Studies and Reconstruction Projects for 2013 Disasters in the Central Philippines

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0- INTRODUCTION

According to international statistics, the Philippines is the first country prone to natural disasters. On 2013, in short time The Visayas area has suffered a Bohol earthquake in October and a super typhoon Yolanda in November.

The present paper describe study and its survey with purpose to investigate the effects of these disasters on the Philippines' Cultural Heritages and the process of the urban reconstruction, and report of projects organized during 2014 by to support the reconstruction of this area.

1- 2013 DISASTERS IN THE CENTRAL PHILIPPINES

1.1- Bohol Earthquake

On 15th October 2013 at 8:12 AM an earthquake of 7,2 magnitude occurred in Bohol island. The Epicentre was at Sagbayan .

Until, 03 November 3,198 afterchocks has been recorded. This earthquake is the five Deadliest Recorded Earthquakes in the Philippines since 1600s. A total of 222 persons died, 876 was injured and 8 missed. The earthquake affectec to 3,221,248 persons. 73,002 houses were damaged (14,512 totally and 58,490 partially). Seaports, airports.

1.2- Typhoon Yolanda

2013 November 6th Typhoon Yolanda (internationally referred to as Haiyan) arrived to Philippines. Yolanda was one of the strongest storms or tropical cyclones ever recorded with wind speeds of more than 300 km/h and storm surges of over four meters. It is the deadliest Philippine typhoon recorded in modern history, killing at least 6,300 people, affecting at 1,472,251 families and displacing 515,071 families[1]. Yolanda is also the storm that holds the record for landfalls (six landfalls), and the strongest typhoon ever recorded in terms of one-minute sustained wind speed.

After the typhoon, the Central Philippines accounted for 1.9 million homeless and more than 6,000,000 displaced people into less affected areas such as Cebu and Manila. In Tacloban, ninety percent of the structures are either destroyed or damaged while other cities, such as Ormoc, are reporting similar damage.

2-STUDY ON THE DAMAGES OF PHILIPPINE'S CULTURAL HERITAGE

The Philippine's cultural heritage buildings of three centuries of Spanish colonial period consisted in 919 churches, 432 places of defense system and a lot of old heritage houses.

From 1521 the Spaniards arrived to the islands of Bohol and Cebu. From 1565 they explored the rest of the Visayas, and became to convert the natives to Christianity. In 1595, the Jesuit priests, established missions at Bohol islands. Four of these churches - Baclayon, Loboc, Loon, and Maribojoc - are declared as National Cultural Treasures for its cultural, historical and architectural importance to the Filipino people

However the number of tangible cultural heritage buildings in Philippines is not known well. Lack of protection, restoration, conservation, historical and technical documentation, and specialists on restoration (also in educational program of Philippines universities) put in risk the conservation of this heritage.

Pic.1　Loon Church, Bohol. February 2014 and November 2014 @JR Jimenez

2.1- Survey of Bohol Earthquake damage

The survey after the earthquake has been carry on during 8th november to 18th november (pic2). The survey team has been composed by JRVJ and Carlos Cordero Aguade[2]. All the same Heritages buildings visited on the previous survey has been checking to know the their disaster efffects.

Cebu city: Casa Gorordo, Jesuit House of 1730, Fort San Pedro, Cathedral Museum of Cebu, Cebu

