Activities in the Philippines

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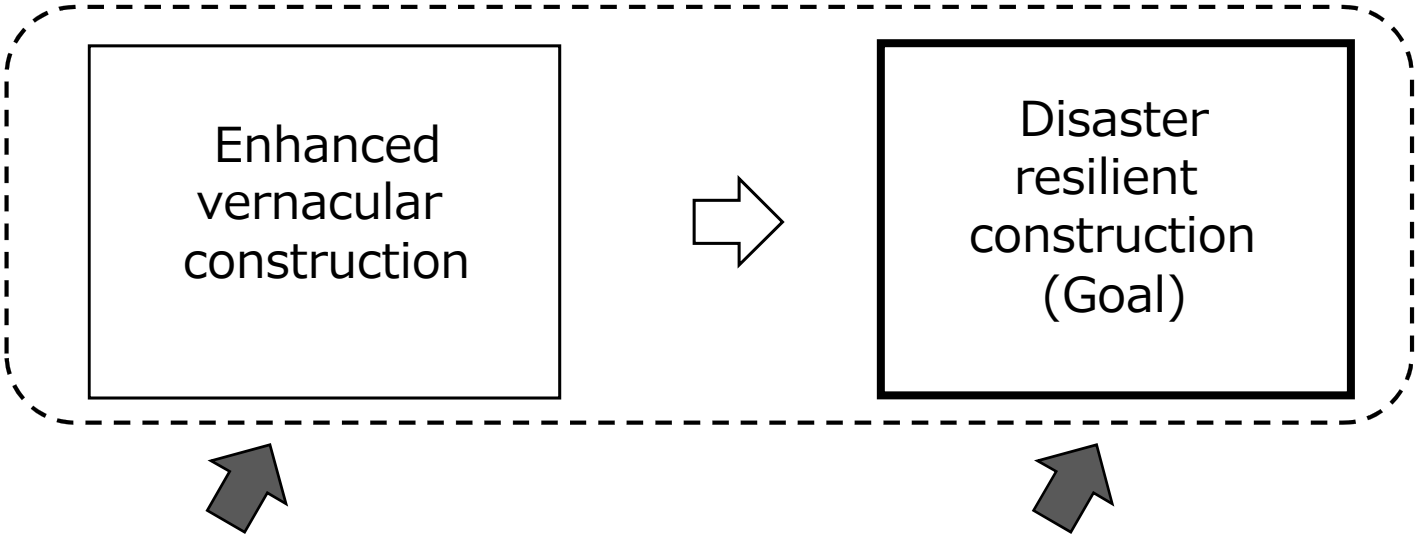
DPRI-KU

