

The Characteristics Houses in the Urban Settlement of the Kahayan's Riverbank in Palangka Raya, Central Kalimantan

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Original Research Article

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Abstract: As we have known from the Ancient History of Human Beings that for their survival of Life, People are always live closely to the water. It is because water is a basic need for Human Beings. For this reason, People build their houses along the River's banks or on the beaches. Based on this Philosophy, we have seen along the Kahayan's River Bank at the Central Kalimantan in Indonesia, there are the settlements on it. For having more accurate data, we also made some interviews to the People, who live in this settlement. We also made some Interviews to the some officials of the Local Government of Central Kalimantan. We also have made Library Research for having more clearly of its Research and to make it accomplished. We have found that, in this Urban Settlement, there are Three Characteristics Houses at the Kahayan's River Bank – Central Kalimantan. Due to the Natural Conditions, the People of its region have built their houses by adopting its surrounding/natural conditions. The Houses are the Floating's Houses located really on the River; The Scaffolding's Houses/the Upraised Platform Houses located between the River and the Land/ Water and Soil; The Ordinary's Houses located on the earth/ground/soil. Focusing on how the People of this Region fulfill their needs in adopting the Nature's/Environment's condition. We have tried to understand and distributing this knowledge by explaining their characteristics of the houses from these elements, such as the Location; the Materials of the Buildings; How People Live in it; the Layout of the Houses; the Infrastructure; the Transportation; Trade and Commerce; the Problems of the Settlement and also the impact to the River. We give also the solution of the problems. The purpose this report we would like to sharing our knowledge to the German alumni, UKI, University of Palangka Raya and also we would like to give this report to the local's government authority.

Keywords: The characteristics houses- urban settlements- river bank.

INTRODUCTION

We are learning some typical of developing houses which are suitable for the natural condition. For that reason we would like to know the typical house that we could build at the riverbank. When we had an official visit to the Local Government in Central Kalimantan, we had found an interesting characteristic of the houses. We also thought that this characteristic houses in the urban settlement of the Kahayan Riverbank could be as the material learning for the student of architecture and also it could be some input for the Local Government to make the better policy and regulation for building houses in the Riverbank.

The Location of the Urban's Settlement at Kahayan's River Bank.- Central Kalimantan at the Village Pahandut under the Municipality of Pahandut in Palangka Raya, The Province of Central Kalimantan.

The Name of Pahandut comes from the area where Mr. Handut (Pahandut's /family lived). Since 1884 the village Pahandut grew up and based on the

Minister of Home's Affairs Decree Number 502 the date 22nd September 1980 and Minister of Home's Affairs decree No. 140, 135 the date 14th February 1980. They change the status from the Village of Pahandut to the District of Pahandut. The Pahandut's District as the Embryo of the Palangka Raya's City. The City of Palangka Raya is also the Capital's City of Central Kalimantan's Province. The Area of Pahandut's District is 950 ha.

Comparing our paper: "The Characteristics Houses in The Urban Settlement of The Kahayan's River bank in Palangka Raya" the paper with the other three papers : "Urban Rivers as Factor (Dis) Integration" by Ms J. B. Silva, F. Serdoura and P. Pinto [1], "Pahandut Settlement on The River Basin in Palangka Raya, Their Change of Economic Development", by Uras Siahaan, Jurnal Arsitektur SCALE (Sustainability City Architecture Landscape Environment) Agustus 2013 Vol.1, No.1, hal 1-15, ISSN:2338-7912 [2], and "Karakteristik Lingkungan Permukiman Kumuh Tepian Sungai" Kecamatan

Kolaka, Sulawesi Tenggara” by Nurmaida Amri [3], the similarities are the building of the settlement on the riverbank, the status of the people who live in that settlement, we have discussed about economy; trade and commerce, geography, population, the number of the people, who live in the building, infrastructure and transportation. The differentiation are the characteristics of the house depend the location of the house, function of the room of the building, material of the building, the

layout of the building, social facility, the shops, store, market, for the daily needs, recreation and leisure’s places, cultivated of the fish, port for the river transportation.

LITERATURE REVIEW

Bank (geography) (From Wikipedia, the free encyclopedia (2018)

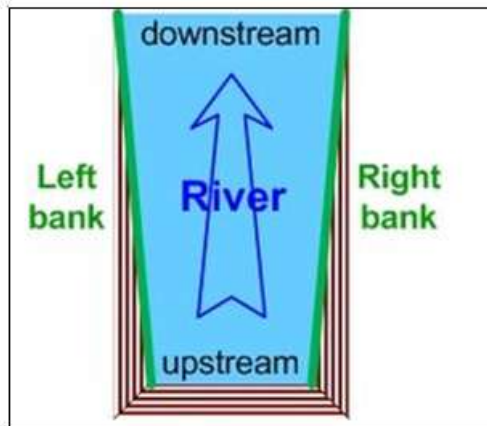


Fig-1: Diagram of a river’s left and right banks



Fig-2: A sloping sandy point bar (close side) and the vegetation- stabilized cut bank (far side) on Australia. These two constitute the banks of the river.



