

# Strategies for the Reuse of Temporary Housing

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Providing sustainable temporary housing, notably in the disaster/crisis situation, depends on the ability to reuse units in a *second life*. Housing, even in a temporary location, is one of the main factors that can help a family re-establish a sense of normalcy in their lives in a chaotic and unpredictable post-disaster situation. However, temporary housing projects have been proven problematic in the long-run; what can be a valuable resource for the community often becomes a headache due to a lack of strategic design for sustainable outcomes for the units once they are no longer needed as *temporary housing*.

Temporary housing is defined as a place where families can re-establish household responsibilities and daily activities for an interim period until a permanent housing solution can be found.<sup>1</sup> It is acknowledged that temporary housing during a crisis has many similarities to that of the post-disaster temporary housing; however, this paper deals specifically with the post-disaster situation. Temporary housing has occurred after most recent large-scale disasters,<sup>2</sup> and the type of temporary housing varies from very basic shacks or distributed materials that are placed alongside the damaged properties, to the construction of temporary *suburban* settlements including all the necessary amenities and infrastructure.

Problems of sustainability in current temporary housing practices temporary housing can promote the success of the overall reconstruction process because it enables families to begin immediate recovery while allowing adequate time for proper community planning to reduce risk and increase sustainability for future construction. However, due to their nature, formal temporary housing projects (see footnote 1) are an extremely unsustainable form of housing because major investments are made in units that will only be used for a short amount of time (typically planned for six months to three years of use). Even though temporary housing is intended only for short-term use, the ensuing housing crisis in most post-disaster areas means that temporary housing has a great likelihood to become permanent, unplanned housing for the lowest income residents.

The research conducted seeks to understand how the permanence of temporary housing, or what we may call the *second life* of

temporary housing, can actually be a sustainable practice, 1) economically, in terms of getting a longer life out of the upfront investments in temporary housing; 2) environmentally, by recycling buildings, building parts and rational use of land near the city; and 3) socially, by providing much needed low-cost housing to the market.

Based on the case study of the temporary housing program in Turkey, this paper looks at the long-term outcomes (four years after construction) of four temporary housing projects in Düzce, an earthquake affected town. It asks: what happened to the temporary housing once it was no longer used for disaster affected families? Which outcomes are the most sustainable, especially in addressing housing needs and rational urban planning? What sorts of design and planning considerations are needed?

## Building Responses to The 1999 Earthquakes in Turkey<sup>3</sup>

In August and November 1999, two large earthquakes devastated the industrializing urban regions to the east of Istanbul, including Izmit, Yalova, Adapazarı, Düzce, and Bolu. Almost 18,000 people died, many more were injured, and 250,000 people were made homeless.

In response, the government, aid agencies, and non-governmental organizations (NGOs) initiated a housing strategy requiring three distinct sequential stages of building. These were: 1) emergency tents and winterized tents put up and managed by the Red Crescent and the Military that were used for the first year as houses, schools, and other types of facilities; 2) temporary housing provided by the Turkish and foreign governments, international and local NGOs; and 3) permanent housing built through international loans by the government and also smaller projects by various NGO groups. These formal responses to housing needs were also accompanied by many informally or privately built responses initiated by the affected families. Temporary Palaces - Geçici Saraylar

The temporary housing program included the provision of 40,621 housing units; 31,339 units provided by the government and 9,282 units by NGOs in 136 settlements throughout the earthquake-affected region, ranging in size from 20 units to 2,000 units. Designs for the various government-built settlements were similar as they were procured through a centralized public tendering process, whereas NGO projects varied from rudimentary wood or paper shacks to slick factory produced units with separate bedrooms, kitchens, and bathrooms.

Even though the temporary units were small and offered very basic accommodation, families were grateful to have a place to call home after spending several months in tents or makeshift shelters. Residents affectionately referred to the temporary houses as *geçici saraylar* or *temporary palaces*— and treated them as their own. Many families were forced to migrate to another town to find temporary housing, and often the locations were far from the city or their former home; nevertheless, 95% of the houses were lived in. Neighborly

<sup>1</sup> E.L. Quarantelli, "Patterns of shelter and housing in US disasters", *Disaster Prevention and Management*, Vol. 4, No. 3, 1995, pp. 43-53.

<sup>2</sup> For example, formal temporary housing projects, meaning that units are specifically built by governments or non-governmental organisations (NGOs) for the purpose of temporary housing, have been implemented in: Thailand (2004); Bam, Iran (2003); Izmit, Turkey, (1999); Armenia, Colombia (1999); Kobe, Japan (1995); Florida, United States (1992); Loma Prieta, California, United States (1989); Kalamata, Greece (1986); Mexico City, Mexico (1985); Friuli, Italy (1976); Lice, Turkey (1975); Managua, Nicaragua (1972); Skopje, Macedonia (1963). However, after all disasters, families will use some kind of temporary housing which may or may not be formally provided temporary housing. Informal types of temporary housing include: building own shack, staying with relatives, renting an apartment, or staying in a hotel/resort.

<sup>3</sup> The material used for this paper was collected through field research using interviews and observations during various visits to the earthquake-affected region and to Düzce between 2000 and 2005.