

B.13 Italy - 2009 - Earthquake

Case study:

Shelter construction

Full case study

Country:

Italy

Disaster:

Earthquake in Abruzzo region.

Disaster date:

April 6th 2009

Number of houses damaged:

23.500 classified as E to F, in other words, uninhabitable.

Number of people displaced:

70.000 homeless.

Project target population:

100 families in one fully destroyed village
 Later developed into a 5 million Euro scheme

Occupancy rate on handover:

100% occupancy on completion. Will be occupied until original houses are rebuilt/ repaired.
 The shelters have a 3 years use agreement but a 'life cycle' of 30 years.

Shelter size:

1-2 people (type A) 45 m²,
 3-4 people (type B) 52 m²,
 5-6 people (type C) 74 m².

Materials cost per shelter:

Total cost: 450 a 800 €/m².

Project timeline



Summary

The organisation used contractors to build three different sizes and designs of shelter for 100 families affected by the earthquake. This was a pilot programme, from which the government designed a programme to house an additional 3475 families. The government led the overall shelter process limiting the inputs of the disaster affected families, whilst the organisation, facilitated discussions to encourage involvement of the earthquake affectees.

Strengths and weaknesses

- ✓ There was strong cooperation between local / municipal authorities, local contractors and beneficiaries to define and develop the project.
- ✓ The first shelters with a design lifetime of 30 years were constructed within months
- ✓ Three different shelter designs were built and allocated based on the family composition.
- ✓ The organisation was able to act as a facilitator between the affected families and the authorities
- ✓ The pilot project was followed by the government's construction of 3475 additional units using a similar programme approach.
- ✓ The government provided all service infrastructure.
- ✗ Most of the decisions were government-led within a very prescriptive legal framework. This limited inputs

by the affected population to suggesting preferences but not to take decisions.

- ✗ The project was limited to 100 families. This was due to limitations in the funds available combined with the high construction costs of the shelters. However the project did cover 100% of the community of Onna.
- There was very strong media pressure to deliver.





Occupied modular housing units
Photo: Agostino Pacciani (IFRC/CRI)

Modular housing units

The organisation undertook a pilot programme to build 100 modular housing units. These units were fully serviced with fitted kitchens, bathrooms and electricity. The government was responsible for all services including roads.

Beneficiary selection

Onna was chosen because it had become the 'symbol' of the Abruzzi Earthquake. It is a village near l'Aquila home to 120 families, particularly affected by the earthquake. 80% of the houses were damaged and 20% of the houses were uninhabitable.

The funding, the identification of the resettlement areas, the project approval process and disbursement mechanisms were all agreed with the national civil protection authority and with the municipal authority.

The organisation working with a local non-governmental organisation set up by the inhabitants of Onna after the earthquake. Together, using criteria established by the government, they formed a list of who should receive the shelters. The list was delivered to the municipal authorities.

The local authorities of Onna were directly responsible for the selection of beneficiaries and their registration. The definitive official list fully respected the list that the international organisation had drawn up with the local organisation and the town's inhabitants.

The organisation facilitated for all of the affected families to have adequate housing, as they were entitled to by law. Criteria and measurable 'indicators' were established to ensure accountability.

Technical solutions

The decision to use timber framed prefabricated shelters was made for the following reasons:

- relatively high budgets were available as the disaster was in an industrialised country
- relatively high cost of labour for other types of construction
- an existing regional industry making prefabricated shelters
- The temporary shelters were prefabricated in the north of Italy, in the province of Trento, where there is a tradition in the construction of wooden homes.
- time pressures: although starting two months after the earthquake, the construction programme needed to be completed within three months (90 working days), before the autumn/winter season.

Three sizes of shelter unit were developed. These were

- 1-2 person units 45m²
- 3-4 person units 52m²
- 5-6 person units 72m²

The total cost of the project for 100 households was five million euros. This included construction, provision of services and infrastructure.

Implementation

The organisation was fully aware that it had no adequate technical expertise to construct shelter to the scale and speed required. As a result it identified an implementing company to construct the shelters.

The organisation needed to ensure that quality standards were achieved, that administrative and legal procedure were correctly followed and that the programme was coherent. A staff of ten people were employed for the monitoring process. They supervised and monitored the programme by:

- Providing continuous technical assistance to anticipate arising problems and overcome bottlenecks that would cause delays.
- Regular visual checks and field visits and by 'remote control' through information management at the central office.

In addition to the construction, the organisation, working with the authorities, ran a public information campaign. This campaign was focussed towards donors to raise awareness on the construction programme. It accompanied activities with web-based updates. The campaign was based on press, media and events. The communication Service, working through the press office, led all the public information programme.

On completion, ownership of the shelters was handed over to the



authorities with the agreement that families would be able to occupy them rent free for three years.

Although the long term for the shelters was not finalised, it was anticipated that the reconstruction and restoration of the historic centre of Onna would take many years. When families do eventually return, these emergency shelters could be re-used as state housing. Alternatively, as L'Aquila has a strong identity as a university town, they could also be used as accommodation for students.



Top and left: occupied housing units
 Bottom right: Units came with fitted kitchens
 Photo: Agostino Pacciani (IFRC/CRI)