

***Tirta Dharma* Weaving House, is representation from Huma Betang in West Kalimantan, Indonesia. as an architectural respond the present challenges**

Ir.Maria I Hidayatun, MA

Ph D Student at Department of Architecture
Institut Teknologi Surabaya, Indonesia
Lecturer at Department of Architecture
Petra Christian University, Surabaya, Indonesia

Jeannifer Chandra, ST

Student of Profesional Architecture at
Department of Architecture
Petra Christian University, Surabaya, Indonesia

Abstract

Traditional architecture is basically grown up from community's needs where the architecture that comes from a condition and challenge background on an environmental and social surrounding need to be studied more because it has a lay out of space which is not change from generation to generation.

Furthermore at this time many changes, especially changes in lifestyle due to the advancement of knowledge and technology, will affect the development or changes in the function of spaces because of the increasingly complex needs. Traditional architecture can almost be said can no longer respond to the challenges of the situation, due primarily to the functions that do not evolve from time to time. There is an interesting phenomenon lately in Indonesia, where the architects try to answer the challenges as mentioned above. One of the architects realized the importance of preservation in traditional architecture is Yori Antar.

Tirta Dharma Weaving House in Sintang, West Kalimantan, Indonesia is an architectural respond that lifts local identity of the *Dayak Iban* Long House or so-called *Huma Bentang* by Yori Antar. In this Weaving House, the functions are different from those at *Dayak Iban* Long House. Long House serves as a residence while the Weaving House are supporting *Dayak Iban's* weaving preservation activities : both as a gallery and place to learn and produce weaving. Although it has a different function, the Long House's principles are still maintained. The background of local culture and traditions still reflected in the Weaving House.

At the end, this paper will reveal how the transformation are designed by Yori Antar in completing this Weaving House project: starting from Long House as a residential into a weaving house, and how both transformations in culture and in local wisdom and identity meet the present challenges and perform as a contemporary architecture without changing the essence, that also called contemporary vernacular architecture.

Therefore, the discussion wholly will be about a study done by Yori Antar, where the original idea to update 'the old' will be an answer to the challenges of the needs as mentioned above

Keywords: *Dayak Iban*, Long House, traditional, contemporary, Weaving House

Introduction

Located in Sintang a small village in the inland of Kalimantan, approximately 8-10 hours drive from Pontianak, West Kalimantan, the project is an expression of concern from a Dutch missionary. Father Jacques Maessen, the name of the missionary, has now been living in the remote village of Sintang in West Kalimantan for almost 50 years [1].



Figure 1: Map of Sintang village in West Kalimantan

Living and breathing in the unique culture and tradition of the *Dayak* tribe, the Dutch priest has long been concerned about the tendency of more and more young people of the tribe to appreciate a more modern way of life. As modernity rolls in, the people of Sintang have begun to leave behind their tradition, especially the weaving culture, which is a shame considering the high artistic values of Sintang's weave textiles. Father Maessen underlying determination to establish a weaving house training for young *Dayak* tribe [2].

Then the idea is delivered to the architect who has the same vision with the Father Maessen to preserve the archipelago (Nusantara) architecture is Yori Antar. The architect and the father backed by *Yayasan Tirta Utomo*, trying to revive the local tradition of weaving by providing a training ground for Sintang's young generation. A training center was then prepared in a small village in the suburbs of Sintang, bordering a conserved forest, the name is *Tirta Dharma* Weaving House [3].

The fundamental concept of designing that building base on closed, familiar and friendly to the locals, and thus began the study of traditional houses *Dayak Iban* tribe namely *Huma Betang* both in

terms of philosophy, spatial and material. So Yori Antar has done to transformation that Huma Betang into Tirta Dharma Weaving House in discourse of contemporary vernacular architecture.

Huma Betang, Dayak Iban Tribe House.

