

# “CHALLENGES IN PRESERVING THE HERITAGE HOUSES OF BATANES, PHILIPPINES”

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**Fig. 1** Vintage Photo of a *Batanes* Heritage Houses

## INTRODUCTION

Houses built in the tropics need to deal with the contextual elements inherent in the region. Such is the case for heritage houses located in *Batanes*, Philippines. Natives built their dwellings to address fundamental issues such as earthquakes, hot humid summer months, strong typhoons and continuous monsoon rains. The low houses with their heavy stone walls and thick grass roofs are not found anywhere else in the country. They are vernacular architecture of lime, stone, wood and thatch. They are

designed to adapt to extreme conditions of a region that is dominated by the unpredictable climate.

The people realize that their unique ways provide the special quality that ensures the perpetuation of *Batanes* as a living cultural landscape. Situated between the equatorial latitudes of Cancer and Capricorn, the sun hovers almost directly above generating an environment that is warm and fertile during summer. During the rainy season, inhabitants nestle inside their cozy houses with abundant stock of agricultural products that will last throughout the rest of the year. Natives rely on agriculture and fishing for their livelihood. Their architecture showcases poetic values that integrate local traditions into the physical environment. In Addition, builders subscribed to the rule that form is shaped by daily activities and the elements. An example is observed through planning where villages are laid out to encourage interaction with neighbors while chores are merged with the agricultural practices of the community. The distance and unsympathetic weather that isolate the islands most of the year thus led to the preservation of many of the heritage houses in this unique part of the Philippines.

A strong sense of history prevails in the different islands of *Batanes*. This is seen in the cultural systems that continue to prevail in various villages. Established cooperatives and traditional practices dating back to colonial times still exist today. Fishing, farming and house building activities remain deeply rooted in *Ivatan* (indigenous people of *Batanes*) way of life. A result of the transfer of know-how handed on from one generation to the next. But, the houses continue to be subject to risks such as earthquakes and strong typhoons that cause irreparable damage to some

of the extant houses. *Batanes'* built heritage is continuously subject to various types of deterioration, including weathering and the introduction of modern amenities coming from the mainland. Over the last couple of years, a strong sense of patrimony was observed in the region and efforts to save the houses have been the focus of the *Ivatans*.

## **GOALS**

In July 16 of the second millennium, a major earthquake took place causing damage of varying degrees to many of the historic houses. To address the crisis, local officials prepared the *Batanes* Heritage House Restoration and Conservation Program (BHHRCP) based on regulations created after the earthquake.

Included in the BHHRCP report are the historical, cultural, social and political aspects of the Province. For aspects related to technical assistance and consultancy, the following course of action have been established:

- ① Develop a pool of local preservation and conservation experts in *Batanes*
- ① Provide advice / assistance on restoration, conservation and preservation, including the maintenance and development of source of materials – reeds, thatch grass, boulders, lime, etc...
- ① Study adjustments on design to reflect changing use, limitations on sources of building materials, functionality, etc.

## **PLAN OF ACTION**

In response to this requirement, the Office of the Provincial Government, the NCIP (National Commission for the Indigenous People) of *Batanes*, and the Extension Services Program of the University of the Philippines College of Architecture, entered into a tripartite agreement to develop an architectural guide for the preservation of these historic houses.

The program was initiated in the last quarter of 2003 and submitted in 2004 as part of a comprehensive management plan to UNESCO's (United Nations Educational, Scientific, and Cultural Organization) World Heritage Listing. The goals were as follows:

- ① Set architectural parameters for developing and evaluating forms, systems, components and details of *Batanes* Historic Houses
- ① Document and explore traditional, innovative and alternative construction systems that support the use of available architectural know-how in the region without compromising the forms of existing heritage houses
- ① Address architectural preservation and conservation problems within the limitations defined by environmental concerns such as earthquakes, fire, typhoons, natural decay, cost, and efficiency

The project was created as part of requirements for the UNESCO nomination dossier.

In the next couple of years, UNESCO will assess if *Batanes* can be included into the World Heritage List.