Background

- Typhoon Haiyan in 2013

Objective of our team

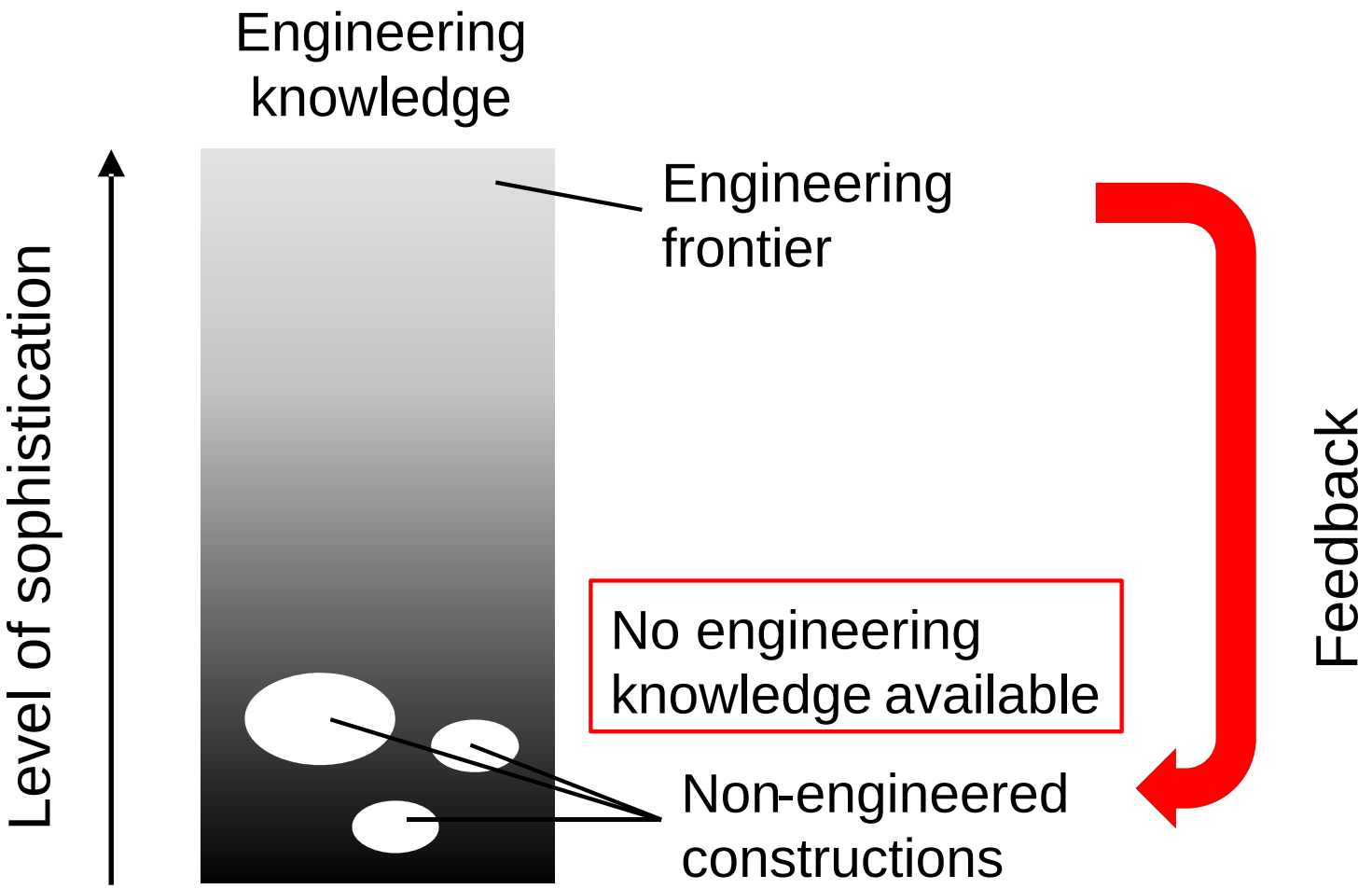
- Advancing indigenous constructions for achieving more resilient communities



