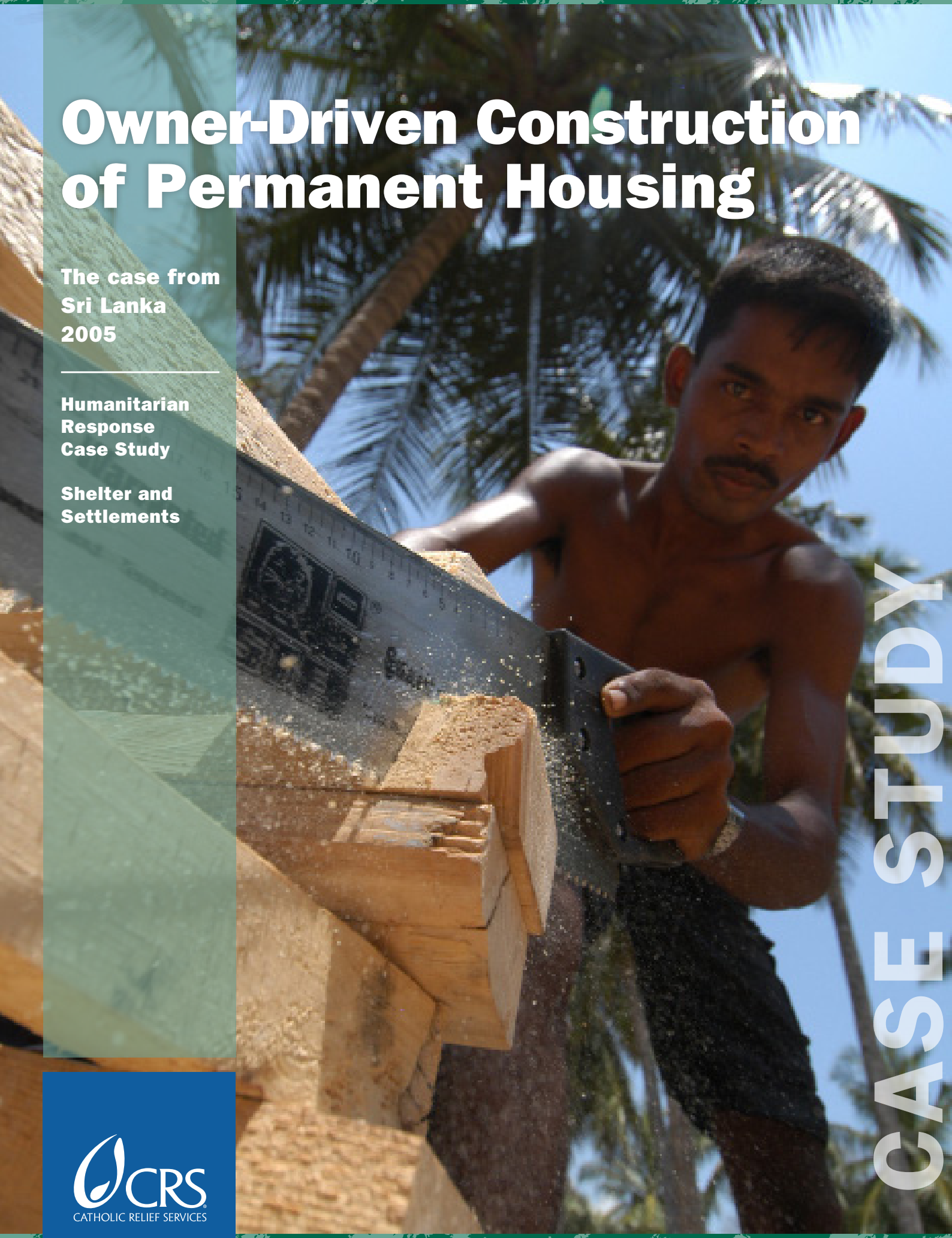
Owner-Driven Construction of Permanent Housing