## **HISTORICAL VALUE**

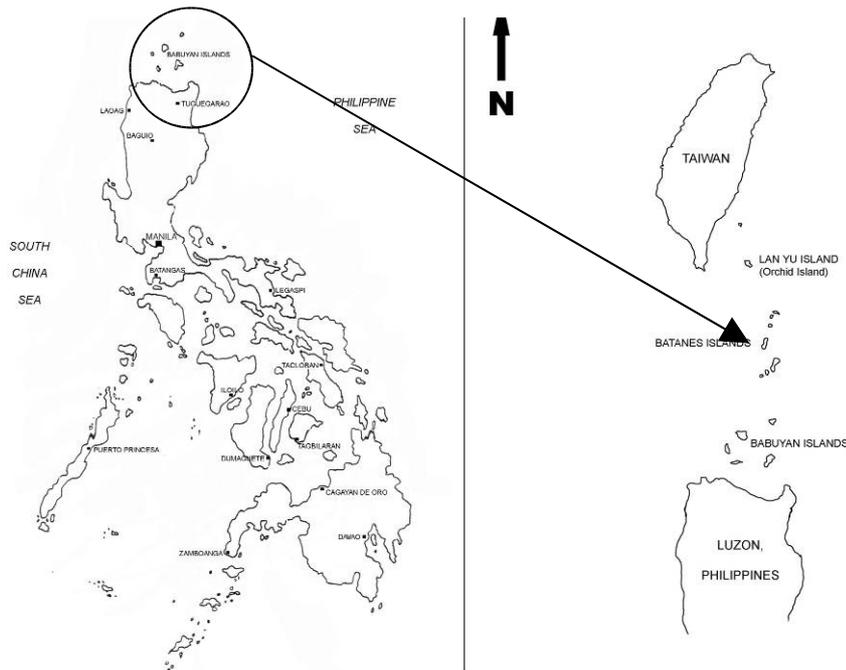
In a study conducted by Anthropologist Peter Bellwood, Austronesians were believed to have originated in Southern China and Indochina and reached the *Batanes* Archipelago in 3,500 BC. *Batanes* was the stepping stone in the start of a great migratory wave that led Austronesians through the Philippines, one of the land bridges for the rest of Asia. Just about a thousand years later, they moved on from the Philippines and expanded towards Borneo, Sulawesi, and eastern Indonesia. A thousand years later they continued to travel from eastern Indonesia to Micronesia and Polynesia, reaching as far as Madagascar on the African shores of the Indian Ocean.<sup>1</sup>

Bellwood, who studied the Austronesian dispersal and origin of languages, talks of a Taiwan-Northern Luzon axis of the Neolithic community between 3,500-2,500 BC which was reinforced by the Kumamoto Report. Taiwanese anthropologist Ho Chuan-kun's research presented another theory showing that the earliest Micronesians in Taiwan came from the Philippines and Indonesia. Austronesians eventually went to the Palau and Yap Islands throughout a century of migration. The established trade circle was based on "stone money" which are said to be as large as a home.<sup>2</sup> Nevertheless, the common link established by the Austronesians through their area of dispersal was language, the basis for language similarities that now exist in the Asia Pacific Region. Closer scrutinies of architectural forms show that tangible heritage can serve as basis for establishing these links as well.

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<sup>1</sup> Villalon, Augusto F., et. al., *Mavid A Vatan! Project: Province of Batanes, Nomination Dossier for UNESCO on Batanes Protected Landscape and Seascape / Cultural and Heritage Sites Management Plan*, 2004

<sup>2</sup> Yu Sen-lun, *Connecting Taiwan to its Past*, The Taipei Times, Sunday, Jul 13, 2003, Page 18



**Fig. 2 - Location Map of *Batanes* and Taiwan's *Lanyu* Island**

Similarities in the historic architecture found in *Lanyu* Island of Taiwan and the *Batanes* Islands have been noted. *Lanyu* is inhabited by the *Yami (Tao)* Tribe and the strong similarity between language and cuisine of the *Ivatan* and *Yami* is well-established.

