Build earthquake-resistant houses
Change construction practice permanently

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quake-resistant houses in developing countries and trains
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2012 Annual Report

build change

Dear Friends,

Since 2004, Build Change has been empowering communities in developing countries to build safe houses and change construction practice permanently. This past year has been no exception. Through your generous support, Build Change trained more than 4,600 people on how to build safe, earthquake-resistant homes and enabled them to build or retrofit 1,339 safer houses – impacting more than 6,500 people with a safe place to live. They now have the knowledge and skills to build earthquake-safe houses now and in the future.

With more than 130 million people living in unsafe houses in earthquake-prone regions, we know there is still much work to do. Accordingly, Build Change

Throughout our annual report, we highlight many of our program successes in 2012 – from scaling our vocational training program in Indonesia to improving materials quality and creating jobs in Haiti. They are testament to how our approach builds local skills, stimulates local

> "Our homeowner-driven approach outlined in the primer fundamentally shifts the way post-disaster housing reconstruction is delivered – to one that is sustainable, affordable and culturally appropriate."

transitional shelters and new construction.

We also began developing innovative, pre-disaster mitigation solutions to reduce disaster risk and disaster-related costs. Our solutions enable homeowners who may not normally qualify for home loans to make life-saving improvements to their houses before an earthquake strikes. In the coming year, we plan to pilot this approach in Haiti and Latin America. Once refined, it will have the potential to reach millions of homeowners, saving millions of lives from earthquake disasters worldwide.

I am also pleased to report that our primer on post-disaster housing was published by USAID. Our homeowner-driven approach outlined in the primer fundamentally shifts the way post-disaster housing reconstruction is delivered – to one that is sustainable, affordable and culturally appropriate. This shift is an important step to changing post-disaster reconstruction programs globally. We will continue to share best practices widely to influence shifts to sustainable housing construction and reconstruction approaches.

We have made great strides and are motivated now more than ever to spread our knowledge and technical expertise to enable all homeowners, regardless of income, to live in safer houses. On behalf of Build Change, thank you for your continued support. Together, we can continue to save lives and create sustainable change in construction practice.

Sincerely,

Elizabeth Hausler Strand
Founder and CEO

Where We Work

Indonesia

How We Work: Build Change's Six Strategi

1. **Learn First**
   Why did houses collapse in this earthquake? Why did they not?

   We start out with forensic engineering studies after earthquakes to make sure the same mistakes are not made twice.

style.

3. **Build Local Skills**
   How can we disseminate this knowledge to masses of engineers and builders?

   The best designs in the world will not save lives if they are not built properly or if local engineers remain unsure how to design them.

4. **Stimulate Local Demand**
   How can we convince a rural homeowner with little money to invest more in building a safe house?

   Make it affordable, easy to implement, and leverage the window of opportunity that exists immediately following an earthquake disaster.

   And, how can we make it easy for local government officials to enforce building codes?

   Create simple building codes, training seminars, and inspection systems that work in rural areas with little infrastructure, budget, time and personnel.

change.

2012 Highlights

Build Change Impacts

	2012*	Cumulative Total** (2004 - 2012)
Safer Houses	1,339	20,299
Better Builders	953	3,747
Trained Engineers	2,247	5,846
Empowered Homeowners	1,413	10,423

** Includes impacts in Indonesia and Haiti.*

***Includes impacts in Indonesia, Haiti and China.*

- **Rebuilding**
  Completed one of the largest housing reconstruction projects by size to date: With partner Caritas-Cordaid, Build Change provided technical assistance to homeowners who completed more than 1,000 homes, which has provided more than 5,800 people with safe, permanent housing.

  Supervised the building of over 1,300 safer, permanent

to improve the quality of concrete blocks and create a market for those blocks in Haiti.

Facilitated the creation of 33 jobs in Haiti due to blockmakers' increased revenues after following Build Change recommendations for producing safer, stronger blocks.