Huma Betang, *Huma* means a House and *Batang* means Long, so *Huma Betang* is Long House, there are many term of *Huma Betang*. It can be called *Rumah Banjar* or *Rumah Panjang* or *Rumah lamin*. Referred to as the length of the house because this house has a length of up to 150 meters more in some houses, it depends on the size of the group or family who live there, and the width by 30 meters. Longhouse was built based on the needs of so-called as well as growth house.

In addition to its elongated shape, *Huma Betang* is also built on stilts which can be quite high, reaching to around 3 to 5 meters in height—the great height of the stilts referring to the mightiness of the spears commonly used by the local tribe. The top of the Long House is usually used for the living quarter of several families while the lower level functions as a communal room where everyone gathers [4].



Figure 2: Stilts house in *Huma Betang*

There are two reasons why it was made as high as that, because: 1. to avoid flooding during the rainy season that threatened areas upriver in Kalimantan (Borneo) (Sintang situated near the Kapuas river, the longest river in Indonesia), 2. When the summer, basement floor is used for the weaving of cloth and webbing the rattan commonly which used to perform religious ceremonies and for daily needs [5].



Figure 3: Webbing the rattan in *Huma Betang*

In terms of the location where the building will be erected, *Dayak* tribe emphasizes religious considerations. The house should be facing the direction; location of the house, always emphasizing the religious aspect has actually been including aspects of health, nature and others. For example, to

establish *Huma Betang*, the front of the house should lead to where the sun rises (*pembelum andau*) and overlooking the river, while the downstream flow leads to the sunset. It is a philosophy of *Dayak* tribe, where they believe in life starts with the sunrise and go home to sunset. A series of ceremonies were also held at the time before the building, when the building was established and after the building was completed.

Site plan

On the front yard of *Huma Betang* there is a field that is used for entertaining guests or for a meeting and a separate house is dedicated as a house of worship (*petahu*).. There is also a statue or totem carved in human form (*sapundu*) used to stick the animals to be sacrificed during the *tiwah* ceremony [6]

In the center of the site plan is the main house that is *Huma Betang*, the house serves as the residence for a clan (there are several families). Each household (family) occupies the one chamber (room) is in the barrier of a *Huma Betang*, more than just a building for residential *Dayak* tribe, in fact *Batang* house is the heart of the social structure of the *Dayak* people's lives. *Batang* culture is a reflection of unity in the daily life of the *Dayak* people. In this *Batang* house, every individual in the household life and society are systematically arranged by mutual agreement as outlined in customary law.

Common security, either from criminal interference or sharing the food, love and sorrow, and also the mobilization of manpower to work the fields. The main value of life that stands in *Batang* house is togetherness (communalism) among the people who inhabit it, regardless of the differences they have. From this, we know that the *Dayak* tribe is a tribe that respects to the differences. *Dayak* tribe was appreciate the distinction of the ethnic, religious or social background [7]

If you live in the *Huma betang*, all rules will be easily implemented and adhered to because of the life in *Huma Betang* all citizens easily communicate, share their deliberation and watching each other [8]. Thus, the *Huma Betang* is the most important part of the site plan, because of that's where social and religious life happens.

At the rear of the house there is a storehouse (*tukau*) for storage of agricultural products and tools; *Bawong* to store weapons; *sandung* or *pambak* for storage the bones of a deceased family that has been *tiwah*. For *sandung* in order to be placed in the front or rear of the house[9]

Plan related to the function of space

A sketch of *Huma Betang* is rectangular in shape with a direction toward the front of the lead at sunrise and oriented to the river. Meanwhile, to reach the room to go through a stairs made of tree trunks in the notch (*hejot*). This stairs can be located in several places such as one end of the building and other strategic places throughout the building [10]

Basically, *Huma Betang* is divided into three areas: a main hall in the middle (*Ruai*), multiple rooms (*bilik*), and a Veranda (*Tanju*) outside. Usually it has about 30 to 50 families living in individual rooms (*bilik*) on *Huma betang*. [11]



Figure 4: left to right, *bilik* on the left, *ruai* is hall in the middle and *tanju* is a verandah outside

This type of house, true to its name, is normally extremely long, and it is built on stilts which can be quite high, as described above the great height of the stilts referring to the mightiness of the spears commonly used by the local tribe. The top of the Long House is usually used for the living quarter of several families, while the lower level functions as a communal room where everyone gathers.