In similar respect, the Austronesian architecture of lightweight construction is observed to have similarities all over the region. *Ivatans* evolved their own architecture variation to respond to strong winds, typhoons, and earthquakes. This is the *Batanes* environmental reality.<sup>3</sup>

<sup>3</sup> Turalba, Cristina V., et. al., *Mavid A Vatan! Project: Province of Batanes, Nomination Dossier for UNESCO on Batanes Protected Landscape and Seascape / Cultural and Heritage Sites Management Plan*, 2004



**Fig. 3 & 4 –Ethnic Architecture: *Niri di* and *Chivuvuhung* House**



**The *Sinadumparan* House of *Batanes***



**The *Yami* House of *Lanyu*, Taiwan**

**Fig. 5 & 6 – Colonial Architecture: Similarities between Taiwan and Philippines**

Spanish colonial presence started in the 17th century. During the Spanish colonization, the natives were forced to transfer to coastal villages designed by the colonizers. They obliged communities to follow western town planning and introduced architecture made of stone and thatch materials. A housing program was introduced by the Spanish friars during this period and many of the modular units still exist to date in various housing settlements all over *Batanes*. During the Spanish colonization, it is believed that some *Ivatans* migrated to the mainland and others escaped to *Lanyu* due to strict rules imposed by the friars.<sup>4</sup>

<sup>4</sup> Hornedo, Florentino H. *The Traditional Ivatan House: A Historical Survey*. Vol. 16 No. 2 of *UST Journal of Graduate Thesis*. March 1987.

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encroachers. In them are still seen the endemic flora and fauna present only in the province.



*Sinadumpan House*



*Sinadumpan-a-Binedberan House*

**Fig. 8, & 9 – House Archetypes types in *Batanes***



*Maytuab House*



*Mayhurahed House*

**Fig. 10 & 11 – House Archetypes types in *Batanes***

## **METHODOLOGY**

Several house settlements are scattered all over the three islands of *Batanes*. For this project and due to the large number of existing houses, only a few the structures that are found to be authentic were thoroughly scrutinized to serve as basis for the research. An in-depth study on the morphology of these historic structures was collected to serve as basis for the conservation work required. Moreover, detailed documentation showing building forms and their traditional construction methods were re-established and documented as requisites for the long-term maintenance of the houses.<sup>5</sup>

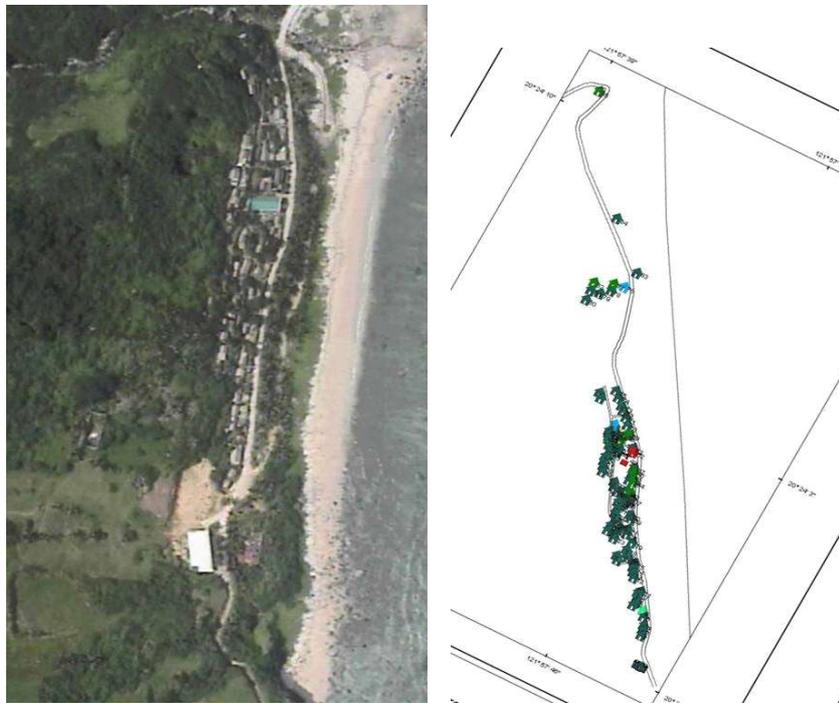
This author, for example presents one house settlement as a case in point in this paper (Fig. 12 & 13). The settlement is in the Island of *Batan* and located in the village of *Diura*. The settlement has been identified as a Cultural Core Heritage Zone by the local provincial government. The village was created during the Spanish Colonial

