricated houses, housing a total of 150,000 people. By then, the majority of the population were set up in temporary housing, but approximately 30,000 people were still living in tents and 70,000 people had secured their own temporary accommodation.

5. Types of Temporary Accommodation

The following descriptions of the types of temporary accommodation often used after disasters is based on what I observed in Turkey, as well as types of accommodation documented by other researchers in their case studies of other recent disasters. Based on my field research, several types of temporary accommodation were provided, i.e. built, by governments, NGOs and aid organisations for the affected population, though the families may work with the agencies in the design process or the construction of the temporary accommodation. Other types of temporary accommodation necessitate that the users take a more active role in securing their own lodging. However, governments, NGOs and aid organisations have an organisational, managerial and provisional role to play in all types of temporary accommodation.

Before beginning an examination of the nine types of temporary accommodation, I would like to remind the reader that in this paper, I make a distinction between *temporary accommodation* and *temporary housing*. I use *temporary accommodation* to refer to all types of temporary lodging after disasters. *Temporary housing* specifically refers to housing provided by governments, NGOs and aid organisations that are usually constructed with industrialised components and standardised designs and commonly grouped together in settlements that include services and infrastructure.

Turkey case study: prefabricated temporary houses, wooden temporary houses and paper temporary houses

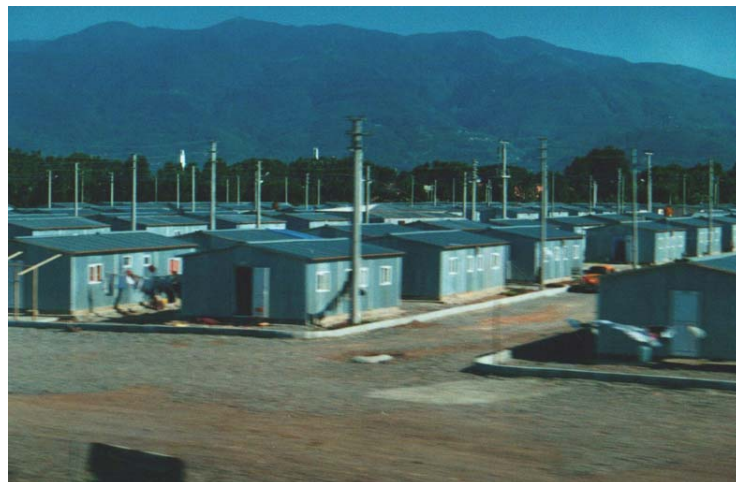
Temporary housing refers to accommodation provided by governments or NGOs to house the affected population for the interim period between the disaster and the reconstruction of permanent housing. This housing is provided as soon as possible after the disaster—yet because of procurement, planning, and construction delays temporary housing can take up to a year to be built. The housing is built using industrialised components and standardised designs. Infrastructure—running water, sewage, electricity, and roads—are included in the settlement and dwelling design. The houses are grouped together in settlements that are serviced by public transportation routes, local businesses, garbage collection services and community centres. Large settlements are managed locally, although overseen by higher management. Governments or NGOs own the land or it is leased by these organisations from private landowners. The housing is then rented or leased to the inhabitant either free of charge or for a fee. Families qualify for temporary housing depending on the amount of damage to their former home and their possibilities of obtaining other

types of housing. Temporary housing is intended to serve as a place for the families to resume their household responsibilities and activities for a duration of two or more years after the disaster. The longevity of the housing largely depends on the quality of the materials used and the quality of the infrastructure. Typical prefabricated metal or fibreglass houses, or quality wood or vinyl houses can endure several years while cardboard or low-quality wood houses may only last two or three years.