The case from Sri Lanka 2005

Humanitarian Response Case Study

Shelter and Settlements



CASE STUDY

CRS
CATHOLIC RELIEF SERVICES

The tsunami created widespread destruction in Sri Lanka those people were able to salvage some materials in order to begin the slow rebuilding process. Photo credit: CRS/Mehul Savla

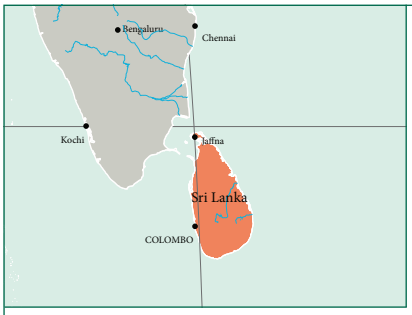
Home owner supervising construction of foundations. Photo credit: CRS/Mehul Savla

CRS/CSL carpentry workshop cutting timber. Photo credit: CRS/Mehul Savla

Compressed earth stabilised blocks (CSEB) were used as a sustainable and cheap construction material in some of the projects. Photo credit: CRS/Mehul Savla

One out of the four different core house designs offered to project participants. They were able to tailor aspects of the house such as colour, door type and so on. Photo credit: CRS/Mehul Savla

Houses featured disaster resistant features including columns, ring beams, plinths, a sill and a lintel. Photo credit: CRS/Mehul Savla



Location: Sri Lanka—Batticaloa, Ampara, Galle, Matara and Hambantota districts
Disaster/Conflict: Tsunami
Disaster/Conflict date: December 26, 2004
Project timescale: 0–3 years
Houses damaged: More than 100,000 houses damaged in Sri Lanka
Affected population: More than 1.6 million people in South Asia; more than 500,000 in Sri Lanka
CRS/Caritas Sri Lanka target population: 20,000 households
Material cost per shelter: Approximately $6,000-9,000 (dependent on approach/ geographic location)
Project cost per shelter: Approximately $8,000-12,000 (dependent on approach/ geographic location)
Project budget: Approximately $104 million for the Special Operational Appeal for Tsunami, funded by Caritas International

OWNER-DRIVEN CONSTRUCTION IN SRI LANKA

Owner-driven construction of permanent housing enabled the program participants to take ownership of their recovery and allowed the community to establish benchmarks in terms of quality/accountability and transparency. Caritas Sri Lanka (CSL) and CRS provided the necessary technical support, but the overall monitoring and quality was undertaken by the community. In Sri Lanka, CSL/CRS decided to shift the modality of construction of the permanent homes from a contractor-led approach to an owner-driven one. Households were "in charge" of constructing their homes, under supervision from the CSL/CRS technical team. Although this was more staff-time intensive, the success of the end results was long lasting. This method of constructing shelters was initially started with 10 widow project participants as a pilot in the Diocese of Baticaloa, and upon the success of this program, was scaled up to the other districts. This approach built the capacity of the local community and provided job opportunities for tradesmen and material suppliers in the area. Successfully implementing a reconstruction program where owners are given the driver's seat in the process and the authority to monitor the quality of construction is a challenge, but it is immensely rewarding for program participants and sustainable in the long term if correctly structured and monitored.

"A community-led, owner-driven permanent shelter program has been a key approach to bridge the most important needs of a safe and secure livable space and livelihoods after Tsunami. The approach empowered the local community to build-on and expand its skills at the same time, injecting adequate resources within the local economy, which acted as a catalyst in rebuilding the community as a whole."

—Mehul Savla, CRS project architect

WHAT DID CRS DO?