Form Can Be Represented By Facade

Talking about form of *Huma Betang* is not too varies. The main function of *Batang* is a residence and shelter, which in essence of this house is used to many families lived, so long form supported by a transparent facade is not longer making house was dark. A part of facade that is limited only by wooden rods arranged horizontally, making this building has the impression of light, transparent and comfortable residence.

The roof is a gable roof with a cover of *sirap ulin* wood, giving the impression of a very natural, as well as a solid wall of most receipts *ulin* bark too, so although it looks closed but there is a connection between the pores of the material that causes the persistence of cross ventilation.

From its shape it is easy to recognize this house as the home of the people, because to increase the space (length) carried by the occupants themselves by way of mutual cooperation.

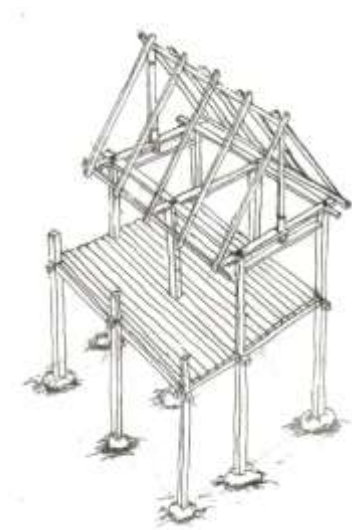


Figure 5: Form or shape in *Huma Betang* can be performed by façade with a composition of solid void partition

Simple Timber Frame Structure.

Huma betang a house on stilts and have a high enough altitude as described in the beginning paragraph. The consequence of this stage house is located on the structure. Huma Betang structure is a frame structure with wood material. That's why traditional architecture using wood materials. It is as described by Unwin in the Analysing Architecture [12]

'Architecture always depends on Things that are already there; it involves recognizing potential or the problems; it involves, maybe, remembering their associations and significances; it involves choice of site and sharing with others'



The plan of this house is a rectangle, it's a simple plan, so the structure is also simple structure supported by timber material that there are many in the area, so the structure is a timber structure and this is the character of house in suburb Kalimantan as Unwin describe [13].

'Traditional Malay (also Indonesia) houses are built using a simple timber frame structure. By processes of addition, they can become quite extensive, and composed of many spaces. The place they accommodate tend to be defined by the structural bays, which are sometimes accompanied by changes in levels'

Meanwhile, these columns are set in stone so-called pedestals, as a foundation to prevent the timber is not brittle quick

Figure 6: simple timber frame structure

Tirta Dharma Weaving House

As described above, the *Tirta Dharma* Weaving House is located in the suburb of Sintang, West Kalimantan, approximately 8-10 hours drive from Pontianak. The building stands in an area of 800 m² and has a building area of 650 m², and inaugurated in October of 2009 [14].

For its design, the project won the national IAI (Indonesian Architects Association) Award 2008 in the Social and Cultural category and nominated for Agha Khan Award for Architecture 2010 [15]

These buildings have a Weaving House functions as a with name of "*Tirta Dharma* Weaving House" which facilitate the activities of weaving, cooperative, exhibits the works of the best weaving, buying and selling fabric, creativity competitions for the weavers, where *angklung* practice for children and objects tours for guests of national and international. The presence of this building is expected by Father Jacques Maessen, the project owner, may continue to preserve the existence of art and culture woven typical of the *Dayak* tribe, by providing flexible spaces, as expressed as follows:

'The design of the project, which was later, named "*Rumah Tenun Tirta Dharma*", was actually an uncomplicated one. What they required was a training place to accommodate quite a large number of budding young weavers and a gallery to showcase their finished

products. In addition, a flexible space to be used for various events was also deemed necessary.' [16]

The physical form of Weaving House was no different with *Huma Betang*, both of which form the house is a house that has built on stilts which can be quite high, reaching to around 3 meters in height is above the ground, as well as the length of the house. The roof of the shelter from the heat and rain made with material that looks like a *sirap* that is corrugated iron and saddle-shaped. In size and proportions of *Tirta Dharma* have a length of 20 meters and a width of 6 m, where the proportion becomes 10:2, whereas the proportion of Huma Betang is 10:3 , as it is written by Chandra [17].

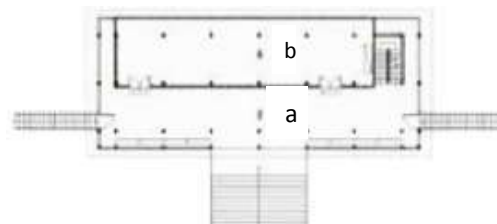


Figure 7: Ahouse that has built on stilts which can be quite high

At the front of the place where people come into the building, there are stairs that will take guests into the second floor. Rungs of the stairs are made of wooden planks that length, so it can accommodate several people at once to enter the building.

Tirta Dharma Weaving House lay out plan is rectangular space is divided into 3 level / floors [18]:

- A. on the first floor there is:
- a. length the corridor-shaped space
 - b. Spaces that functions as a closed gallery



- B. Second floor (which is sometimes called the floor 3) that functions as place of accommodation for guests.



- C. Ground floor (underneath) the space under the house used as a *Tenun Ikat* training room and the corridor used for drying the cloth.



While the elevation of the building, that will be considered remind us of the elevation and even the material used in the *Huma Betang*. Building elevation almost entirely used by wood with a combination of glass for give the impression of transparency, but it is safe from stealing. The impression of solid void is very powerful, because of the wall coverings used *ulin* wood rods which composed horizontally.

However, the modern touch is only evident in the glass-clad top part of the building while other elements of the building remain traditional. Still featuring a saddleback shape, the roof does not use thatch like the roof of a traditional house, but is now replaced by corrugated iron as described above. Concrete is used for construction material, including for the pillars which are lined with local timber.

The building stands in frame structure system supported by concrete construction, however overall this building gives the impression of cool if enter into the building then it will not feel hot, this is a result of the cross ventilation.

Tirta Dharma Weaving House, is representation from Huma Betang

Begin to search Weaving House, Yori Antar is trying to learn and understand the idea / concept / of the architect as the actor behind the establishment of this project, along with Father Maessen. Background and experience of both the human figure is affecting the work they produce the idea behind the concept and expressed in a frame of mind which begins with extracting the essence of traditional architecture in West Kalimantan exactly where *Dayak iban* is living in Sintang. As written in the *Kompas* daily news [20]

‘For the inspiration, the architect turned to the traditional house of the Dayak people which is commonly known as *Rumah Banjar* or *Rumah Panjang* (Long House)’.“I’m implementing the principles of the Long House here,” explains Yori Antar about the design of the building which is used as a training center to pass on the traditional weaving techniques. However, his finished design does not possess the great length for which the Long House is famed for.

When he started drafting for the design, Yori Antar wanted to make sure that his completed work would be a familiar structure to the locals.

