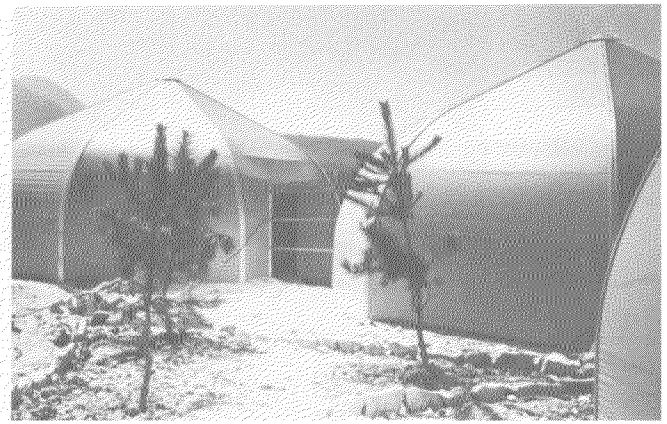




Adjacent to the El Coyotepe campsite in Masaya, Nicaragua, following the 1972 earthquake the West German Red Cross donated 500 polyurethane igloos. Although such units only take two hours to fabricate, it took 148 days for the first igloo to be occupied due to logistical problems as well as difficulty in obtaining a site with approval to build. Approximately 30 per cent of the igloos were occupied despite the fact that there were no rent charges.



Basilicata/Campania earthquake, southern Italy, 1980 Six months after this earthquake a wide variety of temporary accommodation had been provided. The upper photograph indicates aluminium and stretched plastic sheet housing donated by the Provincial Government of Alberta, Canada. The Commune of St Angelo de Lombardi decided to use the units as accommodation for a school to teach craftsmen how to repair the sculptures and works of art destroyed in the earthquake.



El Coyotepe, Masaya, Nicaragua. Fifteen months after the igloos had been built, families had already made extensive additions/modifications. Note the rectangular profile of the additions, to suit local building traditions, in lieu of the alien circular form. Since the igloos could easily be cut they proved very easy for such additions to be made.



The lower photograph is a typical scene in most of the Italian towns that suffered in the earthquake. Caravans came from all over Italy and Europe to serve as emergency accommodation. Most were on long-term loan pending the building of temporary housing.

(d) In the poorer disaster-prone developing countries, donor shelters have consistently cost more (by any standard of comparison) than traditional structures.

(e) The bulk of shelter provision following a disaster is provided and built by the survivors themselves. Even in cases where emergency shelters have been provided by external groups, most have arrived and been erected long after the emergency period.¹⁶

(f) In the few cases where the shelters have arrived during the actual emergency, they have usually been set up as camps. As already discussed, the evidence indicates that the creation of such camps following natural disasters has a negative impact, creating long-term problems. Indeed, the introduction of emergency

shelter units from the outside often forces relief officials to adopt hastily conceived plans for distribution and erection.

(g) There are cases where imported emergency shelters proved to be of a lower priority than other relief items, especially medical and food items, thus leading to a waste of resources.

To summarize, there may be occasions when emergency shelter units are needed, but in such cases the evidence is overwhelmingly in support of their provision by the government, rather than by external assisting groups.

3. *Standard designs incorporating indigenous materials.* In recent years there has been much interest in the development of designs for emergency shelters using indigenous materials. Most of the effort has centred on

¹⁶ In Nicaragua the Bayer/Red Cross polyurethane igloos were not in use until 138 days after the earthquake of 1972