QSAND

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Case Study

QSAND Application – Gorkha District, Nepal

Integrating Sustainability and Resilience in Reconstruction Projects in Nepal

The QSAND tool has supported us in identifying, planning for, and addressing the needs of the affected community."

Adeel Javaid, Shelter and WASH Programme Manager at CRS.

Photo credits Y Abdul

bretrust

CRS CATHOLIC RELIEF SERVICES

International Federation of Red Cross and Red Crescent Societies

Disaster Overview

Two major earthquakes struck Nepal in Spring 2015, with the first on the 25th April with a 7.8 magnitude and followed on the 12th May with a 7.2 magnitude quake. A total of 8,857 people died as a direct result of these disasters, and over 6 million people were affected. The Nepalese National Disaster Report showed that over 600,000 homes were completely destroyed, with districts to the north-west of Kathmandu being the worst hit. In the immediate recovery phase over 300 local and international organisations joined the Shelter Cluster group to provide aid, focusing on 14 priority districts (of which Gorkha was one) and targeting over 700,000 homes in need of reconstruction.

Source:
http://shelterprojects.org/shelterprojects2015-2016/SP15-16_A3-A7-Nepal-2015.pdf

Project Details

Project name	Gorkha Recovery and Resilience Programme
Location	Gorkha, Nepal
Lead organisation	Catholic Relief Services
Natural Disaster type:	Geophysical - Earthquake
Project type:	Owner driven housing recovery - Part self-build and part contracted Note: Local country skills and resources CRS supporting household self-build and community recovery
Project timeline	2016 – 2019
CAT Assessment **Categories and Issues assessed and considered.**	Shelter and Community Category SC01 – Community Sensitive Design SC04 – Construction Approach Materials and Waste Category MW01 – Material Properties and Specification Cross Cutting Category CC02 – Community Ownership and Sustainable Management CC08 – Skills and Capabilities
Assessment timeline	1. CRS post-relief activities – January 2016 (ongoing) 2. Training course and kick off – March 2016 (QSAND training course and kick off meetings with CRS and local country partners) 3. Assessment and guidance phase (design and construction) – June 2017 to March 2018 4. Post construction review - December 2018 – June 2019
Case study assessment focus	Design and Construction

Collaborating Partners

In Gorkha district the earthquakes were particularly devastating. Many villages were affected, with buildings either partially or completely destroyed. CRS and their local implementing partners recognised both the need for quick emergency relief and for a long-term plan to secure the livelihoods of the communities that were worst affected. For that reason they chose to implement QSAND to help ensure that shelter reconstruction met the needs of the local population and was led by community members who would maintain these structures in the future.

Due to the likely scale of QSAND application in the district and numbers of stakeholders involved (CRS staff, implementing partners, local and national government representatives, other NGOs etc) a partnership was formed between CRS and BRE. This has so far resulted in a number of activities including: running a QSAND Practitioner training course in Kathmandu attended by aid agencies, NGOs responding to the disaster, and local government representatives, and an ongoing programme of technical support implemented at the outset of the application process, which remains ongoing. An additional outcome was the installation of a humanitarian demonstration shelter at BRE's site in Garston in the UK. Find out more at: http://www.qsand.org/wp-content/uploads/2018/05/Case-study-FINAL.pdf

Catholic Relief Services (CRS)

Lead Organisations	Catholic Relief Services
Implementing Partners	Caritas Nepal Shree Sanwara Integrated Community Development Center (SSICDC) System Development Service Center (SDSC)
Shelter Project Manager	Adeel Javaid (CRS)
Country Representative	Katherine Price (CRS)
Head of Programs	Emily Lobo (CRS)
Local Authority / Municipality	Gorkha District
Technical Advisors	Jamie Richardson (CRS)

Catholic Relief Services (CRS) is the international humanitarian arm of the U.S. Catholic Community which works in more than 100 countries to provide assistance to people in need, without regard to race, religion or nationality. CRS was founded in 1943 to help with the resettlement and recovery of European refugees during World War II. More than 75 years later, CRS programs have evolved and expanded to provide comprehensive humanitarian assistance for families and communities to overcome crisis, break through poverty or injustice, and have the opportunity for self-sufficiency, recovery and prosperity. In close collaboration with 1,200 local partners across the world, CRS assisted more than 136 million people in fiscal year 2017.

All of CRS's work is guided by the Integral Human Development Framework[3]. It acts as a sustainability model and informs CRS projects from development and planning through to implementation and evaluation. Integral Human Development promotes the good of every person and the whole person; it is cultural, economic, political, social and spiritual. Using the IHD Framework ensures that CRS can develop all its activities in line with the organization's wider goals of sustainability and promotion of humanity.

"Sustainability and resilience are key issues for CRS. Our approach is to work closely with local populations to ensure that we consider the needs of the affected communities and do our best to support them in their recovery process. Working with the BRE Trust, the QSAND team and many others is supporting us in meeting these challenges."