All villages, towns and cities in Turkey that were affected by the 1999 earthquakes participated, in collaboration with the federal government and NGOs, in constructing temporary housing settlements. The settlements are located both inside the urban areas and on the peripheries. They include basic infrastructure for water, electricity and sewage. While smaller settlements within the urban areas have as little as ten houses, larger settlements on the periphery contain up to 1400 units. Larger settlements include amenities such as central squares, play areas, shops, cafés, restaurants, community centres, daycares, medical units, and bus service. Most of the temporary houses have an adequate plot space around them so that the families can make additions to the house as needed, plant a garden, or generally personalize their home.

I found three major types of temporary housing constructed in the earthquake area: prefabricated, wood, and paper. All the units provided by the Turkish federal government are prefabricated (fig. 2). The prefabricated units vary slightly depending on the manufacturer, however they are all built on concrete slab foundations with plumbing and electricity. The units vary in size from 25 m² to 35 m². Units are comprised of one large multipurpose room, a kitchen and bathroom plus one or two bedrooms. Most of the units were manufactured in Turkey, though some were imported from other countries. Each unit was manufactured at a factory and brought to the site for assembly. Although the systems are similar, they vary slightly in size, layout and type of fixtures. In each building, there are two, three or four units back-to-back or side-by-side. Kitchens are supplied with a sink, fridge and stove. Bathrooms include a toilet, sink, shower, and in many cases a washing machine.

Fig. 2: Prefabricated temporary houses in Turkey³



Some of the other units, such as those provided by various NGOs, are constructed on-site with wood (fig. 3). Each dwelling unit is either a freestanding structure, or a two or four-unit building.

³ All photos included in this paper are from my field research in Turkey, referenced as Johnson (2000).

The wood frame units vary in size from 20 m² to 30 m². Each unit is outfitted with a kitchen area and a bathroom.

Another settlement, of particular interest, is constructed using paper tubes (fig. 4). These paper tube houses were also used after the 1995 earthquake in Kobe, Japan. Designed by Japanese architect Shigeru Ban, these structures are one-room freestanding units without plumbing. The buildings stand on a foundation of beer crates covered with plywood. The walls are constructed solely of paper tubes lined up vertically and supported laterally with steel rebar. The paper tubes act as outer walls and insulation; the inside walls are covered in cardboard sheets. The roof structure is constructed using a wood frame and paper tubes, then covered with canvas sheeting. Some inhabitants have fastened tarpaulins to the outside on the paper tube walls to protect the tubes from rain and snow. Makeshift kitchens have been added or constructed inside the buildings by the inhabitants. Two semi-public prefabricated bathroom units service the twenty-unit settlement.

Fig. 3: Wooden temporary houses in Turkey



Fig 4: Paper temporary houses in Turkey



It is apparent that these examples of temporary housing in Turkey positively influences the interim recovery of the population. Each family in temporary housing has a private place where family members can resume their household responsibilities. The plot allows for additions to the house

and personalization of space. The temporary housing is located, for the most part, in a convenient location—close to work, schools, transportation and services—so the families are more easily able to resume their daily activities.

The life expectancy of the units depends on the type of materials used in the construction and this is reflected in the initial cost. The prefabricated units are expected to endure several years with proper maintenance. The wood units will endure less time and the quality of the building will decrease more rapidly. Although the paper tube houses are expected to be inhabitable for up to five years, I suspect that their quality will deteriorate within two to three years. The life expectancy of the building should be relative to the amount of time they are expected to be inhabited. Therefore, governments, NGOs and aid organisations may choose the type—and hence cost expenditure—of temporary housing based on the amount of time they expect the houses to be inhabited for.

It is ideal if the life expectancy of the housing matches the length of tenure available for the land the housing is built on. For the most part, the longer-lasting prefabricated units are located on government-owned land on the periphery of the city. The shorter-life wood units and paper units are located within the city limits and are built on land leased from private landowners. As one might expect, I found that the families living in the paper units made less permanent-looking additions and spent less time and money on the beautification and personalization of their property. The reason for this was that they were likely to be forced to move to a new location in the near future. Therefore, if the tenure at a certain location is intended to be for less time, for example, because of land ownership reasons, the expenditure on temporary housing at that location should be less than the expenditure at a location that is available for a longer-term—such as government-owned land. This is true both for governments, NGOs and aid organisations planning temporary housing and for families inhabiting the housing.

