



CASE STUDY

DOSSIER: SOCIAL HOUSING SH11, 2003



Earthquake Rehabilitation Project Gujarat, India





PROJECT INFORMATION



The Background

On January 26th 2001, an earthquake of intensity 7.9 on the Richter scale hit Gujarat, the western state of India. Immediate relief and long term reconstruction and rehabilitation inputs on a massive scale were needed in response to the immense damage to life and property that was caused. This earthquake exposed the very high levels of vulnerability of the people of this region, not only to earthquakes but also to other disasters such as cyclones, droughts and poverty. This has catalyzed many holistic response packages in the region and similar risk mitigation and vulnerability reduction packages for other regions in the country.

In Gujarat, SRC (Swiss Red Cross) reached the disaster zone within 48 hours of the 'quake, bringing emergency relief. In the longer

Need Assessment

term, SRC proposed to focus on reconstruction of houses as well as water and sanitation infrastructure, accompanied by an information campaign on hygiene measures and livelihood support.

For this purpose SRC with its Indian Program Coaching Unit worked out a project proposal with the Ahmedabad based Mahila SEWA (Self Employed Women's Association) Trust. SEWA is a trade union with a strong operational base in the earthquake affected region. SEWA's goal is to organize women for full employment at the household level as well as for self-reliance. Its activities build on an integrated bottom-up approach. Following the earthquake, SEWA's teams carried out damage and needs assessment within their op-

Disaster Relief Responds

erational area and drew up an inventory of 161 villages to be assisted. 30 villages were then prioritized for reconstruction of 3000 houses. A proposal of SRC was then submitted to the "Swiss Solidarity". The proposal targeted the reconstruction of houses, latrines, community learning centers and water harvesting infrastructure, health education, and support to income-generating activities for 550 households in 3 villages. The fine-tuning of the proposal involved inputs from Skat. The final proposal - for a duration of one year from October 2001 to September 2002 - was finally approved and executed.

The responses to the problems that were identified in the three villages are outlined in bulletpoints below.

Strategic Components

- The loss of permanent shelter was compensated by constructing 550 earthquake- and cyclone-resistant houses.
- To provide health education in the three villages, mainly focusing on hygiene, sanitation and preventive health care. In addition 550 sanitary latrines were installed.
- To meet the need for safe drinking water, rainwater storage tanks, each having a capacity of 5000 liters, were constructed for 550 housing units.
- In order to compensate for the loss of community infrastructure and community-based activities, three community learning centers, each with sanitation facilities, education rooms and open spaces, were built.
- To secure the livelihoods of the artisans, salt farmers and pasto-



Front Page
typical core house unit containing toilet and water tank

Left Page
top left: Map of India showing the epicentre of the earthquake.

bottom left: women asking for food
right: homeless houseowners

Right Page
top: house construction
bottom left: construct training
bottom middle: capacity building
bottom right: village environment; water tank

BUILDING CONSTRUCTION



Planning

realists, some production tools were provided and a revolving fund was created to provide the required working capital.

- 350 additional units are planned

SEWA, with its existing operational structure in villages, incorporated the additional activities by adding on the services of village engineers, and engaging in services of a coordinating engineer at district level and a housing coordinator at state level. Unlike SEWA's ongoing housing processes wherein members access housing loans for upgradation, repairs and new construction of their homes; the earthquake necessitated a large number of houses to be constructed in a short time frame. Given the framework under which SEWA operates, the proc-

Construction Implementation

ess had to be led by the community - in this case the SEWA member families and others who agreed to be "adopted" by SEWA for housing. Also, this process depended on family participation in the forms of labour contributions and of financial contributions to a community development fund.

There was a tension between the time needed for the slow processes of family participation and management, and the urgency of providing housing for the 550 families in 12 months. From SEWA's point of view, there was also the need to consider the needs of the other 27 villages, where houses were being constructed under other programs. Design and construction decisions in one place had to take all the villages into considera-

Participatory Approach

tion, and the overall implications of these decisions weighed before decisions could be made.

An innovative management structure, which included a backstopping component, was put in place. This structure was intended to take advantage of existing knowledge and competencies and lead towards improved approaches and implementation which could be used as examples of good practice. This management structure had a triangular nature, the three apexes being (i) the funding agency, locally represented by its program coaching unit SEWA, (ii) the managers of the implementers (including the householders) and (iii) the technical backstopping team composed of Skat Consulting (in Switzerland and Nepal), represented

Supporting Partners

by DA (Development Alternatives) based in Delhi.