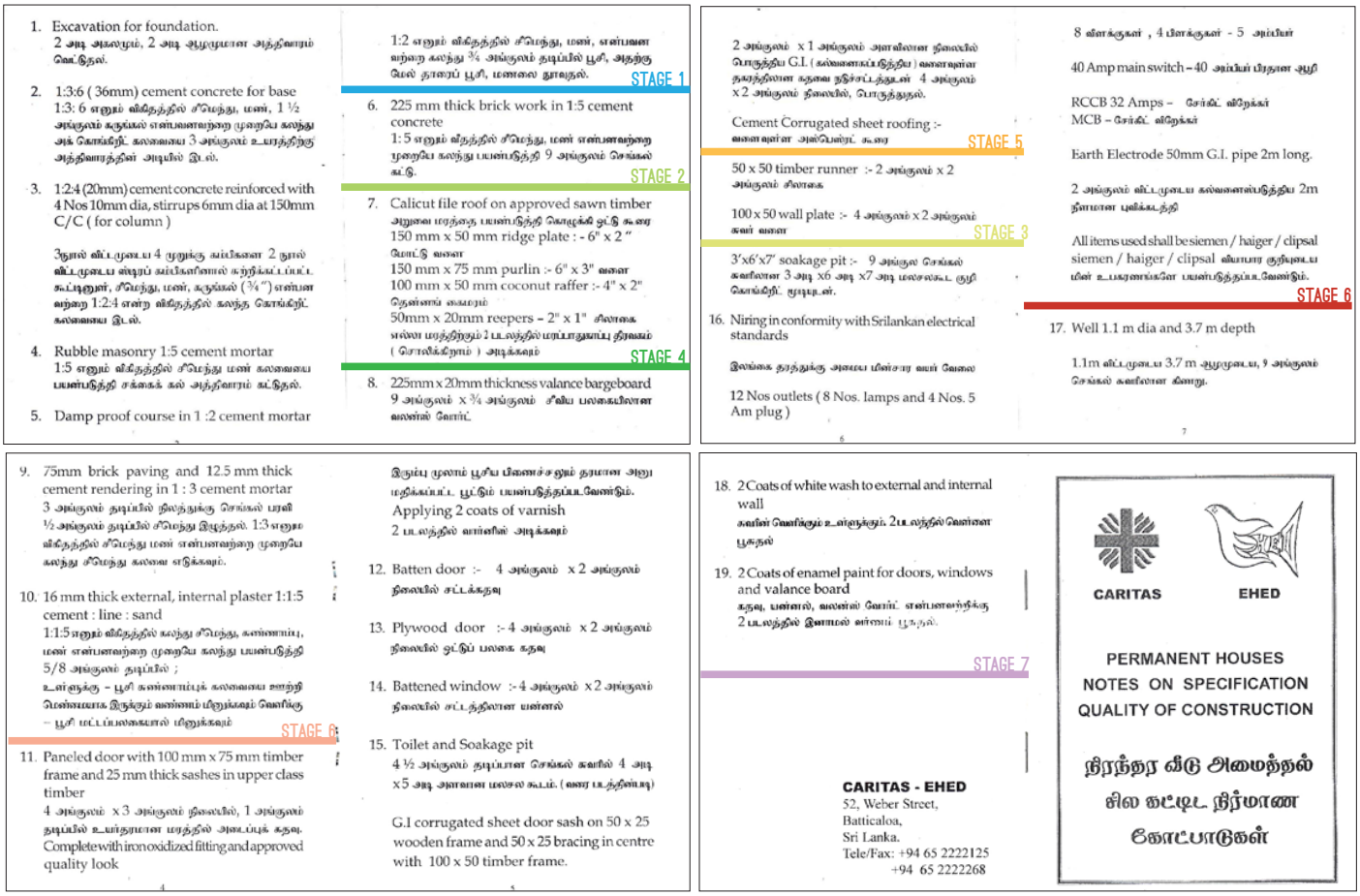
- 12,616 transitional shelters built in the first year.
- 10,713 permanent shelters built within three years after the tsunami.
- Constructed water and sanitation facilities, community halls and rehabilitated schools.