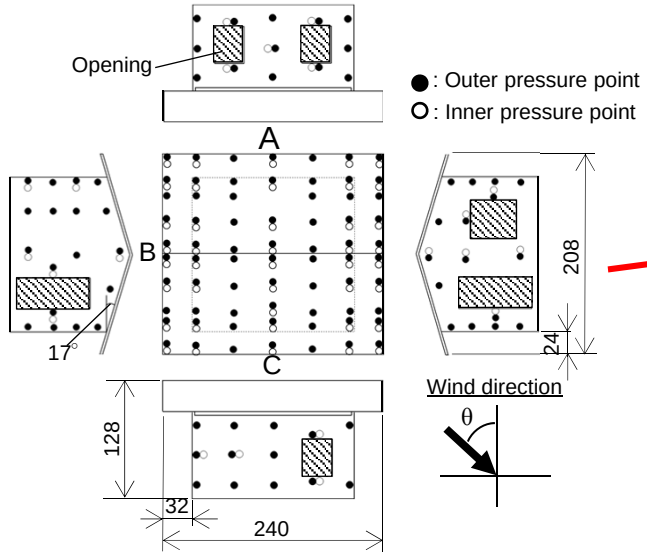
Vernacular construction

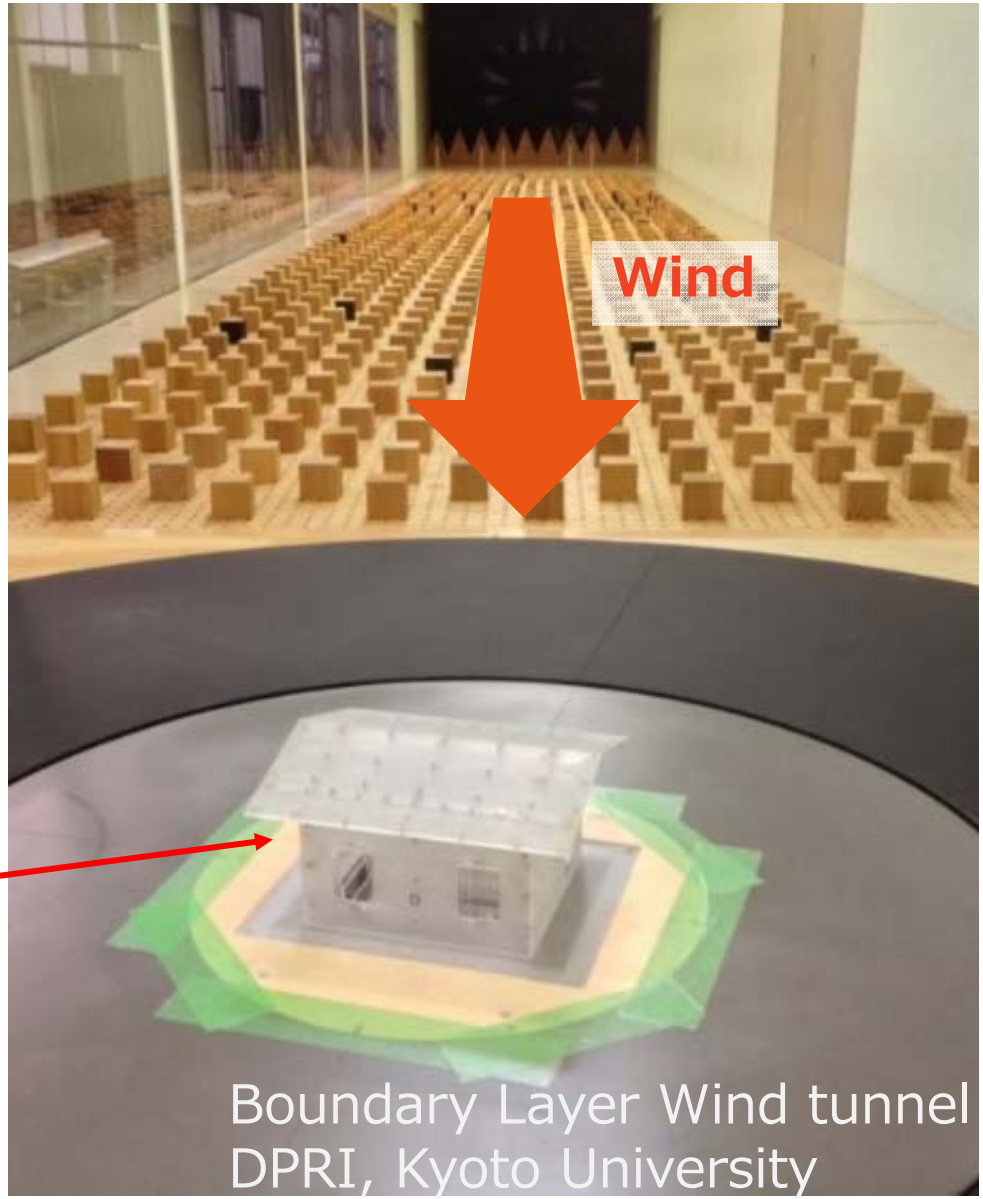
Construction with industrial materials by non-experts

