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# Fast Track Reconstruction Program for Nepalese Villages

## Building Safe and Sustainable Communities

May 23, 2015

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*May 3, 2015: All Hands Disaster Assessment and Response Team members with search and rescue team in Nepal*



THE DEPARTMENT  
OF SMALL WORKS



## Introduction

The 7.8 magnitude earthquake which shook Nepal on April 25, 2015 affected over 8 million people -- killing nearly 10,000; injuring over 17,000; destroying schools, hospitals, cultural landmarks; crippling infrastructure; interrupting livelihoods; and decimating an estimated 80% of the housing stock in the 12 most severely affected districts. (ACAPS Global Emergency Review, [geo.acaps.org](http://geo.acaps.org) and USAID-DCHA Nepal Earthquake Fact Sheet #10, May 8, 2015). On May 12, a 7.3 magnitude aftershock occurred, exacerbating the damage and further complicating relief efforts.

This proposal looks to improve the affected population's chances of full recovery by accelerating the pace of rebuilding and by adopting a community-led approach.

### Accelerated Reconstruction

This proposed **Fast Track Reconstruction Program** ("Fast Track Program") speeds up the provision of appropriate, permanent, earthquake resilient housing. An often-cited flaw in the disaster relief arena is the significant lag time between the stabilization of a disaster stricken area through emergency humanitarian response, and the implementation of viable recovery programs which return affected populations to a sense of normalcy. By beginning now, while the humanitarian response is underway, the Fast Track Program can begin to return people to their communities in an accelerated but still appropriate manner.

### International Collaboration with Community Engagement

This program is a partnership of SONA (Society of Nepalese Architects), All Hands Volunteers, Cameron Sinclair / Small Works (co-founder of Architecture for Humanity), ARCASIA (Architects Regional Council Asia) and the Architects Foundation join the program in the role of facilitators. These organizations bring their collective experience and expertise in the disaster arena via post-disaster design and engineering, construction and project management, and the utilization and training of local labor and volunteers.

One rationale for the program's approach was best expressed at a SONA meeting shortly after the earthquake. "It is important to note that Nepal has a strong cultural identity, religious beliefs, and way of life that needs to be preserved. The reconstruction needs to have a proper understanding of Nepalese society to ensure the cultural continuity and way of life." (May 5, 2015) Thus, a key component of the Fast Track Program is the active participation of Nepalese architects and the beneficiary community for a "community led" approach to rebuilding.

In addition, the involvement of those impacted builds self-reliance and a sense of ownership in the program – an important recovery strategy. In this program, it *also* creates the capacity needed to **bring this program to significant scale, promote adaptability and replication, and teach resilience principles**. The Fast Track Program has the specific objective of training beneficiaries in disaster resilient construction so that they can help themselves, neighbors and other villages. This type of beneficiary involvement is a UNOCHA priority. (UNOCHA Flash Appeal for Response to the Nepal Earthquake April – July 2015, p.11, from [unocha.org/Nepal](http://unocha.org/Nepal))



#### Case Study: Swat Valley, Pakistan

After flooding left over 3M homeless in Pakistan, Cameron Sinclair partnered with Yasmine Lari and local communities to develop seismically sound bamboo and thatch homes for \$800. Each family would 'Build it forward' by training the next family. To date, 40,000 homes have been constructed from the original pilot program.

## Program Description

The **Fast Track Program** is a phased program that will be completed over two years. SONA will take on the lead role on behalf of the Nepalese Government, reviewing designs to ensure cultural, technological, and environmental suitability. Cameron Sinclair and his Small Works team will bring two decades of sustainable design expertise to leverage the Nepalese architects' prodigious professional skills and understanding of the cultural identity and way of life. All Hands' extensive project and volunteer management experience will then be called on to effectively implement the designs using beneficiary participation. Finally, the program will benefit from the advice and other support from the Architects Foundation and ARCASIA.

### Phase 1: Assessment and Design – (projected from June 2015 – August 2015)

*Estimated cost \$35,000*

Members of All Hands' experienced professional staff will perform a needs analysis to identify a village in which to pilot design models by building 75+ homes. Staff have been in Kathmandu and nearby villages since May 1, coordinating local volunteers and building relationships with NGOs and community leaders as they participate in the response efforts. The needs analysis will focus on Sindhupalchok District – one of the most severely-affected districts. Ninety percent of the district's buildings, including 66,000 homes, was damaged or destroyed by the first earthquake. (OSOCC Nepal Earthquake District Profile – Sindhupalchok May 8, 2014). The pilot village will be selected based on need, residents' willingness to participate in the program, and adequate demonstration that land tenure issues do not exist.

In parallel, Small Works, led by Cameron Sinclair, will oversee a team of experienced and trusted Nepalese architects. They will conduct a community-led design process to develop several housing designs ranging from single family detached homes through multi-family units. This approach incorporates all stakeholders -- homeowners, educators, and religious and other community leaders -- in the design process via workshops, exhibits and planning meetings. Meanwhile the design team's deep experience ensures that this community led design uses sustainably sourced materials and adheres to earthquake resilient principles.

SONA will then review the appropriateness of the designs based on the following additional criteria:

- design is simple enough for community members to participate in the construction
- locally available materials are used, which are suitable to climate conditions

- technology is used to strengthen internal walls from collapsing during earthquakes
- traditional look is retained as closely as possible
- the homes offer comfort and functionality for lifestyle needs of residents

## **Phase 2: Construction of Pilot Homes – (projected from September 2015 – November 2015)**

*Estimated cost \$250,000*

The community-led approach will carry through during the construction phase. All Hands’ skilled staff, together with selected members of the architect team, will train beneficiaries in disaster resilient design principles for design and construction skills. The beneficiaries will then work alongside All Hands’ volunteer labor force drawn from within Nepal and around the world, and together they will be managed by All Hands staff. This investment of “sweat equity” invests beneficiaries in the program’s success.