Analyzed and tested more than 300 blocks from Haitian block makers to inform Build Change's recommendations for block production techniques to meet Government of Haiti and international guidelines.

- **Collaborations**
  Established a collaborative relationship with the West Sumatra Provincial Education Bureau to institutionalize earthquake-resistant design and construction training into the vocational school curriculum.

  Assisted in producing the Haitian Ministry of Public Works (MTPTC) national retrofitting guideline, and in partnership with Degenkolb Engineers, wrote the technical appendix to the guide.

2012 Indonesia Program Highlights

CATERPILLAR® foundation

In Indonesia Build Change continued providing technical assistance and training on the fundamentals of earthquake-resistant design and construction practice.

2012 highlights include:

- **Empowering Homeowners to Rebuild Safely.** Build Change provides technical assistance to homeowners by guiding them through the process of selecting a design, drawing a layout, estimating

the skills to build safe houses. We partnered with many vocational high schools in Indonesia to teach students in construction-related tracks, including engineering and architecture, about the fundamentals of earthquake-resistant design and construction.

the lessons into their curricula and established a collaborative relationship with the West Sumatra Provincial Education Bureau. This work ensures the next generation of construction professionals has the skills to build earthquake-resistant houses.

- **Expanding Vocational Training Program to Create Sustainable Change.** A key component to changing construction practice permanently is building a sustainable pipeline of construction professionals who understand the risk of housing collapses due to earthquakes and have

- **Building Partnerships to Scale Impacts.** During the year, Build Change continued to forge partnerships with education bureau officials, partner organizations, and government agencies to raise awareness of the fundamentals of earthquake-resistant design and construction and develop plans to implement these techniques into the vocational training school curricula.

  By working with these groups, Build Change can reach even more homeowners and community members with safe building practices and reduce the risk for disaster.

They can ensure that the tragedies from earthquakes they have witnessed in the past will never happen again.

technical students, partnered with Build Change to train its students in earthquake-resistant design and construction (ERDC). This school focuses on vocational training in carpentry. The Headmaster, Mr. Dinin, is a former civil engineer who recognized the importance of ERDC training both for his students' careers and for the impact on the greater public in Indonesia. Through Build Change, students received hands-on practical ERDC training, and the schools' instructors learned how to administer ERDC training to future classes. Since the instructers were trained to give ERDC education, the school has seen increased enrollment in their construction and design courses.

Students applied their ERDC training to build a headmaster room and the library at the school.

Mr. Dinin believes that Build Change training combines well with his mission to expand his students' skills in construction. For Mr. Dinin, his hope is that the Build Change technical team can continue to develop the capacity of his teachers so they can ensure that the tragedies from earthquakes they have witnessed in the past will never happen again.

Rajo, Batipuh, West Sumatra, like most of Indonesia, is in an area of high seismic activity. Local government planned to relocate homeowners, but they were reluctant to leave. Imil said, "I won't be relocated; of course I am aware this area is prone to earthquakes, but I can do something about it."

She said Build Change helped her improve her house by giving technical assistance. She learned how to build a safe house, and why the various small changes are necessary.

Imil's house now meets the minimum standard for earthquake-resistant construction: there is an overlapping connection between the plinth beam and the column, the timber joins are strong, using mortise and tenon, and there is diagonal bracing on every corner.

This home will be safe in earthquakes and hurricanes, and Imil gets to stay in her community rather than being relocated.

Imil is proud of her new home: "I am happy and feel confident by having this safe house where I can ensure safety of my daughter".

2012 Haiti Program Highlights

In Haiti Build Change continued using a sustainable, bottom-up, homeowner-driven approach to post-disaster reconstruction.

2012 highlights include:

- **Empowering Homeowners to Rebuild Safely.**
  Build Change provided hands-on, technical assistance

- **Building Capacity to Change Construction Practice.**
  Building local capacity changes construction practice permanently; construction professionals can continue to build safer homes once technical assistance and funding end.