The use of temporary housing results in at least a three-stage housing process after the disaster—temporary shelter, temporary housing and permanent housing. It takes several months (and even up to a year) for the process of procurement, planning, and construction of temporary housing, so the population will need to reside in temporary shelter in the meantime. Once living in the temporary housing, the population will need a permanent housing solution before they can vacate the temporary housing. From the perspective of recovery, this three-stage strategy is beneficial because families have the best housing solution possible throughout the various stages of the recovery process. However, it is expensive. As the United Nations (1982) points out, temporary housing amounts to rebuilding twice over: the construction of the temporary housing plus the later construction of permanent housing. Depending on the disaster-stricken country, the quality of the temporary house may exceed or be equal to the quality of the pre-disaster housing. In these cases, often the temporary housing becomes permanent housing because there is insufficient money or resources to build enough permanent housing for everyone. If this ‘permanency’ of temporary housing is foreseen and planned for, it is not necessarily negative. However, the quality of the house and the infrastructure, as well as the location and placement of services must be planned from the outset with the inevitable possibility of permanency in mind.

Also, temporary housing can delay the permanent reconstruction because the process of temporary housing consumes the money, resources and time of the organisations assigned to the local disaster-affected region. Yet, if too much time passes before the reconstruction process is completed and people are forced to live in dilapidated temporary housing, this can negatively affect their recovery process (United Nations 1982).

Turkey case study: winterised tents

Winterised tents, although typically thought of as *temporary sheltering*, can be used over the longer term as *temporary accommodation*. Governments, NGOs and aid organisations provide them for

disaster situations where the climate dictates the need for more protection from the elements than just regular relief tents. In Turkey, relief tents were provided immediately after the earthquake. These were replaced a few months later by winterized tents, which offered a warm shelter from the elements the first winter after the earthquakes. In the spring, as temporary housing became available, the majority of the winterised tent residents were moved into temporary housing. However, during my field visit ten months after the earthquake, many settlements of winterised tents still existed and were being inhabited by those who had not yet secured temporary housing (fig. 5).

Winterised tents are made with waterproof fabric and metal structure with a floor and insulation. They usually have a few soft plastic windows and regular framed door. The winterised tents in Turkey were provided by the Turkish military, and therefore resembled military tents. This type of accommodation does not include a kitchen or a bathroom, but they may be connected to electricity. They are erected in settlements or distributed to families who may erect them near their damaged home. In Turkey, most of the winterised tents were constructed in settlement clusters, however some were distributed to families who erected them on or near their property. Many of the families in the settlements built a simple kitchen addition for home cooking (fig. 6). Semi-public prefabricated bathroom units were provided, and one bathroom unit would serve several families.

Fig. 5: Winterised tent settlement in Turkey

Fig. 6: Winterised tent additions



From the perspective of recovery, the winterised tents in Turkey allowed the families a moderately comfortable private space where they could resume their daily activities. With the addition of a kitchen, the families could prepare their own food and no longer had to rely on aid organisations for meals. I visited many families who were still living in the winterised tents during the summer when I was there. Ventilation in the tents was not the best, so families spent much of their time outside under makeshift covered verandas near the tent. The families, who erected tents on or near their property, would use their damaged home for living and cooking and would sleep in the tent, where they felt it was secure from the potential danger of another earthquake.

