

Science for Environment Policy

Rebuilding the physical and social environment following natural disasters

In the aftermath of natural disasters, displaced communities require temporary accommodation. A new study has examined how the built environment of these temporary communities influences their recovery and resilience, using accommodation set up after Hurricane Katrina as a case study. It highlights the importance of developing transitional built environments that consider the social and mental health needs of a community.

Natural disasters, such as floods, hurricanes and earthquakes, often destroy residential and community structures. This can damage the sense of community and exacerbate problems for vulnerable individuals, such as the elderly, unemployed and those with a low income. The study explores the potential for the design of transitional housing to ease the effects of disasters on communities.

Observations of post-natural-disaster activities indicate that attention needs to be paid to both rebuilding the physical infrastructure and restoring the social structures and mental health of a devastated region. These should not be addressed separately, but through collaborative initiatives that consider both sets of community needs. For example, initiatives should not only provide clean water, shelter and warmth, but also areas for social interaction and safe-play zones for children.

The effects of different types of transitory housing could be seen in the accommodations set up after Hurricane Katrina in the USA. A number of different accommodations were provided, ranging from tented camps to caravan parks, to housing on cruise ships.

It became apparent that the accommodations that provided opportunities for social contact, safe-play spaces and social monitoring developed a greater sense of community and improved mental health. For example, tented camps appeared to foster a better community atmosphere, compared to the cruise ships where there were family conflicts and outbursts. This was despite the fact the cruise ships provided good facilities for nourishment and comfort. The caravan parks experienced even more problems as little planning was given to the interaction of inhabitants in these spaces, and children could only gather in pathways used for vehicle access. Another influential aspect on community wellbeing was whether original communities were kept intact when they were moved.

Two other housing alternatives provided a better solution. The so-called 'Katrina cottages' were placed on former home sites and arranged in courtyards to foster social interaction. Another alternative was incremental/progressive housing that built a core structure containing a living area and food preparation area that could be expanded according to the occupants' needs.

In order to put appropriate transitional housing in place, the study suggests the use of the 'charrette process' which allows for both physical and social restoration following a disaster. It involves public input and review, and the result is an evolving series of designs, rather than a static imposed plan. Its main consideration is environmental impact, but this can be supplemented with an assessment of mental health, physical health and vulnerable group impact. Local and regional authorities could familiarise themselves with the charrette process to help assign evacuees to the increasing range of temporary housing options in a way that preserves social and mental health, alongside environmental protection, the study suggests.



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