Thus, this tracing can be described in the following diagram:

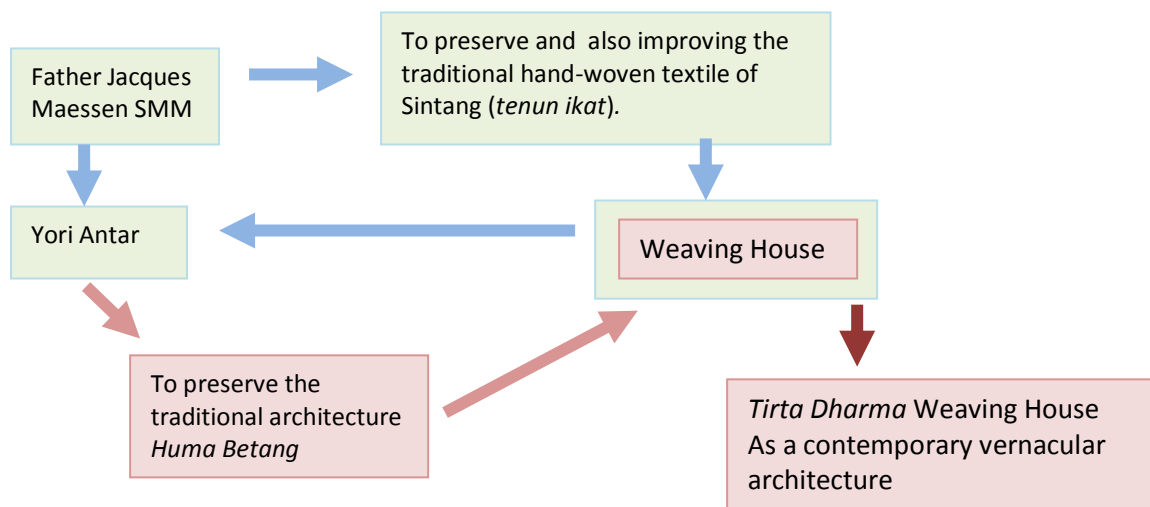
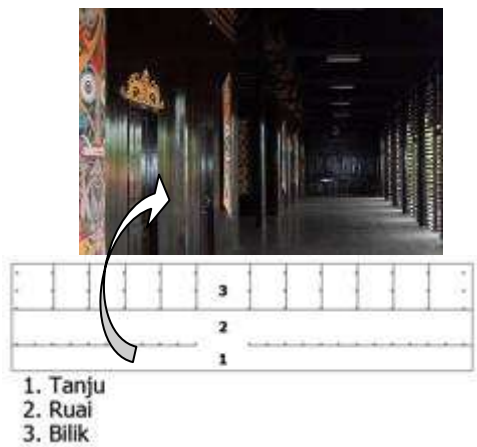


Diagram 1 : framework of relation and process design

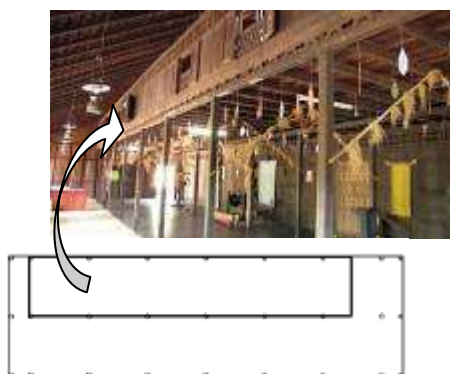
Representation of *Huma Betang* plan into the *Tirta Dharma* plan.



Second floor in *huma betang*, function to set yields under the sun (*taju*), Area on the 2nd floor consists of bedrooms (*bilik*), and *Ruai* for family gathering



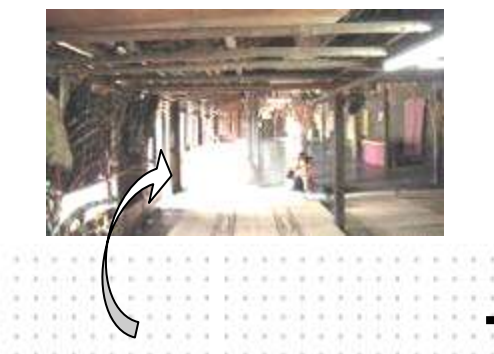
In *Tirta Dharma* used for the gallery functioning as a display of weaving cloth and the meeting place



The functions of the first floor as place of accommodation for the family



In *Tirta Dharma* that functions as place of accommodation for guests.