CEBU ISLAND SPANISH COLONIAL CHURCHES- 15.10.2013 EARTHQUAKE DAMAGES

		Bellfry	walls				Interior				Convent	Est %damage		
			Front	Rigth	Beside	Left	Altar	Ceiling	Floor	Sacristy		Structure	Interior	S+I
1	Pardo	2	1	0	0	0	0	0	0	0	0	15	0	7,5
2	Talisay	1	0	1	1	0	0	0	0	0	0	15	0	7,5
3	Minglanilla	0	1	1	0	1	0	0	0	0	0	15	0	7,5
4	Naga	0	1	1	0	1	0	0	0	0	0	15	0	7,5
5	San Fernando	1	2	1	1	1	0	0	0	1	0	30	5	18
6	Carcar	3	1	1	1	1	0	1	0	0	1	35	5	23
7	Sinbonga	2	1	2	1	2	1	0	0	1	1	40	10	28
8	Argao	1	1	1	1	1	0	0	0	0	0	25	0	13
9	Dalaguete	3	3	1	2	1	0	0	1	2	2	50	15	38
10	Alcoy	1	0	0	0	0	0	0	0	0	0	5	0	2,5
11	Boljoon	1	1	1	1	2	1	0	0	1	0	30	10	20
12	Oslob	0	0	1	0	1	0	0	0	0	0	10	0	5
12	Oslob	1	1	1	1	1	0	0	0	0	0	25	0	13
13	Santander	0	0	1	0	1	0	0	1	0	0	10	5	7,5
14	Samboan	3	2	2	0	0	0	0	0	0	0	35	0	18
15	Ginatilan	0	0	0	0	1	0	0	0	2	0	5	10	7,5
16	Malabayoc	2	2	0	0	0	0	0	0	0	0	20	0	10
17	Alegria	0	0	0	0	0		0	0	0	0	0	0	0
18	Badian	0	1	0	1	0	2	1	0	0	0	10	15	13
19	Moalboal	0	1	0	1	0	0	0	0	0	0	10	0	5
20	Alcantara	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Ronda	1	1	0	0	0	0	0	0	0	1	10	0	7,5
22	Dumanjug	2	2	2	0	1	0	2	0	1	0	35	15	25
23	Barili	2	2	1	0	1	1	1	1	0	0	30	15	23
24	Aloguinsan	1	1	2	1	2	1	0	1	0	0	35	10	23
25	Pinamungajan	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Toledo	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Balamban	0	2	2	0	1	0	2	1	0	0	25	15	20
28	Asturias	2	0	0	0	0	0	0	0	0	0	10	0	5
29	Tuburian	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Tabuelan	0	1	1	0	1	1	0	1	0	0	15	10	13
31	San Remigio	0	1	0	1	0	1	0	0	0	0	10	5	7,5
32	Santa Fe	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Madridejos	0	0	0	0	0	1	0	0	0	0	0	5	2,5
34	Bantayan	0	1	0	0	2	0	0	0	0	0	15	0	7,5
35	Medellin	0	1	1	0	1	0	0	0	0	0	15	0	7,5
36	Daan Bantayan	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Bogo	0	0	0	0	0	0	0	0	0	0	0	0	0
38	Tabogon	2	1	0	0	0	0	0	0	0	0	15	0	7,5
39	Borbon	0	1	0	0	0	0	0	0	0	0	5	0	2,5
40	Sogod	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Catmon	0	0	0	0	0	0	0	0	0	0	0	0	0
42	Carmen	0	1	0	0	0	0	0	0	0	0	5	0	2,5
43	Danao	1	0	0	0	0	0	0	0	0	0	5	0	2,5
44	Compostela	0	0	0	0	0	0	0	0	0	1	0	0	2,5
45	Liloan	0	0	1	1	1	0	0	0	0	0	15	0	7,5
46	Consolacion	0	1	0	0	0	0	1	0	0	0	5	5	5
47	Mandaue	1	2	0	0	0	0	0	0	0	0	15	0	7,5
48	Lapu-lapu											0	0	0
49	Santo Nino	3	0	0	0	0	0	0	0	0	0	15	0	7,5
50	Cathedral	2	2	0	0	0	0	0	0	0	0	20	0	10
51	San Fr. Camotes	0	0	0	0	0	0	0	0	0	0	0	0	0
52	Poro Camotes	0	1	0	0	0	0	0	0	0	0	5	0	2,5
53	Cordova	0	0	0	0	0	1	0	0	0	0	0	5	2,5

BOHOL ISLAND SPANISH COLONIAL CHURCHES
15.10.2013 EARTHQUAKE DAMAGES

1	Loboc	4	9	Cortes	4	17	Clarin 4
2	Baclayon	3	10	Trinidad	3	18	Corella 3
3	Dauis	3	11	Inabanga	4	19	Panglao 3
4	Maribojoc	4	12	Lila	3	20	Tubigon 4
5	Loon	4	13	Bilar	3	21	Danao 3
6	Loay	3	14	Tagbilaran	3	22	Carmen 3
7	Dimiao	3	15	Siketuna	3	23	Antequera 3
8	Calape	3	16	Talibon	3		

0	Non Damages
1	1-25% Damages
2	26-50% Damages
3	51-75% Damages
4	76-100% Damages

Pic 2. Disaster effects of Bohol Earthequake on Cebu and Bohol Island's Heritages.