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<sup>5</sup> Ignacio, Jose “*Heritage Architecture of Batanes Islands in the Philippines: A survey of Different House Types and their Evolution*”, Environmental Architecture Laboratory - University of the Philippines, College of Architecture, May 2005

period as a new town and designed in a grid plan with a central plaza. Predominance and presence of good examples of the *Chivuvuhung* or *Jin-jin* house types, with unique architectural features is found in this village. The whole village is in moderate state of conservation.

In the village of *Diura*, there are a total of 90 houses; 13 of which are new construction, 1 traditional house is abandoned and derelict, 1 traditional house is occupied with medium damage, 2 structures unclassified, and 73 traditional houses are well maintained and currently occupied as dwellings.



**Fig. 12 & 13 – Aerial Map of *Diura* Village, Locator Map of Heritage Houses**

To address the preservation and conservation of houses for a village such as *Diura*, several phases can be taken. In addition, the whole effort has to work within the limitations defined by environmental concerns such as earthquakes, fire, typhoons,

natural decay, cost, and efficiency. The processes for developing the maintenance plan for the houses are as follows.

Phase One:

- ① Document the existing heritage houses within the village through aerial maps and photos
- ① Identify the various house morphologies and architectural parameters
- ① Conduct interviews from the elderly members of the village and gather historical / written data on weathering, construction techniques and sourcing of materials
- ① Evaluate the forms, systems, components and construction details of the houses
- ① Document the architecture and engineering particulars and re-establish the anatomy traditional houses through sketches and diagrams

Phase Two:

- ① Formulate guidelines on preserving the heritage structures
- ① Establish alternative construction systems that support the use of available architectural know-how in the region without compromising the forms of existing heritage houses
- ① Develop handbooks that address architectural preservation and conservation proposals within the limitations defined by environmental concerns such as earthquakes, fire, typhoons, natural decay, cost, and efficiency

## **DESIGNATION OF THE PROPERTY**

Because the house settlement is still in good state of preservation and little alteration is observed, the whole inventory of houses in *Diura* can be classified under Strict Protection Zone. In this core zone, clusters of traditional houses survived time and are in their original condition and still used as dwellings. Furthermore, the houses are still inhabited by the locals. This hopes to further ensure the preservation of the structures.

The houses are of outstanding example of a type of building, architecture or technological ensemble that illustrates a significant stage in Philippine history. *Chivuvuhung/Jin-jin* houses as well as the *Sinadumparan* archetypes are built of wood, stone and thatch and located in tight clusters to withstand strong typhoons and prevailing north winds that are the strongest in the country and perhaps elsewhere in the world. *Batanes* islands lie directly in the path of the inter-tropical convergence zone.

## **OWNERSHIP, ASSUMPTION OF PROPERTY AND THE RESPONSIBLE AUTHORITIES**

House ownership all over *Batanes* is mixed. Traditional houses are privately owned. The government owns all open plazas, roads and public buildings throughout the village. Churches are the property of the Roman Catholic Archbishop of *Batanes*. Following local tradition, owners provide free access to their property.

The National Commission for Indigenous Peoples Rights Act (IPRA) focuses on cultural integrity ensuring that the state shall recognize, respect and protect the rights of Indigenous People. The NCIP-*Batanes* Office is the lead agency working on the

conservation projects. The *Ivatan's* of *Batanes* are an indigenous tribe of the Philippines.

## USAGE

In general, the main purpose of heritage architecture preservation for *Batanes* is: firstly for habitation and second to increase revenues through tourism. A detailed promotion program is currently in process. Promotional activities undertaken within the past year have included publication of newspaper articles, photographic exhibitions, *Batanes* Week Celebration, and the *Batanes* Festival sponsored by the *Batanes* Province and the Department of Tourism in Manila.