Ground floor in *huma betang*, just for to pound rice and raising animals



Ground floor in *Tirta Dharma*, as a *tenun ikat* training room. Parts of corridor is used for drying the cloth.

Representation of *Huma Betang* facade of the house into *Tirta Dharma* Façade



Huma Betang



Tirta Dharma

Transparency of the wall, that is the essence of the natural barrier, that we can see the vernacular architecture its shown



Facade consists of elements that form a horizontal line of sticks composed horizontally.



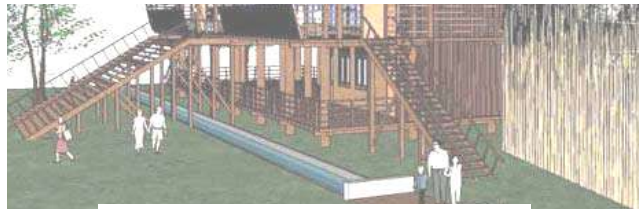
The Inovation of Structure



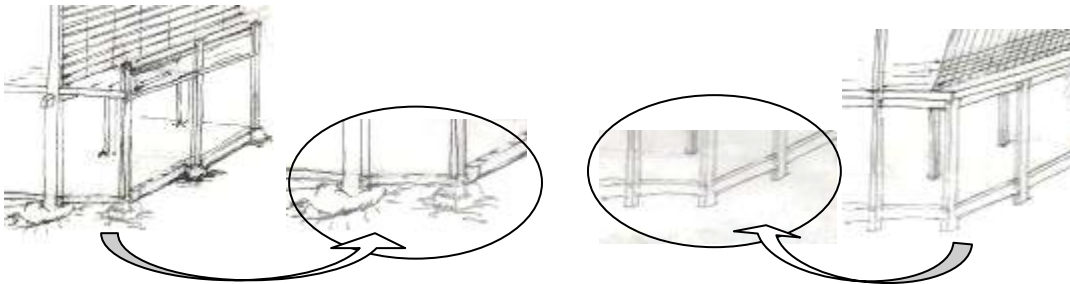
Concrete is used for construction material, including for the pillars which are lined with local timber material for structural change in accordance in modernization of thought comes from wood to concrete, innovation does not eliminate the essence of the meaning and function



The pillars of Huma Betang was made from wood



Change material, made from concrete but the essence and the ambiance not really changes



Transformation of foundation construction from pedestals stone to concrete foundation

A new local style (visually as the discovery of concept applications) appears / occurs when the concept of Father Maesses met with the concept of Yori Antar. These can be seen how the idea of Yori Antar manifested with the basic knowledge of local architecture added the aims and objectives of Pastor Maesses as the originator *Tirta Dharma* Sintang Weaving house in West Kalimantan within the framework of the present architecture to develop.

Conclusion

Tirta Dharma is a real work can be seen enjoyed and felt his presence. Much we can learn a lot that we can make an example of how the architecture down to the earth because what is in this building is not a stranger to our goods. Therefore, knowledge traditional architecture and the evolving nature stands in Indonesia in this wealth needs to be socialized and given in lessons to children in addition to "the West" architecture knowledge so that future generations (to come) will not lose track of where he comes if a current when the West (globalization) is so strong "attack" on earth, especially Borneo and Indonesia generally we can answer the challenge wisely learn from what has been done by the Yori Antar.

Last the author hopes of, especially in this tracing the effort may never do such a Yori not be a vain and then disappeared into the future but it becomes thing of value to the development of architecture in this Earth

Reference

- [1] Archi Centrum, Architecture and Interior Design Resources, edisi 02/1/10 Januari 2009, Ikatan arsitek Indonesia, Year Of 'Jakarta Architecture Triennale', Januari-Desember 2009.

