Kenya, Dadaab - 2009 - Conflict refugees

Case study: Update - Shelter construction

See A.11, Kenya, Dadaab - 2007-Flooding page 24 for more

Country: Kenya
Disaster: Conflict – Somali refugee influx
Disaster date: Ongoing since 1991. Last update report in 2008
Number of people displaced: Total 250,000 in the camp. 50,000 new arrivals to the camp since 2008
Project target population: Up to 3500 households per year, for an ongoing project
Occupancy rate on handover: 100%
Shelter size: 18m². 6m x 3m interior space
Materials cost per shelter: 480 USD

Summary
Existing construction programmes were continued and scaled up. Following previous years’ shelter activities, a full evaluation of the number of shelters that could be built was conducted. It was agreed that security, logistics, and availability of sustainable materials limited construction to 3500 shelters per year as a maximum.

Strengths and weaknesses
- Environmental issues were given consideration as an integral part of the project
- Beneficiaries were given larger internal space than available in tukul tents
- Longer lifespans of shelters and reduced amount of timber has positive impact upon stresses to the local environment.
- The construction of the shelters has created a complex secondary economy for people such as brick-makers and mouldmakers.
- Innovative projects have been created with sustainable environmental benefits for members of the host community connected with the shelter programme for refugees.
- Shelter type has very good acceptance by the refugee population, with some households making the mud blocks even before being formally registered. A number of shelters have been adapted by the beneficiaries to provide space for a variety of livelihoods.

Project timeline
- 2010 – 3500 shelters planned by the NGO, 1000 further shelters planned by other organisations
- 2009 – Number of shelters per year is 1500
- 2008 – Number of shelters per year is 800
- June 2007 – First mud-block shelters built
- Jan. 2007 – Start of camp extension at Ifo
- Greater numbers of refugees entering camp
- 1991 – Conflict start
Shelter in Dadaab camp

The start of the programme was reported in Shelter Projects 2008. Since 2008, the situation for many families living in Somalia has worsened. At the same time, a small number of refugees from South Sudan have been able to voluntarily repatriate. Consequently, the population of Dadaab camp has increased from 200,000 to approximately 250,000, with an estimated influx of 5000 new arrivals per month.

Although some of these new arrivals are accommodated in extension blocks in new sections in the Ifo part of the camp, other new arrivals have found space staying with families already living in older blocks. This has lead to an increase in density of the population in those areas.

Although there are still high levels of poverty and some degree of child malnutrition in the camp, in general the economy of the camp has developed and increased remarkably since 2007. There are visibly many more stalls in the main markets in the camp, and enterprises employing multiple workers, such as ice factories, have been established.

There are plans for another large-scale extension of the camp in 2010, intended to accommodate new arrivals.

Implementation

Since 2007, the implementing organisation has been able to increase its capacity to deliver 3500 shelters per year. It has also been able to establish depots in each of the sub-camps where it works. These depots include large spaces for the fabrication of concrete latrine slabs.

Families are still expected to produce mud blocks themselves (approximately 1700 blocks per shelter). This ensures a sweat equity component to the programme, and provides the labour resources necessary for a programme of such scale. However, this approach continues to result in unplanned excavation of mud within the camp, with the holes often becoming refuse pits, or mosquito-breeding sites in the rainy seasons.

The mud excavated for the shelter blocks forms only a part of the total mud excavated by the refugees in the camp, but the organisation is aware of the environmental impacts of their programming.

In 2009, the organisation reviewed all elements of the shelter programme in Dadaab. Th aim of this was to create a systematic and holistic approach to reducing the environmental impact of the shelter programme. The maximum amount of shelter support that it could provide per year was definitively agreed. Shelter programming was limited by the organisation’s logistics and the volume of sustainable materials.

Selection of beneficiaries

Selection of beneficiaries is done according to agreed vulnerability criteria. Block leaders are asked to propose a list of the most vulnerable members of the people living in their block. This list is then cross-checked by the organisation.

Technical solutions

In place of the traditional ‘tukul’ tents, or the wattle-and-daub huts, the organisation provides refugee households with support to construct more durable shelters. These are made from mud blocks with roofing made from timber and corrugated iron.

The design uses larger pillars and widened foundations (made with mud blocks) to provide better resistance against flooding. The design is now being reviewed, so that for parts of the camp with a lower risk of flooding the foundation may be made smaller.

Recent pilot projects have been conducted to further reduce the environmental impacts of construction, by investigating alternative, recycled materials. These include poles made from recycled plastic for use in the construction of latrine cabins.

Logistics and materials

Before 2007 it was assumed that mud was an unlimited material. Further investigation of the geology of the area, as well as the land ownership patterns, have revealed that types of mud appropriate for block-making are in limited supply. For a certain proportion of the mud
needed each year, agreements can be made with the local community and local NGOs to excavate water-pans. The excavated mud is used to make the blocks.

For larger amounts of mud, transportation from further afield may be necessary. The organisation has also worked with the United Nations Environment Programme, the Forest Stewardship Council, the Kenya Forestry Service and the private sector to map the potential for identifying sustainable timber sources in Kenya.

In an arid climate, the provision of water for the making of the mud and for the fabrication of concrete slabs for the latrines continues to be a concern. The organisation is currently considering the feasibility of digging bore-holes which would be dedicated simply to the water supply needed for the shelter and latrine programme.

### Materials list

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5m long Corrugated Iron sheets</td>
<td>20 sheets</td>
</tr>
<tr>
<td>Plain steel sheet (door)</td>
<td>1 sheet</td>
</tr>
<tr>
<td>2x2 timber - cypress</td>
<td>102m</td>
</tr>
<tr>
<td>Nails 3&quot;</td>
<td>0.25Kg</td>
</tr>
<tr>
<td>Nails 4&quot;</td>
<td>2.5Kg</td>
</tr>
<tr>
<td>Nails 2&quot;</td>
<td>6 pieces</td>
</tr>
<tr>
<td>Nails 1&quot;</td>
<td>5Kg</td>
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<tr>
<td>Roofing nails</td>
<td>2.5Kg</td>
</tr>
<tr>
<td>Tower bolt</td>
<td>1</td>
</tr>
<tr>
<td>Padbolts</td>
<td>1</td>
</tr>
<tr>
<td>Galvenised iron ridges</td>
<td>4</td>
</tr>
<tr>
<td>Butt hinges</td>
<td>3pcs</td>
</tr>
<tr>
<td>Wood preservative</td>
<td>8l</td>
</tr>
<tr>
<td>Binding wire</td>
<td>1Kg</td>
</tr>
</tbody>
</table>

Shelters under construction in Dadaab. Much of the construction, including making mud blocks, is done by the women. Photo: Jake Zarins