BACKGROUND

On December 26, 2004, a massive earthquake of magnitude 9.0 occurred off the West Coast of Northern Sumatra. The earthquake had a depth of 10km and triggered massive tsunamis that affected 13 countries throughout South and Southeast Asia. Over 1.6 million people were displaced across the region and over 200,000 people killed. In Sri Lanka, the impact of the tsunami and the ensuing flooding devastated a number of coastal areas and the outskirts of Colombo in the west. The coastal strip of land throughout these areas was leveled. As of January 7, 2005, the Government of Sri Lanka reported the death toll as 30,718, with thousands more people missing and injured. 515,234 people were displaced, and 111,681 houses were completely or sufficiently damaged to render them uninhabitable.

PROJECT PRINCIPLES

CSL/CRS aimed to provide a safe and dignified living environment through a phased approach, starting with transitional shelter assistance that targeted 12,616 households included WASH (Water, Sanitation and Hygiene) facilities and community infrastructures (3,000 latrines and 10



STAGE 1: FOUNDATION STAGE 2: SILL LEVEL STAGE 3: LINTEL LEVEL STAGE 4: ROOF LEVEL STAGE 5: ROOFING
STAGE 6: INTERNAL WIRING AND PLASTERING STAGE 7: COMPLETION (PAINTING/ FLOORING)

This booklet was given to home owners Highlighting the 7 key construction stages as shown on the booklet in the local Sinhalese/Tamil. Photo credit: CRS

community centers). After the transitional shelter period, a permanent housing program completed 10,713 houses by the third year. The emphasis on owner-driven construction was motivated by the large number of shelters required and the desire to put the able population in charge of their own recovery.

MODEL PERMANENT SHELTERS

CSL/CRS built four different models of permanent shelter designs. Participating households had the flexibility to move the doors/windows, select the roof type, etc., and a large variety of designs evolved in the process. Program participants, in a few cases, invested additional resources and added extensions or finishing such as tiling or false ceilings. The designs were refined and modified using community feedback and considering local capacity, supply chain and feasibility of replication.

CRS introduced plinth and lintel beams/ concrete pillars as well as anchoring of the roofing to reinforce the structure. CSL/ CRS worked with the community in building local monitoring capacity by disseminating a booklet on specifications such as how the concrete mix should be checked, etc.

SHIFTING IMPLEMENTATION APPROACH

For the construction of the permanent shelters, CSL/CRS shifted the approach to implementation from a contractor-build to an owner-driven approach. This was essential as the contractors were not performing to the agreed quality nor keeping to the time lines; furthermore, local laborers were reported to be exploited.t

In order for this approach to work, CSL/CRS had to make a number of changes to the way the project was implemented:

- CSL/CRS had to become more involved in training and quality control.
- CSL/CRS paid program participants according to each stage of the construction.
- Homeowners were involved in identifying the masons/labor from the community.
- Homeowners were involved in procurement and monitoring construction.

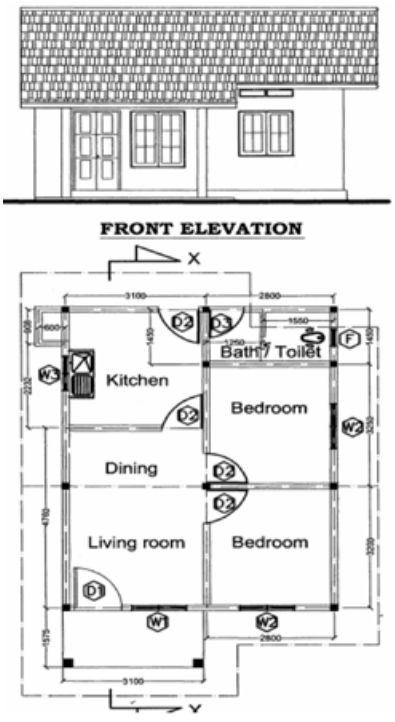
This shift had a number of benefits for the program:

- The approach helped revive the local economy and reinforced local skills.
- This program reduced the potential for local exploitation of labor.
- Homeowners were given direct responsibility for their homes, increasing their sense of ownership and custodianship of the reconstruction process.
- The process encourage solidarity within the community.