- [2], The Value Of A Tradition, Tirta Dharma House Of Weave, Indonesia Design, Main Feature of Award Winning Designs :: Vol.7/No.41/Nov-Dec Edition 2010.
- [3], The Value Of A Tradition, Tirta Dharma House Of Weave, Indonesia Design, Main Feature of Award Winning Designs :: Vol.7/No.41/Nov-Dec Edition 2010.
- [4] Fazz, Rumah Betang Rumah Adat dan Budaya Dayak yang Hampir Tersingkirkan, 18 Mei 2007, <http://fazz.wordpress.com/2007/05/18/rumah-batang-rumah-adat-dan-budaya-dayak-yang-hampir-tersingkirkan/>, Oktober 4, 2011
- [5] Interview with Mr. Heri, Dayak Ngaju people in Tumbang Malahoi, Kalimantan Tengah, January 18, 2012
- [6] Rumah Huma Betang, jantungnya suku Dayak. (2011, May 24). *Kompas*. from : <http://properti.kompas.com/read/2011/05/24/14520964/Rumah.Huma.Batang.Jantungnya.Suku.Dayak>, October 4, 2011
- [7] Erika, Dayak Yang Tinggal Kenangan, Tugas Makalah Akhir, Jurusan Ilmu Hubungan Internasional, Fakultas Ilmu Sosial dan Politik Universitas Indonesia, tahun ajaran 2008-2009 <http://fazz.wordpress.com/2007/05/18/rumah-batang-rumah-adat-dan-budaya>, October 4, 2011
- [8] Fazz, Rumah Betang Rumah Adat dan Budaya Dayak yang Hampir Tersingkirkan, 18 Mei 2007, <http://fazz.wordpress.com/2007/05/18/rumah-batang-rumah-adat-dan-budaya-dayak-yang-hampir-tersingkirkan/>, Oktober 4, 2011
- [9] Rumah Huma Betang, jantungnya suku Dayak. (2011, May 24). *Kompas*. October 4, 2011
- [10] Saputra, Karsono H., Gunawan T. dan Damiano Q. R. (tim penerjemah), *Indonesian Heritage*, Jakarta: Buku Antar Bangsa, 2002.
- [11] Rumah Huma Betang, Jantungnya suku Dayak. (2011, May 24). *Kompas*. October 4, 2011
- [12] Unwin, Simon, *Analyzing Architecture*, Routledge, New York, 2003, page 44
- [13] Unwin, Simon, *Analyzing Architecture*, Routledge, New York, 2003, page 134
- [14] Pemenang Penghargaan IAI tahun 2008, Archi Centrum, Architecture and Interior Design Resources, edisi 02/1/10 Januari 2009, Ikatan arsitek Indonesia, Year Of 'Jakarta Architecture Triennale', Januari-Desember 2009.
- [15], The Value Of A Tradition, Tirta Dharma House Of Weave, Indonesia Design, Main Feature of Award Winning Designs :: Vol.7/No.41/Nov-Dec Edition 2010.
- [16], The Value Of A Tradition, Tirta Dharma House Of Weave, Indonesia Design, Main Feature of Award Winning Designs :: Vol.7/No.41/Nov-Dec Edition 2010.
- [17] Chandra, Jeanifer, *Bedah karya Arsitektur Vernakular*, Jurusan Arsitektur Universitas Kritis Petra, Paper Arsitektur vernacular, Surabaya, 2011
- [18] Pemenang Penghargaan IAI tahun 2008, Archi Centrum, Architecture and Interior Design Resources, edisi 02/1/10 Januari 2009, Ikatan arsitek Indonesia, Year Of 'Jakarta Architecture Triennale', Januari-Desember 2009.
- [19] Rumah Huma Betang, Jantungnya suku Dayak. (2011, May 24). *Kompas*. October 4, 2011