The construction will take place with ongoing direction and support from the design team (SONA and Dept. of Small Works, in consultation with ARCASIA and the Architects Foundation, as needed). Together the partners will document, monitor and revise designs as needed to integrate any changes before the program moves into Phase 3.

### *Results*

*75 – 100 permanent, earthquake resilient homes built*

*Up to 500 people returned to safe, permanent shelter*

*50-75 people trained in marketable construction skills*

*An entire community educated in disaster risk reduction building principles and gaining a sense of empowerment from participating in their own rehabilitation*

## **Phase 3: Scaling Up and Replication – (projected from December 2015 – May 2017)**

*Estimated cost \$2 million*

As Phase 2 progresses, All Hands’ professional team, in consultation with other project partners, will work with local community leaders to identify an additional 15 – 20 villages for bringing the program to scale. Beneficiaries trained in Phase 2 will have the opportunity to earn a locally appropriate wage and act as foremen/skilled workers for expanding the program into the additional villages, training additional people not only to build scale for *this* program, but to foster wide dissemination of know-how to encourage replication. In this way, the affected residents help themselves and each other along the lines of a true “build-it-forward” model. All Hands staff will continue to provide project management and be supplemented by volunteers who will work alongside the newly appointed foremen and new beneficiaries.

Early in this phase, ARCASIA and Architects Foundation will have the data needed to compile information on the “earthquake designs” and lessons learned from the implementation process (beneficiary training, construction issues). The information can then be disseminated (via lectures, workshops, manuals) among member organizations to use in disaster-preparedness construction or in post-disaster rebuilding contexts.

*Results: Phase 2 will be replicated and multiplied throughout neighboring villages. Exact beneficiary numbers/number of homes built depends on funding, but will be known by the end of Phase 2, when the per-home costs, other inputs and time frames are established. The initial goal is to reach between 750 – 1,000 families.*



#### Case Study: India / Sri Lanka 2004-2008

While working in communities affected by disaster we implemented a community led reconstruction process by embedding licensed architects and engineers to work on long term sustainable building. By integrating adaptive housing with economic corridors and civic structures we were able to empower villages to become engines of recovery. Six total villages rebuilt.

## The Team

Society of Nepalese Architects (SONA) – Lead Partner

[www.sona.org.np](http://www.sona.org.np)

SONA is a professional society created to support the interests and interrelationships of architects in Nepal, to promote the development of architecture in the country, and also to promote the involvement of local architects in the national development activities of Nepal.

All Hands Volunteers – Lead Partner

[www.hands.org](http://www.hands.org)

All Hands Volunteers is a US-based disaster response and recovery non-profit organization and member of InterAction. Its mission is to address the immediate and long-term needs of communities impacted by natural disasters by engaging and leveraging volunteers, partner organizations, and local communities. In its ten year history, it has helped more than 40,000 families and engaged over 28,000 volunteers on 50 projects in the US and abroad. In the process, the organization has developed an expertise in project and volunteer management.

All Hands brings the **flexibility** of a small, nimble organization combined with robust **capacity** derived from a network of thousands of multi-skilled volunteers from inside Nepal and around the world. It emphasizes respect for local culture, and builds camaraderie by having project teams live in modest accommodations within the communities they serve, work alongside members of the local community and participate in community events. It frequently is sought as an implementing partner where its volunteer labor force can fill gaps in accomplishing disaster relief objectives, from supplies distribution to construction work. Partners have included Habitat for Humanity, World Health Organization, Saint Bernard Project, Operation Blessing, International Organization for Migration, and others.

Rebuild projects include:

- *Typhoon Haiyan/Yolanda, Philippines (2013 – present)*
  - constructed 500 transitional houses and schools
  - building 40+ disaster resilient permanent homes and schools
- *Hurricane Sandy, New York (2012 – present)* - rebuilding 70+ homes
- *Typhoon Sendong/Washi, Philippines (2012 – 2013) –*
  - constructed 300+ permanent homes

- *Earthquake, Haiti (2010-2012)* – constructed 20 schools

Cameron Sinclair, Small Works – Lead Partner

[www.cameronsinclair.com](http://www.cameronsinclair.com)

Cameron Sinclair is the founder of Small Works, a design impact social venture that has been working building schools for Syrian Refugees, building medical centers in East Africa, transitional housing in post-disaster situations and working on conservation management in post-conflict zone. Sinclair was co-founder and CEO of Architecture for Humanity from 1999 to 2013. For the past two decades has worked in 49 countries, including Nepal, in creating sustainable shelter solutions for communities in need.

ARCASIA (Architects Regional Council Asia) - Facilitator

<http://www.arcasia.org>

ARCASIA is a body made up of representatives from the National Institutes of Architects in countries throughout the Asian region. ARCASIA objectives:

- to unite National Institutes of Architects on a democratic basis throughout the Asian region, to foster friendly, intellectual, artistic, educational and scientific ties;
- to foster and maintain professional contacts, mutual co-operation and assistance among member institutes;
- to represent architects of the member institutes at national and international levels;
- to promote the recognition of the architect's role in society;
- to promote the development and to promote research and technical advancement in the field of the built environment.
- education of architects and the architectural profession in their service to society;

Architects Foundation – Facilitator

[www.architectsfoundation.org](http://www.architectsfoundation.org)

The Foundation is the philanthropic arm of the American Institute of Architects. The Foundation uses the power of design to solve problems, transform lives, and create a better world.