Jamie Richardson, Shelter and Settlements Technical Advisor, CRS.

BRE

The BRE Trust is a charitable organisation focused on built environment research and development which owns the BRE group of companies[1]. In working towards achieving their goal of "building a better world together", the Trust has funded over £20 million of research over the last 20 years and supported over 2,000 BSc and MSc students working in the built environment.

QSAND[2] is a free to use shelter and settlement sustainability and resilience self-assessment tool developed by BRE Global (the developers of BREEAM), on behalf of the International Red Cross and Red Crescent Societies (IFRC). As a part of their commitment to sustainable development, IFRC commissioned the development of QSAND to help promote sustainable and therefore resilience focused shelter approaches during post disaster reconstruction programmes.

1 For more information visit www.bregroup.com
2 For more information visit www.qsand.org
3 https://www.crs.org/resource-center/integral-human-development-overview

Overview of the Project

Recovery with a focus on Sustainability and Resilience

After the earthquake in 2015, CRS's response focused on a number of areas including the Gorkha district near the epicentre.

Following initial assessments undertaken during this period, CRS developed a recovery and resilience plan based on the community needs for 13 village development committees and 1 municipality within Gorkha district. The recovery activity plan will run over the lifecycle of 3 years (July 2016 – June 2019).

The earthquake integrated recovery and resilience program activities include Shelter, WASH and Livelihood with three local country partners.

The shelter project supports beneficiaries in improving knowledge and skills around the earthquake resistant construction techniques, government construction building codes and compliance mechanisms to secure government grants.

"The CRS Recovery and Resilience Programme in Gorkha has been designed from the beginning with emphasis on environmental and community factors relating to resilience and sustainability. Using QSAND has helped to identify and confirm the good work that has been done so far. It has also improved the planning, design and implementation of the project even further."

Yetunde Abdul, QSAND Programme Manager.

Key Features of the Programme

The focus of the project was a self-build initiative, with the local individuals re-building their own homes. CRS provided technical assistance as it was needed through providing local community members with the tools and knowledge to help make shelter and settlement construction more sustainable and resilient into the future. Some Key activities included:

- The establishment of several Community Reconstruction Committees (CRCs), made up of representative delegates from the villages to provide a platform for community involvement and feedback on the project and allow CRS to adapt its approach as required
- Several initial assessments on the skill-level of local builders, local resources and construction methods to ensure that training programmes and demonstration houses would be optimised and adapted to aid better performance.
- The running of several different workshops, door-to-door programmes and on-the-job trainings through sociotechnical mobile teams, to raise awareness of sustainable building approaches among local builders and families.
- In-depth training programmes conducted with local builders to aid in the implementation of the techniques seen in demonstration houses, designed to help teach both skilled and unskilled labourers.
- The establishment of demonstration houses accompanied by masonry training sessions to showcase earthquake-resistant building techniques and materials to the local population.
- Encouraging communities to select and use construction materials that that consider climate, culture, durability, local supply and environmental impact.
- Periodic monitoring and evaluation of programmes.

Key Project Focus Areas – What Worked Well, What Did Not, QSAND Added Value

Ensuring Inclusivity, and Responding to the Needs of the Community

There were initial in-depth assessments of the local situation, culture and construction methods.

The implementation of CRCs helped to guarantee that the support provided through the Recovery and Resilience Programme was inclusive and accessible to all community members.

The establishment of these groups and local participation ensured that the shelter design is community-sensitive. The implementation of training sessions and orientations/briefings helped ensure designs addressed appropriate community needs and keep track of feedback.

The participation of the Gorkha community throughout the initial planning and construction stages and the local adaptation of the programmes were key to ensuring community ownership and sustainable management. CRS have set up a handover process with the CRCs for future maintenance of the demonstration houses and associated community management and problem resolution moving forward.

Roof with two types of roofing material/finish demonstrating assembly technique promoting earthquake resilience

What worked well	The involvement of the community at all levels was essential to the program. The community were consulted on all aspects of shelter design and to help develop plans for recovery. Housing design options that use indigenous material were promoted. Local skills were improved that would contribute to disaster resilience and sustainable housing in the future. Skills training of female masons and their continued role/involvement in the reconstruction activities through the programme duration.
What did not	Multiple transitions in government structures and changing priorities.
Lessons learnt	Community involvement at each stage of the project ensures sustainability and high-quality programming. Representatives from different genders, ethnicities and vulnerabilities (including disabilities) in community committees to help ensure diverse community needs are addressed by the project.
QSAND added value	Promotion of community sensitive design options using indigenous construction material and capitalizing on the local skill capacities. Inclusive design features such as the construction of ramps in some communities for households including people with disability. Empowering the community to adapt shelters, spaces and facilities to meet their needs in terms of privacy and security. Communities replicated demonstration houses with same orientation and design, so CRS technical team had to emphasize through community meetings to use earthquake safe construction techniques instead of replicating the same design options. Established operation and maintenance plans for demonstration houses.
QSAND issues covered	SC01 – Community Sensitive Design. Performance level 3 achieved. CC02 – Community Ownership and Sustainable Management.

