

## **Multi Criteria Decision Parameters in Evaluation of Temporary Housing Units**

Disasters caused by natural hazards or socio-political crises threaten the life of human beings and pose substantial challenges for communities. Damage on built environment, mass migration, homelessness, destruction of social life are some of the issues that the communities have to confront with when mitigating a detrimental disaster.

Considering the institutional context of the disaster management, the structure takes the responsibility of the incident into two main bodies: relief oriented and development oriented approaches. While relief oriented body aims to reduce or prevent the loss of lives with short-term humanitarian assistance, development oriented body defines its frames as long-term assistance with respect to economic, social and physical structures. Among this multi-institutional and branched structure, decision making and taking action are squeezed between these two main contradictory approaches: short-term necessities and long-term requirements. Although the aim and the principles of disaster management is relatively well-defined, the situation of chaos constrains the decision makers to improvise the post-disaster activities in a rush due to the absence of up-front planning. This usually directs decision makers to apply “fast and frugal heuristics” for deciding urgently in post-disaster phase. Moreover, the restricted time may result in focusing on only one and perhaps subjectively selected attribute of the problem so that remained attributes such as social, environmental and economic objectives could be overlooked.

Architectural design inevitably involves a decision-making process since the responsibility of architects is to convert the design problem into a well-structured quest for the given input variables such as location, climate and culture within a certain time. In this respect, temporary housing is one of the most contradictive architectural design problems as it has a crucial role on the recovery period of community by completing not only the physical reconstruction but also the psychological rehabilitation until the ordinary daily life has been get back on the rails. In current practice, to overcome sheltering problem of victims, ready-made or instantly developed temporary housing units are applied by top-down decisions. Nevertheless, temporary housing projects that are evaluated with ad hoc decision making approaches generally yield various social, environmental and economic problems. There are several studies in literature that investigate cases where the temporary housing failed to meet the instant and/or future needs of the habitants or have negative environmental effects. This paper presents an alternative approach for choosing optimized

temporary housing units not only based on a limited concept but also based on an extensive concept related with architectural design. This alternative approach introduces a Multi-Criteria Decision Making (MCDM) model for decision-makers evaluating the optimum temporary housing design alternative very quickly provided that all essential attributes of the problem such as production technique, material, modularity, cost, and sustainability have been worked in pre-disaster phase. However, studies on this topic in the literature is very limited. Besides, investigating the potentials of multi criteria decision methods in temporary housing projects and in particular the evaluation criteria, the model considers time and space constrained conditions and necessities in a systematic and swiftly way. In this perspective, we believe that such decision-making models configured with well-defined criteria can be very useful in post disaster temporary housing evaluation.