Methodology

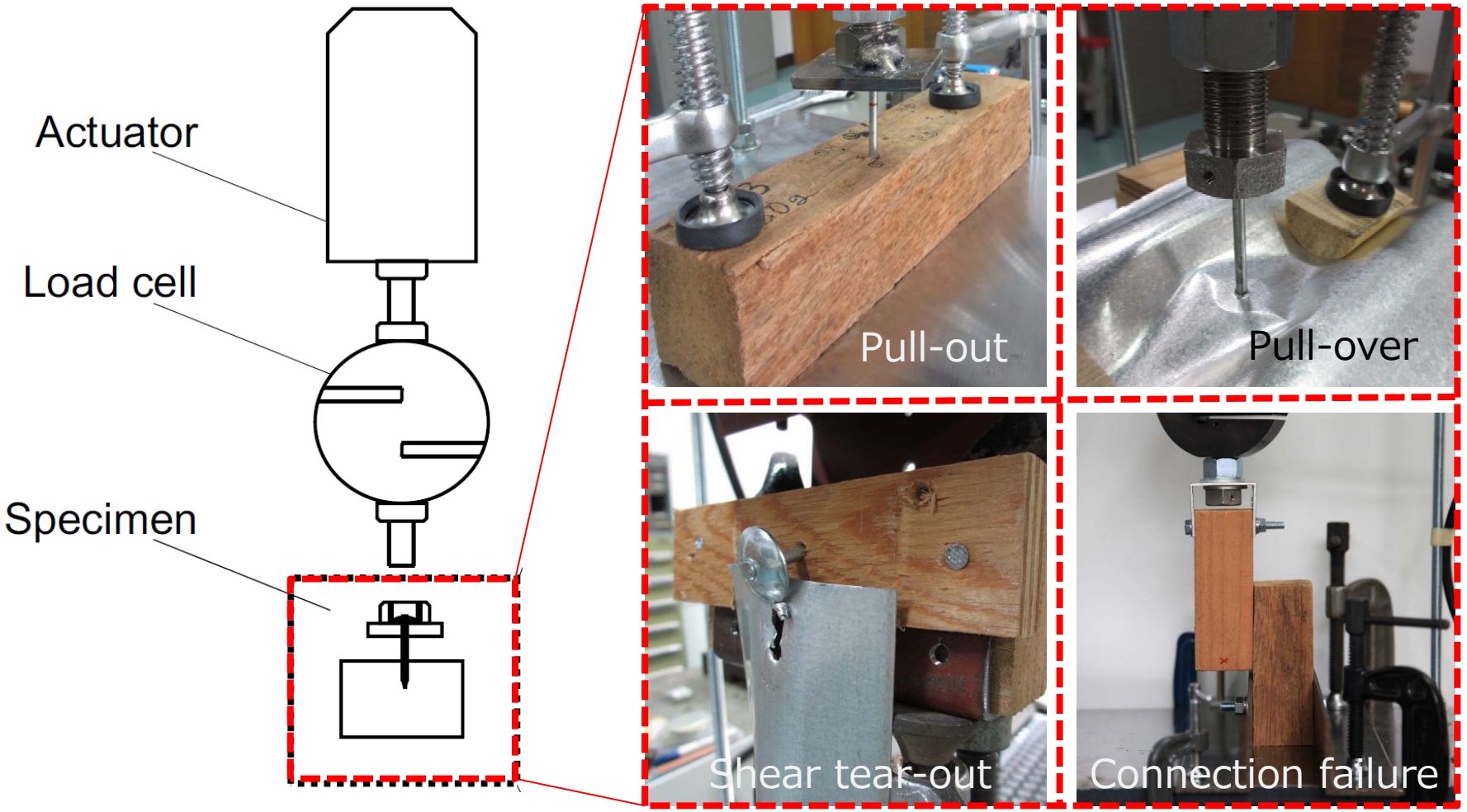


Wind tunnel experiment (JST J-RAPID, 2014)