In the reconstruction continuum, winterised tents can serve as what Quarantelli (1995) refers to as both *sheltering* and *housing*. In Turkey, winterised tents were erected to serve only as temporary shelter before the temporary housing was built. If they have been stockpiled, they are relatively quick to arrive and easy to set up. Families can take part in erecting their tent. If there is enough space around the tent to build a simple kitchen and a veranda, the winterised tent can serve as temporary housing. Of course, the winterised tent will not work as well if it is to be a temporary

housing solution over the medium to long-term, like two to ten years. However, I observed that these tents could suffice as temporary housing in a situation where the permanent reconstruction takes place soon after the disaster—within one to two years. If permanent housing will be available quickly, the population can stay in winterised tents, since it is less costly and resource-consuming than temporary housing, yet they allow the families to shelter from the elements and to have a private place to resume their daily activities.

Turkey case study: user-built shelters

There are many examples of user-built shelters that serve as temporary accommodation. Families erect user-built shelters using recycled materials or materials distributed by NGOs and aid organisations, such as wood, plastic sheeting and corrugated metal sheets (fig. 7). Usually there is no infrastructure—electricity or running water—unless the family is able to connect them somehow.

In Turkey, many families built shelters on their property or near their former home (fig. 8). The shelter serves mainly as a place for sleeping while other household activities take place inside the damaged home. Families did not want to sleep in their damaged home because they feared another earthquake would come at night and harm them when they were sleeping. The first earthquake on August 17th occurred at night and many thousands of people died because they were sleeping and therefore did not feel the first smaller tremors that occurred before the large one. Had the earthquake come during the day, many people would have felt the pre-shocks and they would have left their home to a safer location. Because of this, families felt it was safe to be in their home during waking hours, but preferred to sleep in the self-built shelter, where they believed they were out of harm's way.

User-built shelters are inexpensive from the perspective of provision because governments, NGOs and aid organisations may only need to provide materials. There is no cost or time associated with procurement, planning and construction. Families must have land available near their former homes to build the shelters. Because families are located helter-skelter and are not organized in settlements, it may be harder, however, to deliver other types of aid, such as food and hygiene kits, medical and psychological support and social programs.

Fig. 7: User-built shelters in Turkey



Fig. 8: User-built shelters near damaged apartment buildings in Turkey



Like winterised tents, user-built shelters serve as temporary shelter and can serve as temporary accommodation if the reconstruction process occurs soon after the disaster. Leaving temporary shelter and accommodation up to the people allows governments, NGOs and aid organisations to dedicate more time and resources to permanent reconstruction. But, if the reconstruction process lags for whatever reason, there is a risk that the shelters may remain too long and develop into slums, which may hinder recovery in the long-term.

Other case studies: mobile homes

The examples of mobile homes as temporary accommodation come from case studies of American disasters (Bolin 1982 and Bolin and Stanford 1991, 1990). The United States Federal Emergency Management Association (FEMA) provides mobile homes or trailers as temporary housing if the disaster is declared as a national emergency. Typically the families are loaned the units for six months while they rebuild their permanent home, however this may be extended if the situation warrants. After the loan period, the units are reclaimed by FEMA, stored, and re-used for the next disaster.

The mobile home units include a kitchen, bathroom, common area and one to three bedrooms. They are heated and have running water as long as they are connected to an infrastructure system. In the case of the likelihood of high winds, the units must be secured to the ground. If the recipients are landowners, the mobile homes are placed on the family's property. If the family does not have land, the units are placed on leased or government-owned land in settlement clusters or in existing trailer parks. FEMA provides the unit, and it is the responsibility of the local government or family to secure infrastructure for electricity and water.

From the perspective of recovery, the mobile homes allow a private place for the family to resume their household responsibilities. If the unit is located on the family's property, the family does not suffer from any relocation inconveniences, and they can oversee the reconstruction of their home.