Fig. 14 to 18 – Houses

## PRESENT STATE OF

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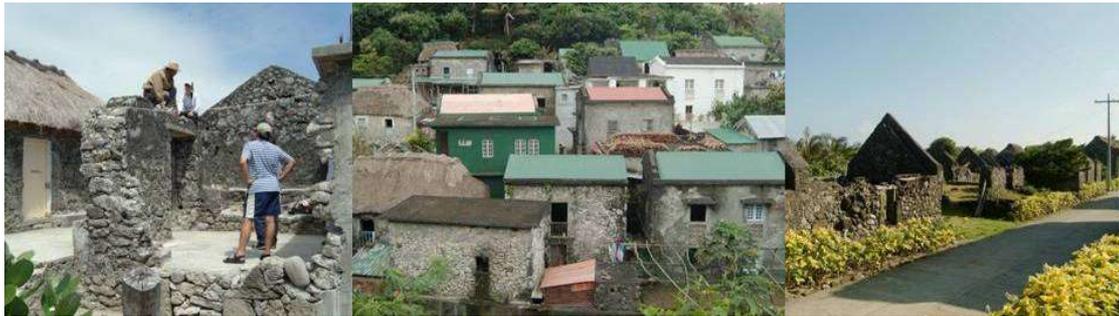


**Fig. 19 to 24 – *Kama idungan* Cooperative’s Re-Roofing Activity**

## **ISSUES AND CONCERNS**

Recent years show transformations in the state of conservation of the heritage sites of *Batanes*. In the last decade, since the July earthquake that devastated major parts of its built heritage, traditional architecture together with the rich customs and traditions of the people, have been most compromised, leaving with it many damages to structures.

The people had to immediately repair their houses due to the constant battering of typhoons that hit the province yearly. The national government likewise extended assistance in terms of materials and methods of construction that paves the way to repairs through materials and technologies that are incompatible to the original.