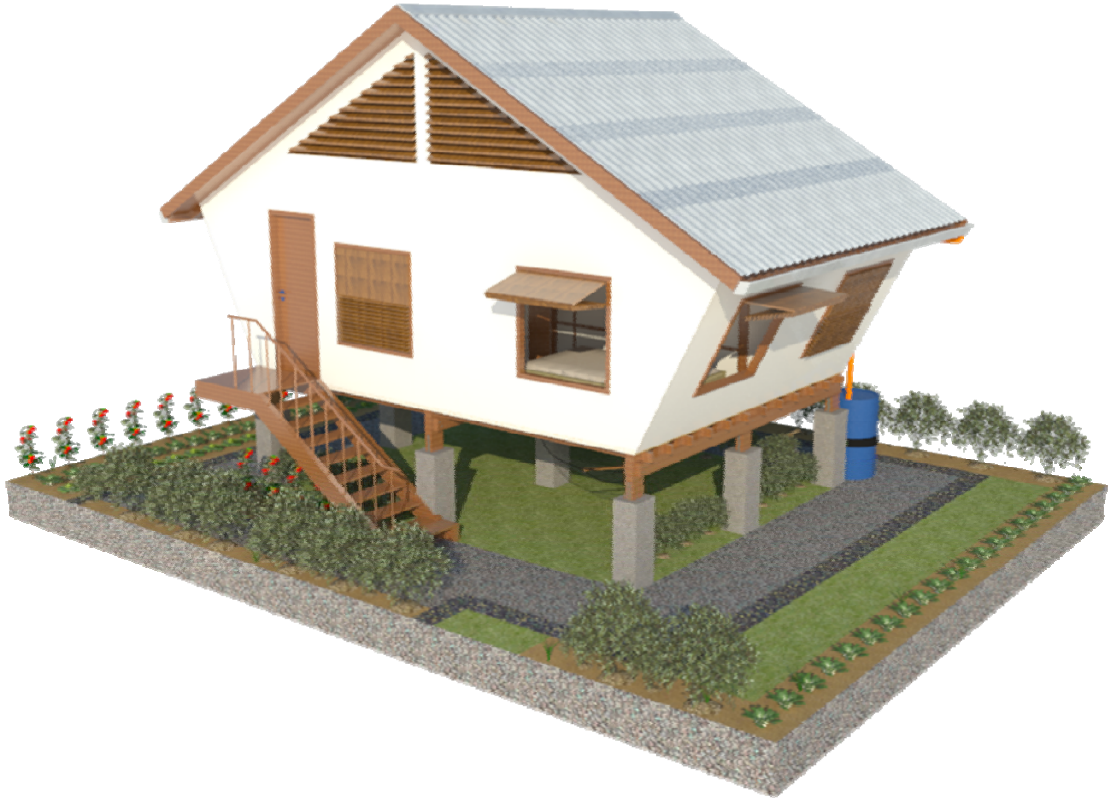
Test devices (JST J-RAPID, 2014)



Science and culture for resilient community (DOST BBB project, 2015)

- With the help of traditional Filipino constructions

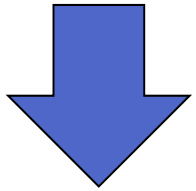
4.80m x 6.0m floor area with 2 bedrooms and T&B provides the desired livability of space.



KAPIT BAHAY 1.0

Past activities to JASTIP

JST J-RAPID + DOST BBB project phase I



JST JASTIP + DOST BBB project phase II

Activities in 2016 (Philippines side)

Academic talks

[1] Mary Ann A. Espina, Dolores Cecilia T. Madrid, The Science and Culture of the Filipino Resilient House, JASTIP W4 Symposium, Kyoto University, Kyoto, Japan, 25 March 2016

[2] Mary Ann A. Espina, Dolores Cecilia T. Madrid, The Science and Culture of the Filipino Resilient House, IUSAM, Fuji Women's University, Sapporo, Japan 04 July 2016.

[3] Joshua Agar, William Mata, Jaime Hernandez Jr., Estimating Typhoon Haiyan's Wind Speeds Using Windicators and Post-Storm Wind Vulnerability Analysis on the Affected Areas, Sbe-16 Manila, Acacia Hotel, Alabang, Muntinglupa City, Metro Manila, 14 July 2016.