In an attempt to assess responses to Gujarat earthquake against not only short-term issues, the evaluation of the disaster Emergencies Committee used the principles of the Code of Conduct for the International Red Cross and NGOs in Disaster Relief. The evaluation involved major public opinion poll of 2372 rural and urban dwellers. The study concluded that not only was SEWA's response better linked to long-term development concerns, but was also faster, more efficient and better targeted compared to the work of international development agencies. This was in particular because of SEWA's membership structure and, it is argued, because it worked primarily with and through women.



This CASE STUDY SERIES reports on intelligent architecture and best practices concerning economical building systems. These examples take into consideration traditional and socio-cultural aspects as well as the requirements of modern living. The CASE STUDY SERIES comprises three dossiers: Housing, Health Facilities and Educational Facilities.

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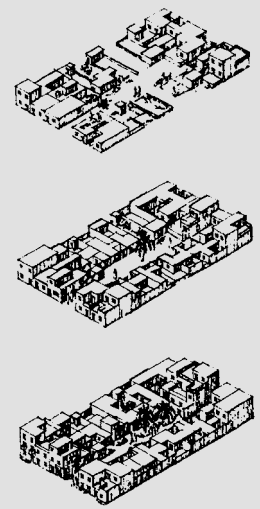
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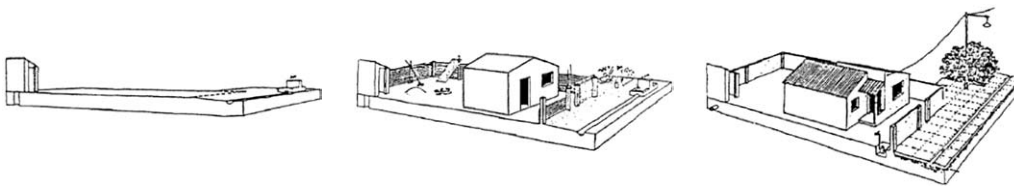
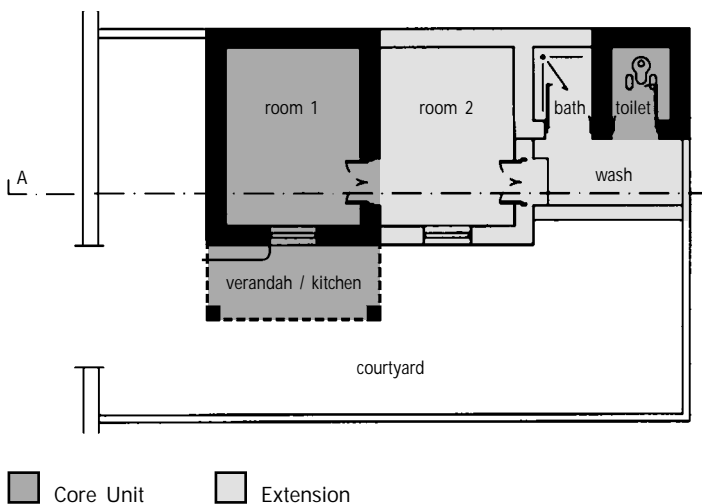
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FUNCTION	Reconstruction
LOCATION	Gujarat, India
PROMOTER	Swiss Red Cross
BACKSTOPPER	DA, India; Skat Consulting, Switzerland
PROJECT IMPLEMENTATION	SEWA, India
YEARS OF CONSTRUCTION	2001-2002

The Concept of Core Housing



Development of housing site depending on financial possibilities of the inhabitants (schematic drawings of the concept of core housing)

PROJECT SCOPE

NO. OF VILLAGES	3
NO. OF HOUSES	550
LIVING AREA PER HOUSE	20m ² (core unit)
OVERALL PROJECT BUDGET	US\$ 1.5 Mio
CONSTRUCTION PER M²	US\$ 40
PRICE PER HOUSING UNIT	US\$ 1000

The concept of core housing or incremental housing has been applied in various low-cost housing projects all over the world. This concept is extremely flexible. The house is planned to be built in steps, according to the individual needs and the financial possibilities of the inhabitants. It is usually started with a minimum sanitary space which is constructed at the beginning. Often a first roofed space follows directly or is built at the same time. The initial elements are conceived in a way that allows them to be used immediately. The arrangement also allows a variety of future extensions to be added to the initial core of the house at any time.

