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A broader look at today's business

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UP bags award-winning design that could transform most PHL homes into 'disaster-resilient' abodes

HOUSE UPON THE ROCK

By CAI U. ORDINARIO

RETROFITTING houses to make homes resilient to disasters, such as typhoons and earthquakes, can now cost only P16,000, a new design crafted by the University of the Philippines (UP) Institute of Civil Engineering has proven.

The Column Footing Grade Beam Monolith design was awarded \$25,000 by Habitat for Humanity and partners, such as Innocentive and Sea Freight, for being cost-efficient and exceeding the minimum standards found in the Philippine Structural Code in terms of resiliency.

The design also received top scores in the community acceptability survey conducted among households, artisans, hardware store owners, and the local governments, all crucial throughout the selection process.

"UP's Monolith solution will cost roughly P16,000 for a 25-square-meter house. In the challenge that we conducted, the other solutions are cheaper, but not quite as durable," Jessan Catre, Philippine Country Lead, Habitat for Humanity International's Terwilliger Center for Innovation in Shelter, told the BUSINESSMIRROR in a recent interview.

"Currently, there are no existing solutions [like this] being offered in the market right now for houses without foundation," Catre added.

Future expansion

THE Column Footing Grade Beam Monolith design, created by the UP Institute of Civil Engineering team led by Dean Ashton Plamenko, scored points from

households for having an *abang* that would allow families to build a second floor to create a more spacious home.

Catre said the solution would greatly benefit a million low-income households in the Philippines who may find the need to retrofit their homes and make them more resilient to typhoons and earthquakes.

He said, however, that discussions would be conducted with the University of the Philippines team and Habitat's partners in order to find ways to implement the solution to benefit these households.

"We will discuss this with the UP team and other partners. When we launched the Challenge, we didn't know what solution would win so we're doing it iteratively," Catre told this newspaper.

During the recent awarding ceremonies, Habitat for Humanity's Terwilliger Center for Innovation in Shelter International Program Senior Director Scott Merrill said the Philippine Challenge is one of four InnoCentive Challenges globally.

The Philippine Challenge is on increasing resilience to earthquakes and typhoons for homes with no foundations; while the India Challenge was on improved construction and demolition waste management; Kenya, malaria prevention through innovations in home design or home life; and

#HabitatforHumanityChallenge
Increasing Resilience to Earthquakes and Typhoons for Families with No Foundations

WINNER

Column Footing Grade Beam Monolith
Dean Ashton Plamenko, Diocel Harold Aquino, Fernando Germar, and Ammiel Barros
Construction Engineering and Management Group, Institute of Civil Engineering, University of the Philippines Diliman

Mexico/United States, affordable water harvesting for low-income households in urban areas.

Merrill said the challenge in the Philippines is that there are over 1.6 million Filipino families living in homes without foundations. This despite the geographic location of the country, which sits on the so-called Pacific Ring of Fire.

Further, retrofitting house foundations in the country is already too expensive for low-income homeowners, making it close to impossible for them to make their homes resilient to natural disasters.

"The foundation of a house serves many vital purposes; most importantly it anchors and strengthens the structure against outside forces. While important for any house worldwide, the foundation of a house becomes even more important in areas prone to earthquakes and typhoons or hurricanes, such as the Philippines," Merrill said.

"Unfortunately, constructing a foundation adds significantly to the cost and the time to build a house and so many houses in low-

income areas throughout the world have been and are built without foundations," he added.

For the Philippine Challenge, Habitat and its partners received a total of 81 submissions from 24 countries. The challenge was launched in October 2020 and entries were submitted in January this year.

The submissions went through two selection phases conducted between March 2021 and July 2021. The final four solutions were field tested in August 2021.

BASE Bahay Foundation General Manager Pablo Jorillo explained that the field test involved a "lateral load test," where the lateral forces of an earthquake and typhoon winds will be simulated and applied.

Jorillo explained that the lateral forces applied on the solutions were measured in kilonewtons. He said 10 kilonewtons of force is equivalent to 1 metric ton of load applied on a wall.

Safer, sustainable world

THE criteria included the resilience against typhoons and earthquakes;

availability of materials needed; ease of installation among masons and homeowners; and affordability among low-income households.

"[I am firmly convinced that] the solutions presented at today's event will excite and inspire actors in the Philippine housing sector. We have the collective responsibility to reduce disaster risks and protect vulnerable communities in the Philippines and all over the world. Together, we can contribute to a safer, more sustainable world for everyone," Luis Noda, Asia-Pacific Vice President, Habitat for Humanity International, shared.

In the Philippines, Holcim Philippines, Hilti Foundation and BASE Bahay Foundation also largely supported the challenge.

Others present during the awards were InnoCentive Chief Innovation Officer Jon Fredrickson; Hilti Foundation Board Chairman Marco Meyrat; Holcim Philippines Chief Sustainability Officer Zoe Sibala; and Habitat for Humanity Philippines Chief Operating Officer Lili Fuentes.

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NOTICE OF FILING OF APPLICATION/S FOR ALIEN EMPLOYMENT PERMIT/S (AEP/S)

Notice is hereby given that the following company/ies/employers have filed with this Regional Office application/s for Alien Employment Permit/s:

ESTABLISHMENT / ADDRESS		QUALIFICATION AND SALARY RANGE
No.	NAME OF FOREIGN NATIONAL, POSITION AND BRIEF DESCRIPTION	
8 STONE BUSINESS OUTSOURCING OPC 5-10/F Tower 1, PLEX Kennedy Road, Tambo, City of Parañaque		
1.	CHUA PEY SHAN Customer Service Representative Mandarin Speaking Brief Job Description: Build sustainable relationship of trust through open and interactive communication in mandarin speaking	Basic Qualification: Knows how to recommend potential products or services to management by collecting customer information and analyzing customer needs Salary Range: Php 30,000 - Php 59,999

SEE "DOLE NCR" ON A13-A15

PESO EXCHANGE RATES ■ US \$0.7330 ■ JAPAN ¥0.4546 ■ UK £0.0831 ■ HK \$6.5171 ■ CHINA ¥7.8680 ■ SINGAPORE S\$1.3586 ■ AUSTRALIA A\$1.3096 ■ EU €0.58423 ■ SAUDI ARABIA SAR13.5281 Source: BSP (October 8, 2021)