Approach to Construction – Long Term Resilience

As the project is community-built, CRS implemented the demonstration houses and the running of several different workshops, door-to-door programmes and on-the-job trainings to raise awareness of sustainable building approaches among local builders and families.

CRS worked closely with the National Reconstruction Authority (NRA) of Nepal for the demonstration houses and training around construction approach. The Nepalese Government developed design catalogues and National building codes determining requirements around construction approach.

Earthquake resilience construction technique

What worked well	Demonstration buildings provided the community with a reference for their own construction, which became evident during the reconstruction.
What did not	Initially demonstration was limited to walls, roof, foundation and other construction details. Communities preferred that buildings were constructed rather than these samples.
Lessons learnt	While demonstration buildings helped, communities have benefited most from having door-to-door technical support and on-the-job training. Door to door technical assistance helped households during the technical supervision of the construction and ensure use of earthquake-resistant elements in their homes.
QSAND added value	QSAND was used to review the monitoring aspect of the program by referencing the QSAND indicators. Addition of environmental specific indicators in the logframe.
QSAND issues covered	SC04 – Construction Approach. Performance level 1 achieved

Strengthening Local Knowledge

CRS constructed three main designs for the demonstration houses which all specify different materials for construction based on location, community need, and access to materials and traditional methods of construction (dry stone masonry, stone and mud masonry, and reinforced cement concrete). Also, both skilled and unskilled labour training included sessions on material quality, strength dressing and construction.

CRS determined the scope and need for training and skills to be enhanced and raise awareness on key issues such as earthquake resilient techniques or material quality during different trainings and participation sessions, some in partnership with the NRA and some with the CRC, ensuring the long term needs of the community are reflected in the provision of education and skills training.

Mason training for local community members

What worked well	Training local masons provided a skilled and knowledgeable workforce to carry out the building work. Households, with the right technical support, were able to build their houses and access government funding for reconstruction. This included the specification of materials to meet earthquake resilient construction.
What did not	It was not always possible to get all masons to participate because they were too busy building and did not want the loss of income. The cost of the most appropriate materials was sometimes too high because of access issues and transport costs.
Lessons learnt	To consider ways to incentivise the training to encourage attendance of skilled masons and also to increase access and opportunities for women. To ensure that the financing and affordability of the reconstruction is considered, especially for the most vulnerable.
QSAND added value	QSAND helped identify the indicators used to monitor and evaluate the program interaction and participatory activities to understand the construction material context with the affected community and identification of local vendors. Assessment of the locally available skills, scope and scale of skills to meet construction priorities.
QSAND issues covered	MW01 – Material Properties and Specification. Performance level 3 achieved. CC08 – Skills and Capabilities.

'It took a little time to understand QSAND and how it can fit into our programming activities, now we do, we can see it has real potential in supporting and in some cases enhancing the sustainability of our activities and benefits for the affected communities. We look forward to collaborating and strengthening our relationship with QSAND and BRE'

Adeel Javaid, Shelter and WASH Programme Manager at CRS.

Learning and Evolving QSAND:

Experiences from its application in the Gorkha Recovery and Resilience Programme

CRS

The implementation of QSAND in Gorkha district provided a better understanding of:

- CRS's existing practices, which cover sustainable development where feasible / within CRS's sphere of influence.
- How best to examine sustainability issues in reconstruction projects, and where to prioritise efforts in a time- and budget-limited context.
- Where international guidance and standards can be implemented by local communities and where local experts should lead the discussion and efforts in the reconstruction process.
- How this tool can also help drafting assessment tools to identify and address relevant needs.

BRE

The QSAND application, workshops, and practitioner training in Nepal enabled a better understanding of:

- The cultural, environmental and post disaster recovery and reconstruction context in Nepal.
- The need to consider a wide variety of cultural contexts when supporting QSAND applications.
- Ways to refine the QSAND tool to better support those using it.
- Maintaining and growing a successful partnership to the benefit of disaster affected communities.

"We are pleased to see the successful application of QSAND in Gorkha, and look forward to continuing our partnership with CRS"

Yetunde Abdul, QSAND Programme Manager

"CRS have a strong MEAL[1] system in place. QSAND contributed to this by helping to identify indicators to be adopted in the program framework which are periodically evaluated and monitored to improve program quality. The QSAND assessment process gave significant support to our self-reflection of sustainability issues to be addressed in every phase of the project."

Minar Thapa Magar,
National Coordination Officer
Housing Recovery and Reconstruction Platform - Nepal/CRS

[1] MEAL - Monitoring, Evaluation, Accountability and Learning

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