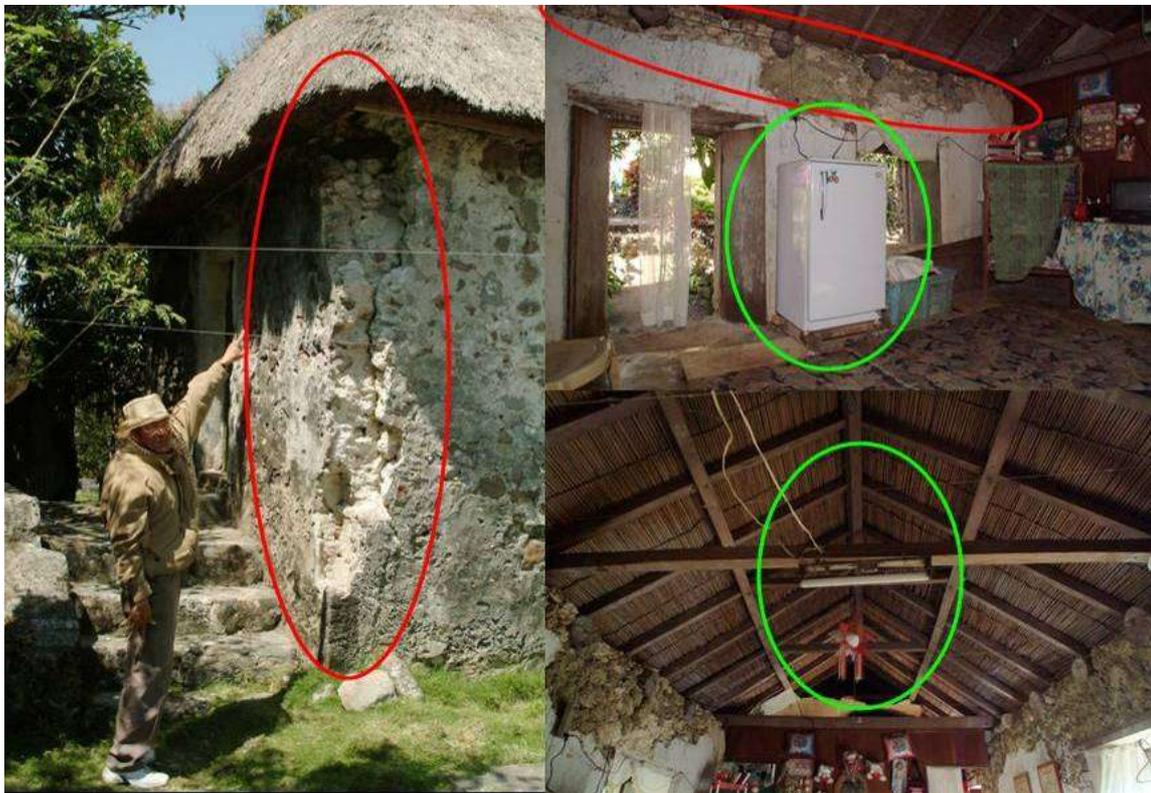


now present themselves with concrete columns, while the grass roots have slowly been replaced with corrugated galvanized iron sheets imported from the mainland. The houses originally with stone beams would now be seen with reinforced concrete structural members. Even the stone lintel that holds the upper structural part of the apertures of the houses would slowly disappear and be converted to concrete lintel beams, infused with reinforcing bars.

Slow transformations have been observed. Primarily caused by out migration of the residents, cultural traditions are affected, starting the influx of modern characters. Younger generations inspire these transformations. Their quests for a better life have initiated their transfers to study or work in the mainland, and were therefore influenced by what they have seen. Difficulty in producing lime and scarcity of traditional raw materials come into conflict with heritage preservation efforts. A reality the local government and stakeholders have to contend with.



Fig. 28 & 29 Examples of Changes in Roofing Materials



Seascapes (BPLS) as one of the ten sites protected by the NIPAS Act. The BPLS focuses on the preservation of *Batanes* Culture and its traditional practices to continue in harmony between the inhabitants and their natural environment, leading to an acceptable balance in the *Batanes* Archipelago.

- ① Republic Act 8991: This act establishes *Batanes* Group of Islands as a protected area providing for its management and for other purposes. A Protected Area Management Board (PAMB) was created as the highest policy-making body serving as venue for decision making process in the BPLS. Its members are: Department of Environment and Natural Resources, Local Government Units, People's Organizations and Cooperatives, and Non-Governmental Organizations.
- ① National Commission for Indigenous Peoples Rights Act (IPRA) of June 1998 protects the rights of Indigenous People of *Batanes*. NCIP-*Batanes* is the Lead Agency working on conservation of the heritage houses.

**SEVERAL PROPOSED LEGISLATIONS WERE IDENTIFIED AND APPROVAL IS PENDING**

The ordinances related to preservation of heritage architecture are as follows:

Proposed Municipal Ordinance to declare traditional houses individually or in clusters as cultural treasures and provide incentive packages and subsidy and set standards

- ① Ordinance No. 41 Series 2002 enacting the conservation, development and management of the natural and cultural heritage sites in the province of *Batanes* and providing funds thereof. This ordinance hopes to provide incentive packages and to set conservation standards. (Proposed under the category of cultural heritage conservation and management)
- ① Ordinance to address issues on gazetting of *Ivatan* Architecture and significant buildings; the establishment of *cogonal* or grass reserves; the establishment of a building code; the conservation subsidy for traditional buildings; the ban on