QUALITY CONTROL AND MONITORING

Adequate quality control measures must be in place for an owner-driven process to work well. CSL/CRS monitored construction quality at seven key construction stages and released payment if construction had achieved a sufficient quality. This system was very robust and effective in terms of accountability and its efficient use of technical expertise.

Stage 1: Foundation
Stage 2: Sill level
Stage 3: Lintel level
Stage 4: Roof level
Stage 5: Roofing
Stage 6: Internal wiring and plastering
Stage 7: Completion (painting/flooring)



Two out of the four architectural designs offered to home owners. These were designed by CRS in consultation with homeowners

Cover: Project participants with completed house in Kalatura (Colombo) built via owner driven construction. Photo credit: CRS/ David Snyder

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CSL/CRS made a booklet in the local language that was provided to each program participant. CSL/CRS held orientations on monitoring, which were further supported by construction supervisors and technical officers at the field level. One technical officer was appointed for every 75 houses, and one supervisor per 25 houses. This ratio varied from diocese to diocese but this was the ratio in place in Batticaloa. The supervisor was present to support the home owner monitoring the quality control of construction. At the end of each stage, the supervisor informed the technical officer, who inspected house for completion of each construction stage. Following this, the technical officer and program participant signed a completion form and payment request, and then the finance department released the payment. This minimized the possibility of large-scale corruption, as each program participant had control and knowledge of the payment release system.

Additionally, all timber was measured before the construction began to ensure quality. CSL/CRS also worked with local authorities and in-house staff to assist in making survey plans for the program participants and encouraging them to submit the building plans to the local authority.

PROGRAM PARTICIPANT SELECTION

Given the value of the assistance, a large effort was invested in project participants' selection.

- A rotating committee of three members was formed to minimize pressure on field staff.
- House-to-house visits were made by the committee and the assessment documented.
- Adequate documents were required before the project participants were eligible for shelter assistance (e.g., damage assessment report by government, Land Deed, verification by local government representative, etc.).
- Criteria based on vulnerability were taken into account (e.g., widows, disabled, female-headed households, etc.) to prioritize the project participants' selection.

CHALLENGES

- CSL/CRS had to raise awareness to government and other actors about the importance of applying Sphere standards for shelter, and had to advocate for it at the national level.
- High demand for materials and limited availability led CRS to explore alternative material options.
- Difficult to ensure locally procured materials are of the required quality. If centrally procured, more standardization and controls are possible.
- The variety of choice in construction materials lead to some delay in confirming Bill of Quantities and procurement of materials, so a certain amount of standardization according to location had to be implemented.
- Homeowners had to be informed about the quality of construction and materials; close inspection and training by CRS was essential.
- Internal controls meant that substandard materials were not accepted, which slowed the construction process somewhat. However quality control was an integral part of the project and the community understood this as the project progressed.

MONOLOGUE QUESTIONS

- How would you establish a practical set of building standards and quality control mechanisms suitable for homeowners to follow?
- How do you regulate the quality of locally procured materials? What would you do when only substandard materials are available?
- How would you promote innovation and hazard resistant design in an owner-driven process? Which elements of the design/construction methods should be mandatory? Who and how is this determined?
- In a truly participant-led process, if the participants priorities differ to the agencies' how will you reach the final decision on the programs priorities and implementation modality?
- Would the speed of reconstruction be slowed down by the amount of consultation work and feedback that takes place, is there a balance to be struck?

Acknowledgements
We wish to express our gratitude to the CRS Sri Lanka country office, Caritas Sri Lanka and regional offices for supporting this institutional knowledge-building process and openly sharing their experiences to expand the humanitarian sector's knowledge of ingenuity and self-build in shelter response. Thank you also to Mehul Savla and Michael Hatch for helping to prepare the manuscript. Special thanks to our donors Caritas International as part of the Special Operational Appeal (SOA).

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