Fig-3: A man-made lake in Keukenhof with grass banks

In *geography*, the word bank generally refers to the land alongside a body of water. Different

structures are referred to as *banks* in different fields of geography, as follows. In *limnology* (the study of inland

waters), a stream bank or river bank is the terrain alongside the *bed* of a river, creek, or stream. The bank consists of the sides of the *channel*, between which the *flow* is confined. Stream banks are of particular interest in *fluvial* geography, which studies the processes associated with rivers and streams and the *deposits* and *landforms* created by them. Bank full discharge is a *discharge* great enough to fill the channel and overtop the banks.

The descriptive terms *left bank* and *right bank* are relative to an observer looking *downstream*, in which the right bank is to the observer's right; a famous example is the naming of the two sides of the *Seine* in Paris. The *shoreline* of ponds, swamps, estuaries, reservoirs, or lakes are also of interest in limnology and are sometimes referred to as banks. The *grade* of all these banks or shorelines can vary from vertical to a shallow slope. In *freshwater ecology*, banks are of interest as the location of riparian *habitats*. *Riparian zones* occur along *upland* and *low land* river and stream beds. The ecology around and depending on a *marsh*, *swamp*, *slough*, or *estuary*, sometimes called a bank, is likewise studied in freshwater ecology.

Banks are also of interest in *navigation*, where the term can refer either to a *barrier island* or a submerged *plateau*, such as an *ocean bank*. A barrier island is a long narrow island composed of sand and forming a barrier between an island *lagoon* or *sound* and the ocean. A submerged plateau is a relatively flat topped elevation of the sea floor at shallow depth (generally less than 200 m), typically on the *continental shelf* or near an *island*.

a. According to Mr. Ispurwono Soemarno in his paper "Riverbank Settlement in Surabaya, The Reasons Behind The Problems" [4], that rapid urbanization in most large cities of developing countries has formed the development of informal settlements. Some urban migrants selected 'abandoned' land such as riverbanks for their settlements. This kind of development has implications to the environment and urban development at large.

In Surabaya, the local government has been making an effort to formulate appropriate policies to deal with riverbank settlements. This local government commissioned a study on riverbank settlements in 2002. The aim of the study was to understand how riverbank settlements developed, the social economic profile of riverbank residents, their perception on land tenure etc. The research was done through field observations, respondent identification and interviews with the respondents. The research findings and recommendation provided the local government with basic inputs for their policies on riverbanks settlements.

Rapid urbanization has resulted in increase in the demand for urban land, mainly for

settlement purposes. Very often it has to be met by converting rural land situated at the periphery of existing built-up areas. This expansion is mostly accompanied by an increase in the economic value of the more central locations. Unfortunately, local governments are usually not prepared with necessary regulations for rapid urban development, including urban spatial development planning. Urban land policies are frequently prepared on a piece-meal basis in reaction to specific demands from interest groups or as reaction to particular urban land problems [5, 6], like the squatter settlements.

Squatter settlements where the land is occupied illegally. They are considered as informal settlements as they are built through informal process such as: on unclear land status, informal subdivision of land, no building permit etc. The common process of these settlements usually started with the establishment of temporary dwellings by a few families on vacant land. As time passes with no eviction occurring, some other families join them and build their own dwellings. By the time the government realized the circumstances, the settlement is already so large that the social cost of the eviction will be much higher than the legal cost.

In 2002, with the funding from the Human Settlements Office (Dinas Permukiman) of East Java Province, the Laboratory for Housing & Human Settlements of Architecture Department at Institut Teknologi Sepuluh Nopember (ITS) Surabaya carried out the study of the riverbank settlements in Surabaya.

This paper describes the above study and is divided into three parts. The first part describes general condition of riverbank settlements along Kali Surabaya where this study was carried out. The second part describes survey preparation and the analysis of surveys conducted at the above location. Finally, this paper concludes with the results of the study and implications for future development of riverbank settlements at Kali Surabaya.

b. Mrs. Endang Titi Sunarti Darjosanjoto and Mr. Setyo Nugroho in their paper "Design Criteria For Open Space At The Riverbank Area in Kampung Wonorejo Timur", [7] stated that Rapid City development has changed urban facade especially at the riverbank area. History noted that people had chosen to live near the riverbank in order to fulfil their daily needs in water supply, transportation, and working. As described by Norberg-Schulz [8], the riverbank area plays important role as urban infrastructure and also a meeting place among people. Riverbank study always becomes an

interesting topic of research since there is a rich phenomenon from the physical and non-physical aspect (related to social-culture). Lots of people utilize riverbank as social space. This space manifests in a settlements are able to be easily observed along the main river of Kalimas and its branches (the branch of Kalimas is Jagir and Surabaya River). Riverbank settlement located in the downtown and suburb area posses similarities in creating transition space as community place to nurture the social network among people [9].