On the reconstruction continuum, mobile homes serve the purpose of temporary accommodation only. The mobile homes are quick to arrive and install in the needed location. Depending on the locale of the disaster in relation to the storage location, the units can be made available within a couple of weeks after the disaster. The provision of mobile homes does not hinder the reconstruction process because they arrive as self-contained units; they do not drain construction, management or planning resources in the disaster-affected area. In the American example, there is

little risk of mobile homes becoming permanent, since FEMA has a strict policy of reclaiming the units as soon as possible. FEMA's strict reclamation policy pressures the families to find a permanent housing solution quickly. In past cases, it was found that families who had less money to build their permanent home inhabited the mobile units longer. If the family had to rebuild their home themselves or rely on kin or friends to help them, it generally took longer to rebuild than if the family was able to hire contractors to rebuild their home. Therefore, they would end up living in the temporary mobile home units longer.

Other case studies: public facilities retrofitted as lodging

In many disaster situations, public facilities, such as schools, community centres and hospitals are used as *emergency* and *temporary shelter* immediately after the disaster. Families are given floor space in a public facility to sleep and to keep their belongings. Governments, NGOs and aid organisations look after the management of the facilities as well as the provision of food and other aid. In some cases, families with no other place to go will stay in the public facility well into the *temporary accommodation* phase. That is, they will begin working, going to school and generally resuming their daily activities while still residing in the public facility. Harada (2000) documents the use of public facilities as lodging after the 1995 earthquake in Kobe, Japan.

Public facilities retrofitted as lodging work well as emergency or temporary shelter; however, they have serious drawbacks as temporary accommodation. Public facilities do not offer a great deal of privacy for the families, even though as time passes, families will make adjustments to their space, such as hanging curtains, to create more privacy (Harada 2000). Management often imposes curfews for the residents to maintain calm at night. Since families do not have a place to prepare meals, the management organisation must provide meals for the residents. Meals are usually served at specific times and people must be available to eat at those times. While this is considered normal behaviour for a short while during the temporary sheltering stage, it can become a problem during the temporary accommodation stage, since it does not allow the families to regain responsibility for their daily life. It has been found that the longer people must rely on outside aid, the more difficult it is for them to be rehabilitated (Ellis and Barakat 1996). Over time, people lose their drive and tend to become despondent if they do not have control over basic things such as meals and the time to return home. In extreme cases, such as after the 1999 floods in Venezuela, this can lead to violence and even to drug abuse (IFRC 2001).

The benefit of using public facilities as temporary accommodation is that it pressures governments, NGOs, aid organisations and families to find a more permanent housing solution quickly. The families will either pressure the agencies to help them or they will take care of the situation as best they can themselves. It is, however, dangerous when people are left in public facilities without prospects of finding other housing, or with no voice to influence those agencies that can help them.

Other case studies: homes of family and friends

Little formal documentation exists as to the use of family or friends' homes as temporary accommodation. While we know that many families often stay with other family members or friends after a disaster, it is difficult to estimate how many people do this and for how long. However, Bolin (1982), in a study on long-term family recovery from disaster, finds that while people will often stay with friends or family for emergency and temporary sheltering, they prefer to have their own dwelling during the temporary accommodation stage. He interviewed people living in FEMA-provided mobile homes in the United States and found that they were relieved to have the mobile home because it meant that they didn't have to impose on someone or depend on others for their accommodation. While this may be true in the post-disaster situation in America, this may not be true in other countries i.e. people may feel more comfortable staying with family or friends than living in another type of temporary accommodation. However, this point is uncertain.

From the perspective of provision, staying with family or friends is certainly inexpensive. It also allows governments, NGOs and aid organisations to concentrate funds and resources toward reconstruction activities.

Other case studies: rented apartments

If, after a disaster, there remains an undamaged stock of apartment housing that is available, governments, NGOs and aid organisations may lease the apartments and offer them to the families whose homes were damaged. Usually families will be given an allowance by these organisations to offset the cost of the rental while their damaged home is being rebuilt. This is an ideal situation; families have a private place to reside while they recover and it does not necessitate the construction of temporary accommodation. Therefore, families and agencies can focus on reconstruction activities.