Metropolitan Cathedral, Basilica Minore del Santo Niño, Museo Sugbo (Carcel de Cebu).

Southeast of Cebu Cebu Island: Church of San Francisco de Asís (Naga), Church of Santa Catalina de Alejandria (Carcar), Church of Nuestra Señora del Pilar de Zaragoza (Sibonga), Church of San Miguel el Arcángel (Argao), Church of Patrocinio de Maria, (Boljoon), Church of Inmaculada Concepción (Oslob), Church of San Guillermo de Aquitania (Dalaguete).

Bohol island: St. Isidore the Farmer Church (Tubigon) (pic.3), Church of Nuestra Señora de la Luz (Loon), Santa Cruz Parish Church (Maribojoc), Santo Niño Parish Church (Cortes), The Church of San Pedro (Loboc), Baclayon Ancestral Homes Association (Bahandi).

With the collaboration of the professor Melva Java, from the department of conservation of San Carlos University, has been possible to compilate the disasater damages on 53 churches of Cebu Island and 23 churches of Bohol Island (Pic4).

In Cebu island onlly three churches had been importants structural damages. However in all churches of Bohols island has been affected with damages of more 50％, and seven churches partially or totally collapsed[3].

2.2- Survey of Bohol Ancestral Houses

The survey of the Ancestral houses of Tagbilaran city in Bohol has been carry on during 14th to 28th February. The survey team has been conducted

Pic 3. Bohol Ancestral houses @Photo JRJV

by JR.Jimenez and Taihei Fujisawa[4],Pablo Gonzalez and Jose Maria del Espino[5]. A total of 20 Heritages houses had been reported with graphic and historic documentation (pic.3).

3.- STUDY ON URBAN RECONSTRUCTION OF TACLOBAN CITY

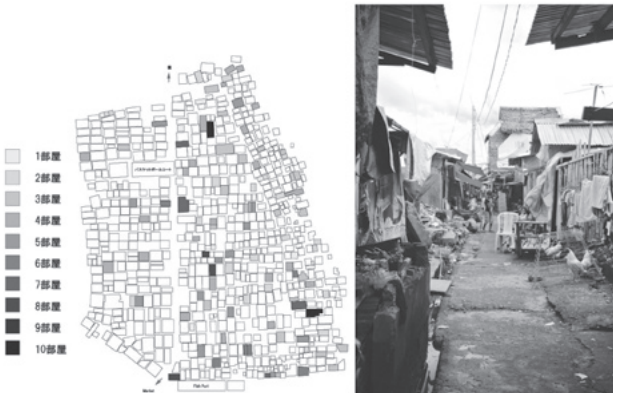
By November 11, the provinces of Aklan, Capiz, Cebu, Iloilo, Leyte, Palawan, and Samar, were placed under a state of national calamity. The government used state funds for relief and rehabilitation and to control prices of basic goods, and approximately 700,000 US$ had been allocated in relief assistance by the NDRRMC[6]

The international support has been conducted by 41 countries[7], Actually in the Visayas area there are a total of 3,097 projects of reconstruction and rehabilitation with a total cost of 609,808,454 US $, of which 413 are completed, 2,315 on going, 156 pipelined, 56 proposed and, 157scheduled[8].

From March 2014 a draf of the Tacloban Recovery and Rehabilitation Plan (TRRP)[9] was enacted by Tacloban Recovery and Sustainable Development Group in Cooperation with Unhabitat.

3.1- Research on temporary houses and urban reconstruction process.

Survey conducted by JR.Jimenez, Koji Mabuchi and Ryouske Inoue[10] in Tacloban city during August and December of 2014. Actually the relocation housing project in Tacloban city is being carried out with the construction of 5 main temporary housing sites in Barangays 62,91,95,97 and permanents housing in barangay 105. However, construction of housing in the coastal area (like barangay 37, pic.4), identical to pre-disaster scenario, tell us of the determination of Tacloban to recover its life, but the great difficulty in getting a new rebirth of the city.