  Build Change trained and provided on-the-job technical assistance for 986 builders and engineers in safe housing design and construction methods.

  The new House of Knowledge in Haiti showcases earthquake-resistant construction techniques. Inside the house, community members can find posters of safer building techniques and examples of safe and unsafe building materials and construction methods.

- **Implementing Structural Retrofitting as a Permanent Housing Solution**
  Build Change was one of the first organizations to implement structural retrofitting of damaged houses as a cost-effective permanent housing reconstruction solution in Haiti.

  In 2012, Build Change provided technical supervision for the retrofit of nearly 900 houses – helping earthquake survivors to get into permanent housing quickly and cost-effectively.

- **Strengthening the Supply Chain and Creating Jobs through Better Building Materials.**
  Using local materials and creating local jobs are essential to sustainable, long-term recovery after a disaster. Build Change, in partnership with Save the Children and the Blue Dawn Foundation, worked

works (MTPTC) to Scale Impacts.
In 2012, Build Change provided extensive detailed comments on the MTPTC Yellow House Repair Guideline, used on over 20,000 houses.

Build Change also participated in the retrofitting working group to review the MTPTC Retrofitting Guide for Earthquake- and Hurricane-Resistant Low-Rise Buildings and wrote its technical appendix in partnership with Degenkolb Engineers.

- **Raising Awareness of Safe, Earthquake-Resistant Building Methods.**
  In 2012, Build Change distributed 18,000 flyers and posters on safe building practices to government agencies, NGOs, service organizations, technical schools and building material suppliers. We also distributed 1,000 Better Construction Binders for homeowners, 250 booklets on the opportunities of producing good-quality bricks, and ran radio ads on popular radio stations that encouraged the use of safe building materials and construction methods.

The front half of Oramene Lamarre's house collapsed during the 2010 Haiti earthquake.

She was unable to run her old sewing business out of a tent, and the lack of income meant that there was no money to repair their home.

In 2012, Oramene was approached by Build Change engineers, who evaluated her damaged house to see if it was possible to retrofit it. Retrofitting is the process of bringing a damaged house up to earthquake-safe standards by addressing the damage and by making changes which strengthen the overall structure.

Oramene sat down with our engineers and agreed on a retrofit design that met her family's needs, including a front area where she could re-establish her sewing business. She then received a $2,800 subsidy from Cordaid to conduct the retrofit work under the technical supervision of Build Change.

Oramene has been able to resume her sewing business, earning a living and providing for her family again.

She believes that not only is her house safer, it is prettier than it was before the earthquake, as her sons have painted it her favorite colors: pink and orange.

Nicolas Chevelon lives in the Delmas 32 neighborhood, one of the most severely damaged areas from the January 2010 earthquake.

In 2011, he decided to start a block-manufacturing company. Nicolas invested about $11,000 in mechanical machinery and hired 12 employees from his neighborhood. His initial blocks were of such a poor quality that they were only purchased by neighbors and residents in Delmas 32. No other potential buyers wanted to pay to transport a poor-quality block.

In 2012, Nicolas was approached by Build Change to participate in a program to improve the quality of his blocks. After training, Nicolas' blocks went from 4 to 14.36 MPa, twice the minimum strength for earthquake-resistant building.

With these impressive results, word spread that there was a block maker in Delmas 32 able to produce high-quality concrete blocks, and Nicolas broadened his market to include customers outside of the Delmas 32 neighborhood.

His daily block production increased from 300 to 2,000 blocks per day. Nicolas hired six new staff to keep up with the increased demand.

Our Supporters

It is through the extraordinary generosity and support
our mission possible. Together, we can create perman
countries that saves thousands of lives.

Individuals

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Save The Children

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Risk Management Solutions
Stites & Harbison Construction Service Group
The School of Architecture at University of Illinois at Urbana-Champaign

Financials

Build Change condensed audited financial information for the year ending December 31, 2012.