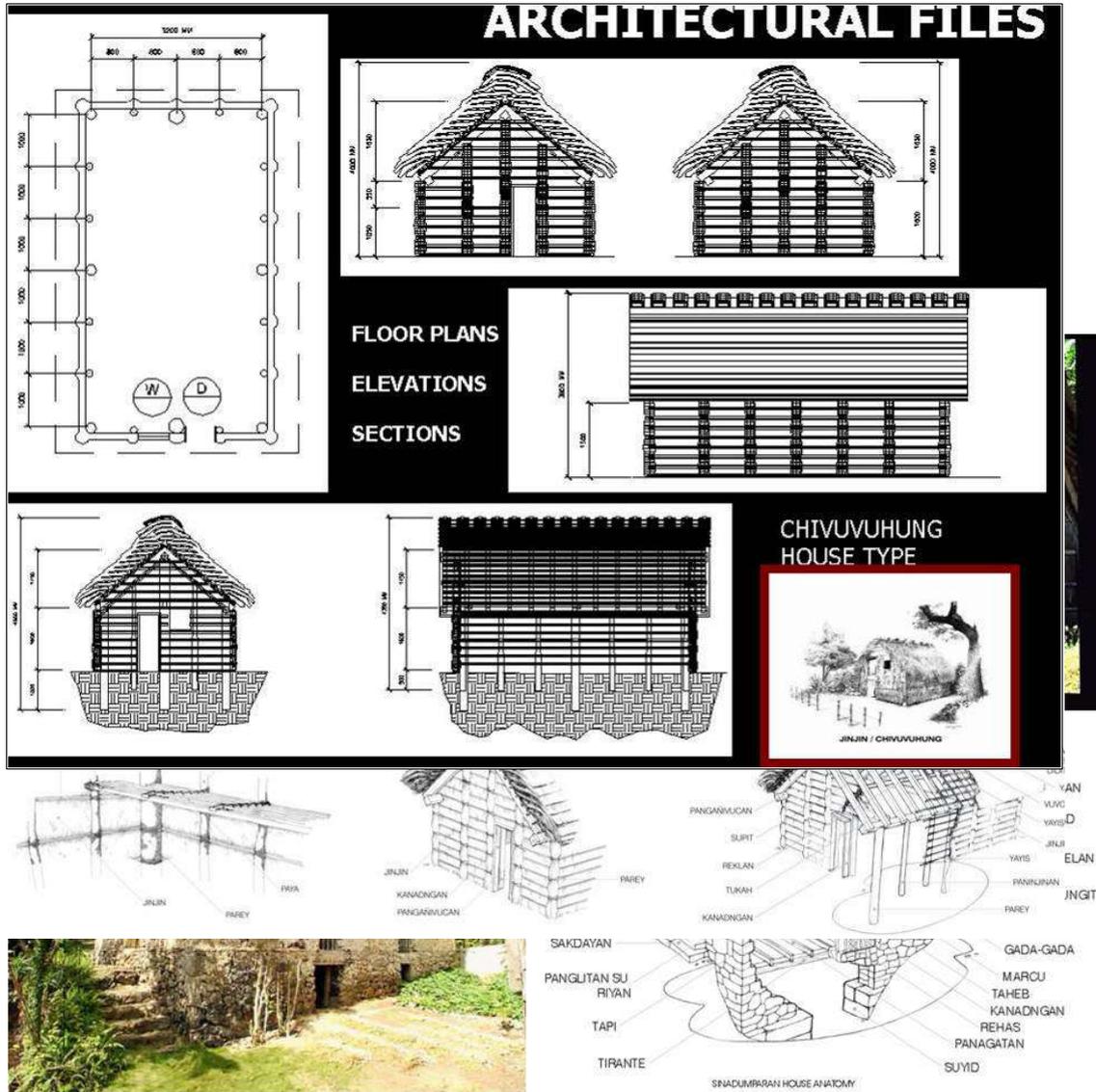
use of cement in gazetted buildings; these will be done in accordance with existing Provincial Ordinances.

- ① Ordinance No. 02-03 which is an addendum to Ordinance No. 00-10 dated June 5 2000 which is an amendatory ordinance amending Ordinance No. 96-04 regulating and preserving the use of tourist sites in various municipalities.