Pic 4. Survey on Barangay 37, Tacloban city. @Photo JRJV

4- RECONSTRUCTIONS SUPPORT PROJECTS

During the year 2014 Teachers and students have been involved in the support for the reconstrution of Tacloban, Cebu and Bohol througth Organization of international conference, exhibition, coordination of reconstructtion of Heritage building, organization of students workshop, and desing of reconstruction building projects for affected communities.

4.1-Japanese-Philippine Conference for Restoration and Conservation of Cebu and Bohol island's Cultural Heritage

This conference tried to contribute to the region of Cebu and Bohol through the Japanese experience on reconstruction after natural disaster and conservation of heritages. Place: The University of San Carlos. Dates: 1st and 2nd of August 2014. 12 specialist participant from Japan, and 9 from Philippines[11].(pic.5) A total of 218 persons attend the conference. (Japan Foundation Grant Program for Intellectual Exchange Conferences, organized by Japan Society for Asian Pacific Properties Studies. JR.Jimenez has been the project director).

Pic.5. Japanese-Philippine Conference for Restoration and Conservation of Cebu and Bohol island's Cultural Heritages. @Photo JRJV.

4.2- Exhibition of Japanese Sustainable Emergency Architecture for Disaster.

This exhibition target to open to the Philippine society in Visayas the latest temporary architecture designs (21 works) created by Japanese architects and Universities of architecture[12] for the reconstruction of the tsunami areas affected by the 2011 Great East Japan Earthquake. The exhibition had been carry on during 1st July 2014 to 1st February 2015. in 4 museums of Cebu

city: Museum Jesuit House, Cathedral Museum, J.R.G. Halad Museum, Museo Sugbo. Pic.6 (Japan Foundation Exhibition Abroad Support Program Grant Program for Intellectual Exchange Conferences. Organized by VAMGI, JR.Jimenez has been the project director and curator)

Pic 6. Exhibition Abroad Program. @Photo JRJV

4.3- Restauration project of San Guillermo de Aquitaña Parish Church, Dalaguete, Cebu.

CULTURAL EMERGENCY RESPONSE (CER). Claus Foundation., JR.Jimenez is member of the project coordination.

4.4- International Workshop of Students of Architecture Sustainable “Conservation and Development of Camotes island. Cebu”.

September 15th-20th 2014, in Camotes Island and University of San Carlos. Participation of architecture students from University of Shiga Prefecture, the University of Seville (Spain), University of San Carlos (Philippines). Organized by JR.Jimenez laboratory.

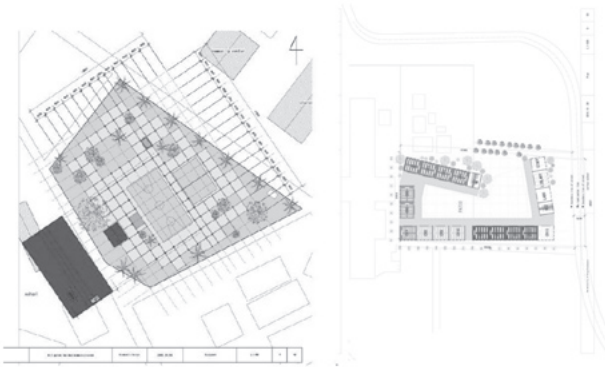
5-5 Desing of reconstruction building projects for affected communities.

The dirsign by architcture students of University of Shiga Prefecture of two projects of educational buildings for affected community to be aplied to Japan Embassy ODA program fot their construccion. (pic.7)

a) Elemntary School design Project in Cortes, Bohol.

b) Community Center design project in Barangay 74 in Tacloban city.

Prof. Supervisor JR.Jimenez, R.Ashizawa and T. Nagai.



Pic 7. Community Center in Tacloban (left) and Elementary School in Cortes(rigth)

1 The National Disaster Risk Reduction and Management Council (NDRRMC)

2 Student of Superior Tecthnic School of Architecture of Seville and international exchange student of Shiga Prefecture University

3 2014 SURVEY REPORT ON THE PROTECTION OF CULTURAL HERITAGE IN REPUBLIC OF THE PHILIPPINES. Published by Japan Consortium for International Cooperation in Cultural Heritage. July 2014.

4 Master student of Shiga Prefecture University.

5 Students of Superior Tecthnic Shool of Architecture of Seville and international exchange students of Shiga Prefecture University.

6 On November 18, the government of the Philippines launched an online portal, called the Foreign Aid Transparency Hub (FaiTH), to provides the public a transparency view of the funds and other aids received by the government from the international community.