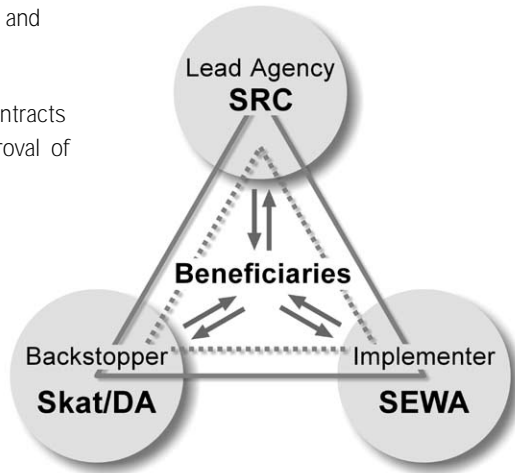
Typically designed for people with an extremely low income, core housing is often built by the residents themselves in order to keep the costs to a minimum. The construction system and construction details should therefore be as simple as possible. The fact that core housing is incremental, means:

- flexibility in costs
- flexibility in time
- flexibility in space
- flexibility in construction method

Core housing is an extremely efficient way in which to develop low-cost housing neighborhoods in a sustainable manner. The concept is ideal for large groups of people with individual needs and wishes such as the communities of the three villages built in Gujarat.

Innovative Management Structure

- Overall responsibility and coordination
- Fundraising
- Issuing TORs and contracts
- Formulation and approval of project strategy



- Monitoring, reviewing and quality assurance
- Consultancy on design and project strategy
- Planning and budgeting
- Advising SRC on periodic disposal of project funds
- Preparation and conduction of workshops
- Capacity building
- Quality control
- Participatory and learnings
- Interaction with community and government
- Drafting and finalisation of project strategy, approach, designs, etc.
- Capacity building
- Construction implementation

Objectives of partnership

The objective of the innovative project management structure was to synergize project management and quality assurance experience with the strengths of a community-based implementation for large scale housing implementation in a limited time frame. The need of partnership was to specifically boost up management capacity in the project considering the limited time and large scale of implementation.

The Principal Task

The principal task of Skat/DA was to ensure technically sound solutions, which met the house owners' needs and preferences. Skat/DA had therefore the mandate and the competence to advise and instruct SEWA directly in the project planning and implementation. Interactions with SEWA always included a contribution towards capacity building. Tailored on the job training was provided to masons and engineers. Skat/DA were directly accountable to SRC. This means that SRC was to be consulted before important decisions were taken, and information about progress in the field was to be reported frequently. Conversely, Skat/DA were to be consulted and informed about technical instructions given by SRC to SEWA. Skat acted as a link for technical issues between SEWA and SRC.

Mechanism

Backstopping support was provided mainly by means of a series of regular missions, during which progress was reviewed, bottlenecks identified. Assistance was given in finding solutions to problems, in planning so that targets were met and in defining responsibilities and plans of action. The backstopping provided significant help by providing troubleshooting guidance and foreseeing possible bottlenecks due to local cultural or climatic conditions and national politics. Perhaps the most critical input was the identification of needs and opportunities for capacity building to boost the skills base and management capabilities.

Two practical (hands-on) training programs for developing masonry skills were conducted. Regular capacity building needs were identified, such as to increase public awareness regarding family hygiene and health, the storage of rainwater, and structural strengthening of houses to improve their resistance to earthquakes.

Lessons learnt

Lesson 1 Holistic Planning Approach

Even during the initial phase of providing emergency aid, it is important to start the planning of the settlement in a holistic way. Reconstruction should not only aim to replace what was destroyed, but to incorporate improvements. Provision of infrastructure including water and sanitation and sizing of plots are essential elements for sustainable growth in a settlement.

Lesson 2 Sustainable Building Practice

Besides the direct value added, disaster relief projects should aim at Sustainable Building Practice by considering social, economical and ecological aspects. This means the interventions have to be in line with the local culture and customs, aiming to provide economic benefits for the local people and to use environmentally sound construction systems.

Lesson 3 Livelihoods opportunities

Sustainable disaster relief project should involve beneficiaries in the construction process by selecting appropriate technologies in order to educate and create jobs. Interaction and hands-on practical work with the local communities creates confidence and builds up a long lasting partnership.

In developing countries the house is very often used as working place. The rebuilt settlement should therefore provide the required facilities for a working society.

Lesson 4 Participative Approach including the beneficiaries

As with development projects, a participative approach is also important in relief projects. A „take it or leave it“ strategy is not sustainable. Beneficiaries need to be involved from the planning stage. Experiences at international level show that in many relief projects this fact is still ignored. Offering design options within the core housing concept helps to create a sense of ownership and allows potential for upgrading according to the economic situation of the houseowner.