Activities in 2016 (Philippines side)

Academic talks

[4] Mary Ann A. Espina, Dolores Cecilia T. Madrid, Marie Edraline B. Belga, etal, TAKBUHAN: Evacuation Center Design for Earthquake and Typhoon-prone Communities in the Philippines, Sbe-16 Manila, Acacia Hotel, Alabang, Muntinglupa City, Metro Manila, 14 July 2016.

[5] Clarice Joy Ann Besin, Karl Anthony Magistrado, Dr. Fernando Germar, Mary Jane Venus, Albino Aguilar III, Promoting Structural Resiliency against Earthquake by Improving Structural System and Construction Methodologies on Residential Buildings, Sbe-16 Manila, Acacia Hotel, Alabang, Muntinglupa City, Metro Manila, 14 July 2016.

Activities in 2016 (Philippines side)

Project Activities

[1] Build Back Better Program Project Final Report Writeshop, Costa Pacifica Hotel, Baler, Aurora, February 2016.

[2] Build Back Better Program Project Final Report Presentation to DOST-PCIEERD with DPWH, NHA, HUDCC and other government agencies in attendance at the National Engineering Center, 07 March 2016.

Activities in 2016 (Philippines side)

Project Activities

[3] Meeting with Senator Edgardo J. Angara at ACCRA Law Office, BGC, Taguig City, Philipines, to present our Report on BBB Kapitbahay and Takbuhan prototype models, to solicit his interest and support to the project, 11 March 2016.

Activities in 2016 (Philippines side)

Project Activities

[4] Build Back Better Program Project Presentation at the 58th PCIEERD GC Meeting, Department of Science and Technology Complex, Bicutan, Taguig, Philippines, 21 April 2016

[5] Pre-Implementation Meeting on the PCIEERD-GIA newly funded project entitled, "Integrated Risk Management on Non-Engineered Vernacular Houses for Effective Disaster Risk Reduction", with DOST-PCIEERD Project Monitoring Team, the BBB research/project staff, and the UPD Accounting Office at UP College of Architecture Board Room, UP Diliman, Quezon City, Philippines, 16 August 2016, .

Activities in 2016 (Philippines side)

Project Activities

[6] Meeting with Senator Edgardo J. Angara at ACCRA Law Office, BGC, Taguig City, to present our Final Design of BBB-KB-1, and to secure his interest to build the prototype model in his property in Baler, Aurora, 26 August 2016.

Activities in 2016 (Philippines side)

Project Activities

[7] Training Workshop of UP-DOST Build Back Better Program Staff (3 pax) and Consultant-Faculty (3-pax) on *Solid Thinking Inspire*, an integrated engineering software for structural optimization simulations, at Altair Engineering, Kuala Lumpur, Malaysia. 16-18 November 2016.

[8] Meeting with Senator Angara at his private residence, to present the draft Memo of Agreement to use his property in Baler, Aurora, Philippines as the site of the construction of BBB-KB-1 prototype model and to secure his consent to conduct site selection of his properties in Barangay Reserva, Baler, December 2016.

Activities in 2016 (Japan side)

Academic talks

[1] Nishijima, K., Collaboration between engineering and architecture for resilient vernacular construction in the Philippines, the sixth U.S.-Kapan workshop on wind engineering - windstorm hazard reduction of critical infrastructure –, Sanjo Conference Hall, the University of Tokyo, May 12, 2016

[2] Nishijima, K., Wind-resistant Performance Improvement of Non-engineered Houses Considering Vernacular Architectural Characteristics: Case in the Middle of the Philippines, Acacia Hotel, the Philippines, July 15, 2016

[3] Nishijima, K., Sustainable improvement of constructions for disaster resilient society, Lecture at the University of the Philippines, Diliman, January 16, 2017.