7 Include United Kingdom (131 million US $), United States (86,7 million US $), Australia(70 million US $), Japan (52 million US $), Norway (41.6 million US $), and Canada(40 million US $).

8 The Office of the Presidential Assistant for Rehabilitation and Recovery (OPARR).

9 Tacloban City Hall. Urban Planning department.

10 Master students of Shiga Prefecture University.

11 Prof. KAZUHITO TANAKA, Chair of JAPAN SOCIETY FOR ASIAN PACIFIC PROPERTIES STUDIES.; JUAN RAMON JIMENEZ VERDEJO, University of Shiga Prefecture (Japan); Mr. JOSEPH MICHAEL P. ESPINA, Dean CAFA, University of San Carlos (Philippines); Prof. MARIKO FUJIOKA, National Graduate institute for policy studies (Japan); Fray MILAN TED TORRALBA, Chairman of the Diocese of Tagbilaran's Commission of the Cultural Heritage of the Church (Philippines);
Prof. SHU YAMANE, Kwansai Gakui University (Japan); Mr. CARLOS GALLEGO, Senior Program Manager Spanish Agency for International Development Cooperation (AECID), Embassy of Spain in the Philippines (Philippines); Prof. MELVA RODRIGUEZ JAVA, CAFA, University of San Carlos, NCCA, (Philippines); Prof. JOY M. ONOZAWA (CAFA, University of San Carlos, NCCA); Prof. UENO KUNIKAZU, Nara Women's University (Japan); Prof. TOSHIKAZU HANAZATO, Mie University, ICOMOS (Japan); Miss RUMI OKAZAKI, Researcher at CNRS Paris (Japan); Prof. JEFFREY COBILLA, Escuela Taller Intramuros (Philippines); Prof. NORIKO TAKIYAMA, Tokyo Metropolitan University (Japan); TINA BULAONG (Director of Escuela Taller Intramuros); Prof. RIICHI MIYAKE, Fuji Women's University (Japan); Arch. ANTHONY ABELGAS, Jesuit House of 1730 (Philippines) ; Prof. RYUICHI ASHIZAWA, Ryuichi Ashizawa Architects & associates, University of Shiga Prefecture (Japan); Arch. JESUS ALBERTO PULIDO ARCAS, Canon Foundation Fellow (Japan); KAZUYA MORITA, Morita Architects. (Japan); Mr. Jeremy Barns, Director of National Museum of Philippines.

12 1) BAMBOO ARK, University of Shiga Prefecture, Toki labo+Takahashi buildg; 2) BAMBOO ARK II, University of Shiga Prefecture, Toki labo; 3) TANOURA COMMUNITY CENTER, University of Shiga Prefecture ;4) BANYA, Miyage University, Takeuchi Labo; 5) BANYA II, Miyage University, Takeuchi Labo; 6) USATSU COMMUNITY PABELLON,Yoshihiro Hiraoka; 7) WOODEN TEMPORARY HOUSING+TEMPORARY ASSEMBLY HALL, Sei Haganuma; 8) TEMPORARY HOUSING FACILITY, Taro Igarashi; 9) ECO BIRCH SHELTER - Yoshinobu Mizutani; 10) DONGURI HOUSE, Hirohumi Sugimoto; 11) ONAGAWA CONTAINER TEMPORARY HOUSING+COMMUNITY CENTER - Shigeru Ban; 12) TEMPORARY HOUSING IN TONO - Toshio Otuki; 13) EX-CONTEINER PROYECT - Yasutaka Yoshimura; 14) SHIRAHAMA REHABILITATION HOUSES - Shinnichi Sekiya; 15) EMERGENCY WOODEN HOUSE IN ITATSU - Shoichi Haryu; 16) SATOUMI STATION - Hirokazu Toki,Takuo Nagai, Takahashi buildg; 17) CYCLE-SHIZUGAWA ELEMENTARY SCHOOL ACTION PROJECT - Kenya Ishihara; 18) FACES OF HOURAIKAN - Katsuhiro Miyamoto; 19) GASSHO - Koji Kakiuchi; 20) CARDBOARD SHELTER - Toshihiko Suzuki; 21) ZENKON-YU PROJECT - Tadashi Saito.