Statement of Activity

	Unrestricted	Temporarily Restricted	Total
REVENUE AND SUPPORT			
Grant Income	$ 2,376,085	$ 225,000	$ 2,601,085
Contract Income	540,314	–	540,314
Individual Contributions	136,286		136,286
Program Fees	1,015	–	1,015
Interest Income	(2,745)	–	(2,745)
Net Assets Released from Restrictions	450,000	(450,000)	–
Total Revenues and Support	3,500,955	(225,000)	3,275,955
EXPENSES			
Program Services:			
Haiti	2,778,374	–	2,778,374
Indonesia	400,132	–	400,132
Technical Consulting	32,969	–	32,969
Total Program Services	3,211,475	–	3,211,475
Management & General Services:			
Fundraising	161,611	–	161,611
General and Administrative	295,778	–	295,778
Total Management and General	457,389	–	457,389
Total Expenses	3,668,864	–	3,668,864
DECREASE IN NET ASSETS	(167,909)	(225,000)	(392,909)
NET ASSETS – BEGINNING OF YEAR	1,223,480	800,000	2,023,480
NET ASSETS – END OF YEAR	$ 1,055, 571	$ 575,000	$ 1,630,571

Statement of Financial Position

ASSETS

CURRENT ASSETS		
Cash - Unrestricted	$	824,913
Accounts Receivable		354,795
Donations and Grants Receivable - Short-Term		475,000
Prepaid Expenses		24,162
Total Assets		1,678,870
PROPERTY AND EQUIPMENT		
Equipment and Furniture		93,389
Less: Accumulated Depreciation		(26,102)
Total Property and Equipment		67,287
OTHER LONG-TERM ASSETS		
Donations and Grants Receivable - Long-Term		50,000
Deposits		6,036
Total Other Long-Term Assets		56,036
TOTAL ASSETS	$	1,802,193

LIABILITIES AND NET ASSETS

CURRENT LIABILITIES		
Accounts Payable	$	17,965
Due to Related Party		17,750
Credit Cards Payable		13,411
Accrued Liabilites		122,496
Total Current Liabilities		171,622
NET ASSETS		
Unrestricted		1,055,571
Temporarily Restricted		575,000
Total Net Assets		1,630,571
TOTAL LIABILITIES AND NET ASSETS	$	1,802,193

Note: Build Change's financials are based on an audit conducted by CliftonLarsonAllen LLP. The full audit report is available upon request.

Board of Directors

Dr. Martin J. Fisher, Board Chairman

Dr. Martin J. Fisher is the co-founder and executive director of KickStart, a non-profit organization that develops and markets technologies that are bought by entrepreneurs to kickstart profitable small businesses. Martin has a Ph.D. in Mechanical Engineering from Stanford University.

Dr. Elizabeth Hausler Strand, Board President and CEO

Dr. Elizabeth Hausler Strand is the founder and CEO of Build Change. Elizabeth has an M.S. and Ph.D. in civil engineering from the University of Californian, Berkeley, and an M.S. in environmental science from the University

and his B.S. in Finance from Miami University.

Paul VanderMarck, Board Member

Paul VanderMarck is chief products officer of Risk Management Solutions, the world's leading provider of products, services, and expertise for the quantification and management of catastrophe risk. Paul holds a B.S. in civil engineering and an M.S. in structural and earthquake engineering, both from Stanford University.

Bruno Walt, Board Member

Bruno Walt founded a management and investment consulting firm in the Principality of Liechtenstein after a 30-year career in multinational Corporations (IBM, Roche, Hilti). He has held executive positions in finance and general management in North America, Asia and Europe. Bruno is an alum of the University of St. Gallen, Switzerland and INSEAD, Fontainebleau, France.

Contact Build Change

Bandung, West Java, INDONESIA

- Send your donation to:

  Build Change
  1416 Larimer St., Suite 301
  Denver, CO 80202

Thank you for your continued support!