### **IMMEDIATE AIMS FOR PRESERVATION AND MAINTENANCE**

- ① To document the vernacular construction techniques and develop design solutions for the preservation of *Batanes* Heritage Houses
- ① To enumerate, define and articulate the framework that complete the ensemble featuring components of the *Batanes* House
- ① To address the structural damage caused by tectonic activities of the region
- ① To re-establish and document the traditional construction techniques of vernacular engineering
- ① To carry out a maintenance plan for the preservation of the heritage structures
- ① To provide advice on integration of new technologies into the heritage houses that are caused by shift in lifestyles of the stakeholders





temporarily transferred to the scaffolds by using a jack

4. In laying out wood distribution beams, stones at the inner portion of walls may be temporarily removed to provide space for the distribution beams
5. As much as possible, the outer layer of removed stones must be replaced with appropriately sized stones of the same material as the original.
6. Replaced stones must be grouted along surfaces in contact with the new distribution beams before lime mortar mixture is poured.

7. The distribution beams must be anchored using lime mortar to provide maximum bond.
8. After seven days of curing time, supporting scaffolds for the roof frames may be removed.

### **SIMPLE MEASURES FOR SEISMIC UPGRADING OF THE TRADITIONAL IVATAN HOUSE <sup>6</sup>**

The following measures are recommended to increase the structural resistance of traditional *Ivatan* houses during earthquakes:

- ① De-lamination of rubble stone masonry walls
- ① Repair displacement / detachment of stones at the corners of the walls
- ① Repair breakage of connecting portions between two adjacent shear walls (i.e. above or below openings such as windows, doors, etc)
- ① Replace damaged stone lintels
- ① Address overturning of upper portion of gable walls by correcting anchorage and inter-locking systems of distribution beams and roof trusses

In addition to the repair works, the following measures may be used to increase the shear resistance of the corners and to strengthen the buildings in general:

- ① Application of horizontal stitching techniques at the corners of damaged walls
- ① Vertical stitching to strengthen weak and narrow wall portions
- ① Stiffening of the roof structures to brace the walls

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<sup>6</sup> BECKH, MATTHIAS, *Suggested Measures of the Seismic Upgrading of the Traditional Batanes House*

- ① Corroded mortar joints in masonry structures (de-nurtured joints) should be re-injected with lime mortar of same consistency as the original mixture
- ① Cracks and fissures in masonry walls must be re-evaluated for poor stone laying techniques, the original construction layout must be re-established
- ① Strength and condition of lintels and of connections between walls, roofs and floors should re-establish the interlocking mechanism of original construction methods
- ① Wooden elements (hidden decayed parts & wet rot) must be kept dry at all times to prevent insect or termite infestation. Decayed parts should be replaced using original method of installation.
- ① Water tightness of the roofs must be practiced at all times. Poor performance to precipitation causes corrosion of lime mortar, increase in humidity and water retention on walls leads to fungi on walls. Good ventilation must be provided by opening windows and doors as often as possible.
- ① Replace iron nails with the wooden pegs observed in traditional construction to prevent corrosion and destabilization of roof system

## **CONCLUSION**

Preventive Maintenance can serve as a primary guiding principle for conservation work in *Batanes*. This means most retention and least intervention. Minimal work must be done to alter the aesthetic, cultural, and structural qualities of a historic building.

Conservation and preservation efforts are still in process and more work is needed to address the goals set forth in this paper. Funding is a crucial factor in the conservation efforts. The balance between economic developments of a province versus the conservation of heritage architecture remains a major concern of local authorities. It is hoped that tourism can bring in additional revenues for the province to sustain their day to day needs. However, due to the large number of heritage structures, the work overwhelms the local government.

As an intermediate measure, maintenance can be made into a process by which a house is kept to its working condition to guarantee its livability. Based on careful studies of the existing conditions, this can be executed in a systematic way. Old structures reach the point of being altered much when maintenance is not implemented regularly, is not performed properly, or is not done at all. The standard of implementation depends on good education campaigns, addressing the degree of decay as well as preventing their frequency of occurrence. Hence, preventive maintenance, if executed periodically ensures preservation and further deterioration of the historic houses of *Batanes*.

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Provincial Government of Batanes

Batanes Heritage Foundation Inc.

University of the Philippines College of Architecture Foundation for the Built Environment

UPCA Environmental Architecture Laboratory

National Commission for Culture and the Arts

National Commission for Indigenous Peoples - Batanes