



CASE STUDY

SOCIAL HOUSING, OCTOBER 2008



Tsunami Housing Reconstruction Program Nagapattinam, Tamil Nadu, India

Financed by Swiss Solidarity and Swiss Red Cross

Overall Responsibility by Swiss Red Cross

Implemented by SIFFS, India

Backstopping Services by IIDS, India and Skat, Switzerland



PROJECT INFORMATION

Front page:
village of Chinnangudi

top:
the disaster and its implications

background:
overview Tarangambadi
resettlement



The event

The Tsunami of 26 December 2004 was a disaster of unprecedented magnitude and destruction. Nagapattinam in Tamil Nadu, on the eastern coast of India was one of the worst affected districts, and within the district, Tarangambadi and Chinnangudi villages were two of the worst hit. Tarangambadi comprises 1725 households, the majority of which are fisher families. In addition, there are Christian and Muslim families engaged in other occupations. Dalit populations inhabit street hamlets on the periphery of the village.

The severe loss

As many as 304 lives of residents of Tarangambadi were lost due to the Tsunami, of which more than 150 were of young children. It also resulted in complete damage of 904 houses, and partial damage of about 266 houses. A large number of fisher households lost valuable productive assets in the Tsunami. This included as many as 128 fibre boats, and about 200 catamarans. In Chinnangudi 137 houses were completely destroyed, and 131 were partially damaged. The village suffered 48 deaths, 22 of which were children.

The project

The project objective follows a holistic approach. Besides the provision of physical habitat and community infrastructure the project aims at improving the living conditions of the community, particularly disadvantaged persons and minorities. It is also safeguarding against future tsunamis and other natural calamities. New livelihood opportunities were established and local skills developed. Out of 1000 houses constructed, about 250 were built in-situ. 750 families had to be relocated to a reconstruction area provided by the Government.

The road map

- Analysis of damages, sharing them with community
- Habitat mapping, to understand the spaces and people's needs
- Socio-economic survey, to collect information on housing, livelihood, etc.
- Awareness creation amongst villagers on safety, location and construction process
- Construction of 7 model houses to get feedback from community
- Formation of cluster committees to supervise the construction
- Training of house-owners to make them aware of their responsibilities in the construction process
- Training of engineers and masons to ensure construction quality



BUILDING DESIGN

top:
sustainable technologies for
safe construction



The cluster approach

The project was divided into clusters of 25 - 50 houses. An elected committee of five house-owners managed the cluster along with a cluster volunteer. They are aided by a team of project engineers, architects and community development officers. Cluster engineers were trained to make decisions at a micro-level with house-owners to control the details of each house. The project avoided the use of big contractors. The actual construction is done by labour teams who are trained so that quality of construction is ensured.

1000 houses / 1000 designs

The project considered a house as a customized product, which has many cultural, economic, technical and political dimensions. The process of making this product is equally important. House owners had a say in the house they live in and had the freedom to select 1 out of 7 design options. They also choose the details and the different material options which results in a large variety in designs. The building provided by the project was seen as a core unit that can be adjusted and extended by the house owner. By now, every house looks different.

The strategy

The project tried to overcome the typical limitations of mass housing in the early planning stage. The decision to avoid contractors was part of the strategy. Contractors were used to provide labour, while building materials were supplied by the project. Supervision was done by house-owners, cluster volunteers and engineers. This approach called for appropriate technologies well known in the area, e.g. RCC framing and brickwork filling. The quality of construction achieved, and the way people occupied, extended and improved their houses proves that the applied strategy was well chosen.

The challenges

The involvement of the people in the design process, the rights of the poor to have choices, and the allotment of plots before construction were instrumental in creating ownership. However, providing space for all these stakeholders to voice their opinion has necessitated resolving conflicting demands - the administration wanted speedy delivery, the community wanted immediate resolution of conflicts; observers sought no compromise on quality. Introducing a social perspective in the minds of the technical team was met with some difficulty.



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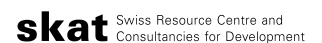
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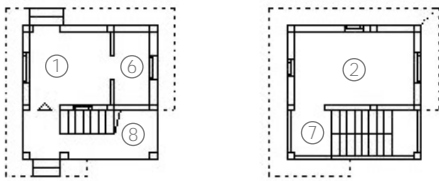
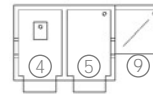
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PROJECT SCOPE

Number of houses built:	1000
Number of villages reconstructed:	2
Plot size 9.15 m x 12.20 m:	m ² 111.60
Built up house area, excluding toilet/bathroom:	m ² 31.60
Built up house area, including toilet/bathroom:	m ² 37.40
Construction period:	2005 - 2008

SEVEN STANDARD CORE UNITS

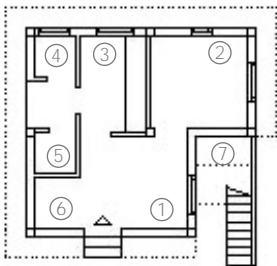
option 3 (two stories)

external unit
toilet / bath / wash

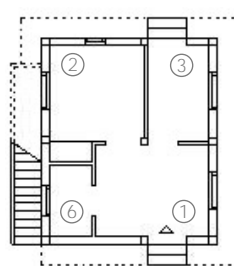
Legend

- 1 living
- 2 bed room
- 3 kitchen
- 4 WC
- 5 bath
- 6 pooja room
- 7 stair case
- 8 veranda
- 9 wash place

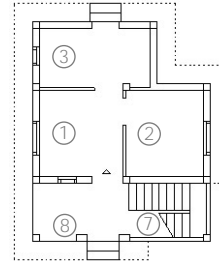
option 1



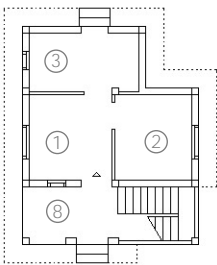
option 2



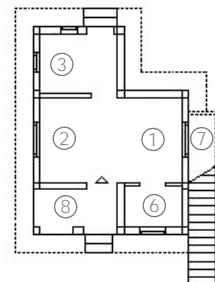
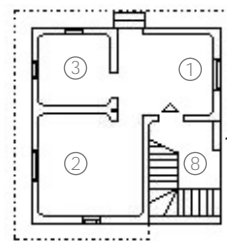
option 4



option 5



option 6

option 7
(earth construction)

BUILDING COST AND MATERIALS USED

Overall costs (infrastructure works):	\$ 6'544'600.-
Cost per house:	\$ 5'577.-
Cost per m ² , excl. toilet/bathroom:	\$ 176.-
Cost per m ² , incl. toilet/bathroom:	\$ 149.-
Foundations (designed for two stories):	concrete
Walls:	R.C.C. columns / bricks
Roof walkable, designed to accommodate 2 nd floor:	concrete slab

Mass housing as a customized product



Fulfilled dreams

To consider a house as a customized product has many cultural, economic, technical and political dimensions. Seven core design options were developed in a participatory process together with the community. All options meet the required quality standards of Swiss Solidarity and the local government with regard to safety, health, space. At the same time they offer immense flexibility for individual extensions in horizontal and vertical direction. The project encouraged and advised the house owners in extending and improving the core units. Most of them have taken the opportunity to respond to individual needs according to their taste and financial capacity and thus build the house of their dreams.



UNIQUE FEATURES

