

1 in 7 live in temporary settlements. Estimates by the UN predicts that in 20 years **1 in 3** people will live in an un planned settlement or a refugee camp. **2 billion** people will be urban squatters. (Refugees by numbers, UNHCR, 2005)

The average length of conflicts that cause displacement and prevent return is **14 years**. Average duration of refugee situations is increasing every year. (Norwegian Refugee Council)

14 million displaced are estimated to be at risk of death through violence.

SZ595
Urgent Performance

For most people around the world, living in poor housing conditions and lacking infrastructure, the urgent architectural need is still to fulfill basic housing necessities. This is especially the case for millions of refugees. Having been chased from their land and neighborhoods, they leave behind friends and family, property, and their old communities.

The first relief aid given refugees are often UNs standard tents (see upper left corner.) They are lightweight, simple and cheap, and can therefore be shipped quickly in vast amounts when a crisis hits. Although they are completely unfit for permanent residence, but unfortunately, their use is often far more prolonged than is intended. Climatcal they can get too hot in the summer, freezing in the winter, and get easily blown away or tore down by monsuns or heavy winds. So as many refugee-camps become prolonged settlements, the need for a more permanent solution is urgent. Often little follow-up sheltering is provided, even as many camps grow into local communities with tens of thousands of residents, who are to live and work there for often as long as **15 years**.

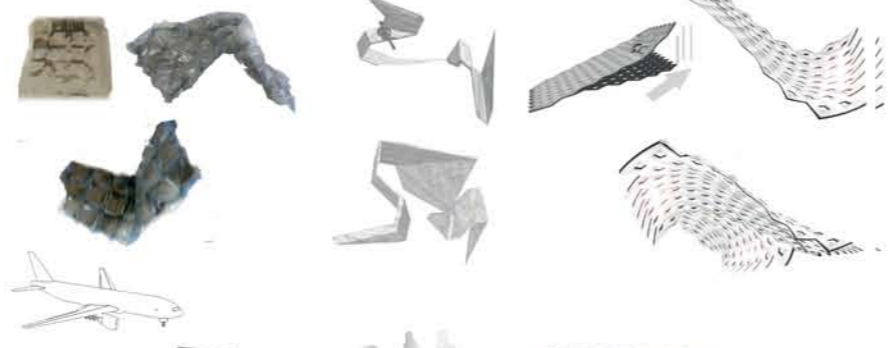
As refugee camps often are cramp and overpopulated - the risk of violence, theft, and physical abuse of women and children can grow intolerably high. Tents cannot provide sufficient privacy or security, and increases these risks.

Refugee camps are highly diverse when it comes to climate, topografi, population and needs, and one standard shape can hardly meet the various needs.

But where resources are scarce, simple easy-to-use design can make a big impact on peoples living-conditions. And by not providing a strict form hopefully this concrete building method adapts to a rich variety of conditions, and is easily combined with local knowledge and materials. By being an open-end design, it empowers the local community and each individual to decide which design they want themselves, and how to best collectively shape their own new neighborhoods.

Problem: To provide cheap, adaptable housing for displaced long-term refugees.
Method: Examinin'g multifunctional, massproduced concrete moulds.
Concept: "instant-concrete" mesh sheets.

Research and Sketches



Logistics

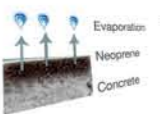
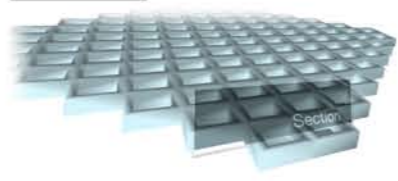


The sheets are transported to the site rolled up. Roll out and position the meshsheet. W. Water is added, either with a pump or a hose and full, until completely full. The volume of the sheet ensures that when full, the water-to-cement ratio is correct, so no measuring needed. Muddy, non-drinking water can be obtained in most regions, otherwise transportation is needed. N. Make sure the mix is properly blended by shaking, walking on or massaging the sheet. Then shapape into desired design and leave to dry.



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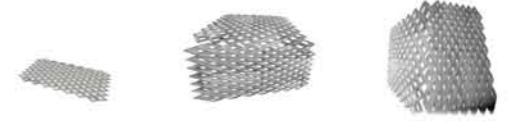
Inside the sheet



Versatility

Slabs

Lay Mesh-sheets flat on any surface, or a slope which gives the desired slabshape



Domes

Either put sheet in an excavation and then turn them up, or prop up to give it the correct curving.



Free-form

Use any method in order to mould and fold as you wish; support it with scaffolding, sticks, roping, or with air or loose elements.



Fences & Walls

Make as slabs, then haul up, and tie or dig into a vault. Then join the slabs.



Landscaping

For simple modifications, like securing a slope, or arching over creek or beck.



Any other method

other uses possible in combination with local knowledge and practises.

Cladding