Joint activities in 2016

Site development

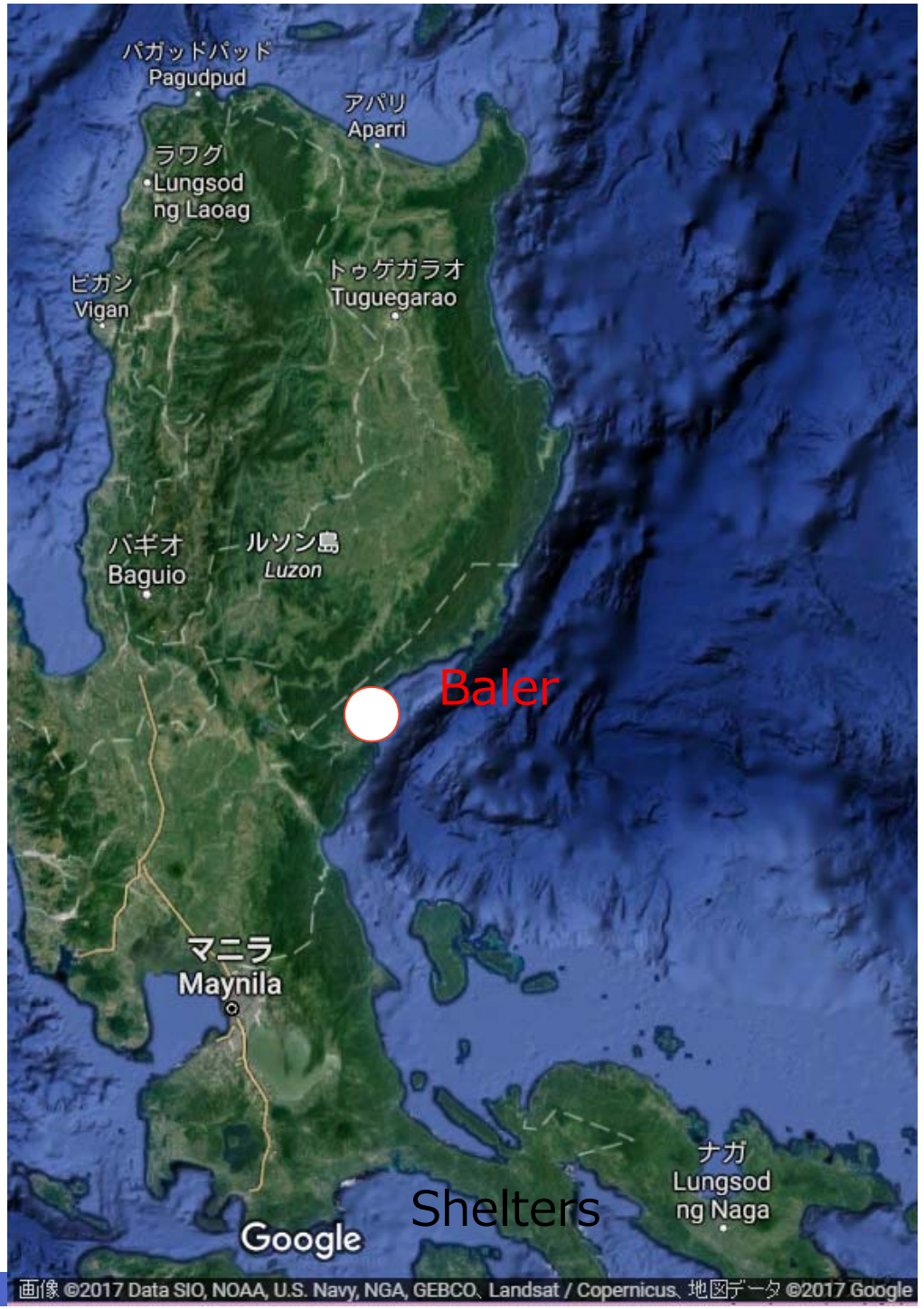
Test site at Baler, Luzon Island is under development.

Following activities will be executed at the site during the JASTIP project:

(1) Construction of advanced indigenous shelters designed by UPD Arki.

(2) Full-scale aerodynamic characteristics measurement with the shelters.