6. Conclusions

To conclude, I would like to reiterate the important points covered in this paper. These are: the ‘gap’ of time between relief and reconstruction; the role of temporary housing in the post-disaster recovery process; the different amounts of durability of different types of temporary accommodation; the role of governments, NGOs and aid organisations in the process of temporary accommodation; and the temporary accommodation types in Turkey.

After many disasters, there exists a ‘gap’ between the immediate relief phase and the later reconstruction phase. In the immediate aftermath of a disaster, relief aid is poured into the affected region to help people cope with the crisis. Later, post-disaster reconstruction programs help to rebuild the communities and ultimately increase the level of development in the region. However, in many cases, families affected by disaster do not receive proper support in the interim between these two phases; they effectively fall into the ‘gap’ between relief and reconstruction. I illustrate this point by using a quote from the Red Cross World Disaster Report 2001: “There is a financial gap in international aid. Relief funds need to be spent within three months, pressuring agencies to pursue short-term projects. Emergency aid has media impact and quick, tangible results—therefore attracting funds rapidly. Later on, long-term recovery projects bring measurable development and lucrative contracts. But transitional aid had less appeal, more complications and therefore attracts less funding” (IFRC 2001).

Temporary accommodation is an integral part of the recovery process. It gives families a safe and private place from which to resume their daily activities and to so quickly after the disaster. It is a place for families to restart their lives and ultimately benefit the recovery of their economic, physical and emotional well-being. If families do not have access to adequate temporary accommodation—accommodation that allows them to resume their daily activities—it may affect their recovery in the long-term and therefore the recovery of the region as a whole.

There are at least nine different types of temporary accommodation that are commonly used after disasters. Each type differs in physical form, in cost, in ability to aid recovery, and in procurement, planning, and construction time. Types of temporary accommodation will vary in their appropriateness depending on the particular disaster’s characteristics.⁴

Different types of temporary accommodation have different levels of durability, i.e. some types will endure longer than others. It is ideal if the durability of the temporary accommodation matches the amount of time that it is needed for. For example, if the temporary accommodation will only be needed for two years because permanent housing will be available within that two

⁴ Please see part 2 “Planning considerations for temporary housing,” for a more detailed explanation. This paper is available on the I-Rec website at www.grif.umontreal.ca

years, there is no need to build temporary housing that will endure five to ten years. On other hand, if adequate numbers of permanent housing will not be completed until five to ten years after the disaster, the temporary accommodation must offer decent shelter until that time. Matching the durability of temporary accommodation to the amount of time it will be needed helps to maximize the time and monetary resources of governments, NGOs, aid organisations, and the affected families.

Governments, NGOs and aid organisations have an organisational, managerial and provisional role to play in all types of temporary accommodation. Some types of temporary accommodation, like temporary housing, winterised tents, mobile homes, and public facilities retrofitted as lodging, are almost completely provided by governments, NGOs or aid organisations i.e. they are funded, planned and constructed *by* these organisations *for* the affected population. However, the families may work with the agencies in the design process or the construction of the temporary accommodation. Other types of temporary accommodation, such as user-built shelters or homes of family and friends are found or built by the families themselves. Here, the families take a more active role in securing their own temporary accommodation. However, agencies can take a role in helping families to build or find a place to stay. For user-built shelters, they can provide families with construction materials and help them to learn safe methods for construction.

The agencies in Turkey opted for a three-part housing strategy to house the more than a quarter of a million people made homeless from the 1999 earthquake disaster. This strategy included temporary shelter in the form of tents, temporary accommodation in the form of temporary houses and winterised tents, and permanent reconstruction. During my field research in Turkey, I found several types of temporary accommodation. Some, such as prefabricated temporary houses, wood temporary houses, paper temporary houses and winterised tents, were provided in settlements by the government, NGOs and aid organisations for the affected population. Other types of accommodation, such as self-built shelters, were constructed by the families next to or near their damaged home.

As this paper constitutes Part 1 of a 2-part series, the above conclusions are linked to a detailed analysis of planning considerations and to an overall conclusion.

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