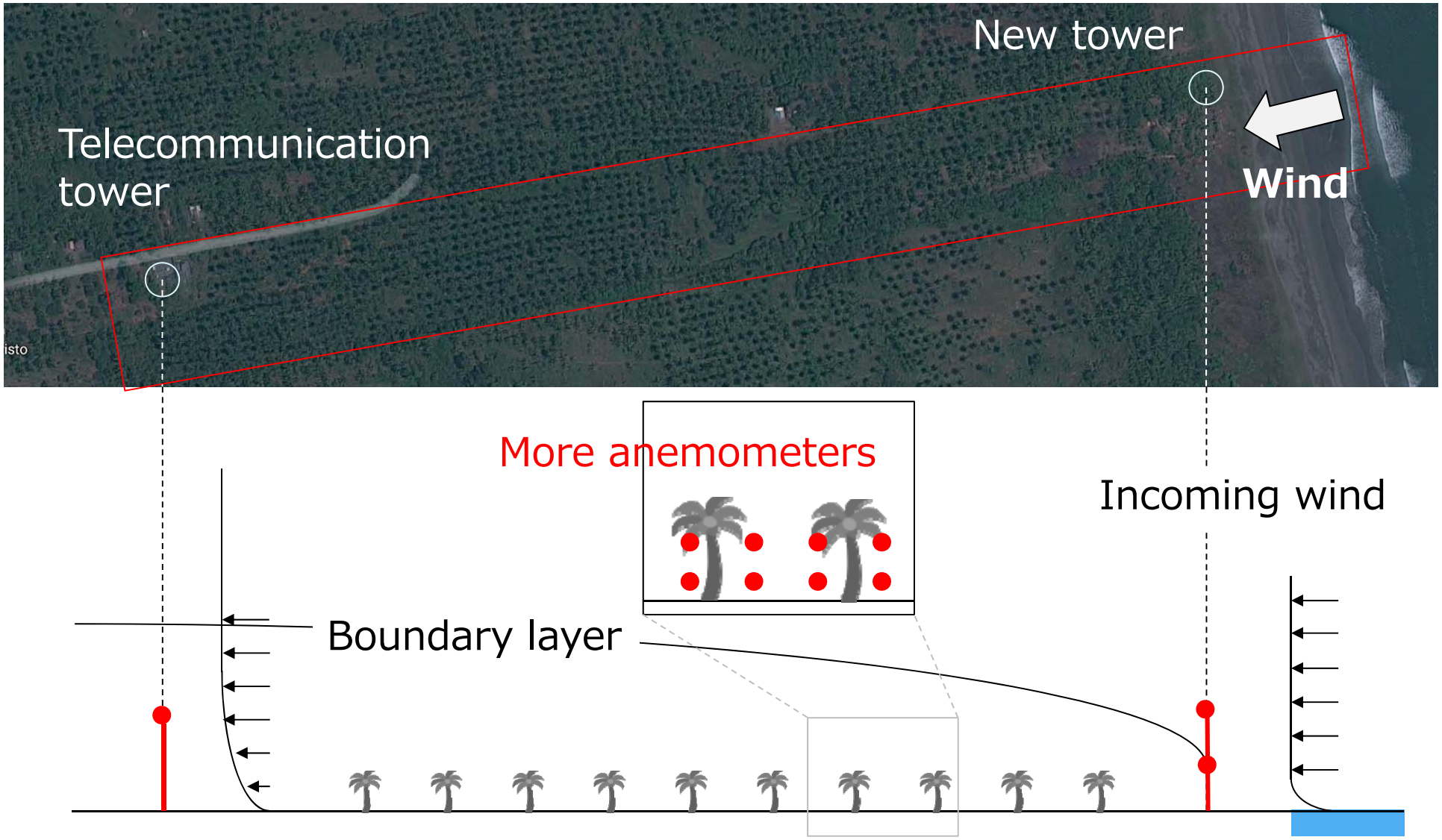
(3) Wind environment measurement of tropical (coconut) forests under typhoon.



Hand-made smart anemometer

Hand-made smart anemometer

Candidate site (under negotiation)



Planned activities in 2017

- Implementing smart anemometers and pressure sensors
- Constructing sample Kapit Bahay
- Measuring aerodynamic characteristics