Riverbank in suburb area is facing problems related to the river maintenance, flood preventing, and unorganized transition space along the river. One of the riverbank settlement case study in suburb area is Kampung Wonorejo Timur. The Kampong which is located at the riverbank of Jagir River has existed before 1940s. According to the local inhabitants, buildings had been built along the river and there was only a footpath inside Kampong as main access. Currently, residential development in eastern part of Surabaya City gives a physically impact to Kampung Wonorejo Timur. The Low flow of traffic with footpath now has changed into the high flow of traffic with asphalt material streets. Street inside the Kampong is getting more crowded than before due to the high flow of traffic. The number of motorized vehicle

passing inside Kampung also caused the loss of public space for local people.

More over there is no building that oriented to the river. Riverbank is now only used as part of the land behind each house that can not be accessed from outside or mainstreet. Some houses still occupy the riverbank for cooking area, washing and laundry, and storing household items. Some others do not utilize the riverbank as a part of daily life activity. They constructed a solid and massive wall without access to the riverbank in order to avoid the flow water from high tide. Besides the above phenomenon, the issue of decreasing public space is the most significant for Kampung Wonorejo Timur.

RESEARCH METHOD

- Library Research for having more knowledge and clearly focusing its writing on the Characteristics Houses in The Urban Settlement of The Kahayan's Riverbank in Palangka Raya, Central Kalimantan, we have learned from so many Textbooks and Documents of the Local Government of Central Kalimantan.
- Field Research that we have done by making some interviews to the people who lived in the settlement for having more accurate data.

RESULTS AND DISCUSSION

The Location of the Settlement



Fig-4: The Map of the Republic of Indonesia



Fig-5: The Map of Kalimantan

The Map of Palangka Raya's City and The Map of Communities Organizing of Panhandut's District.

PAHANDUT'S DISTRICT
Resources: Interview and Field Research

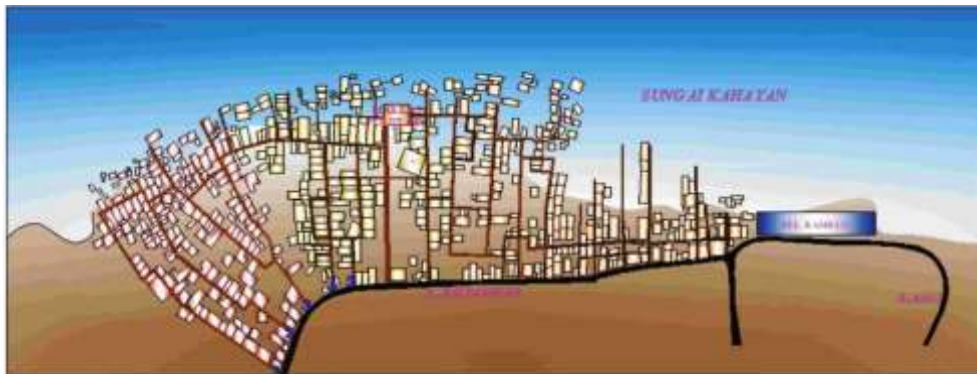


Fig-6: The Map of Pahandut's Settlement

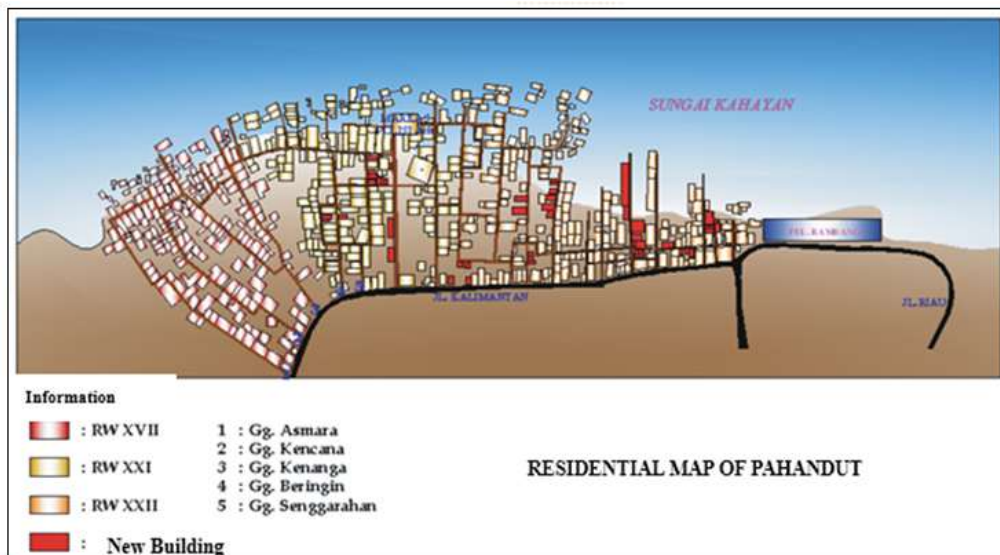


Fig-7: Map of Pahandut Settlement The New Building



Fig-8: RW XVII, Kelurahan Pahandut Communities Organizing of Pahandut's District

The Environment of Pahandut's District

- The Kahayan's River Bank
- Swamps
- Small forests
- Underbrush
- Some Villages
- The Contains of the Soil is Sands
- The Area/the Earth of its area is not good for Farmer/Plantation

The length of Kahayan's River is 600 km. The width of it is 500 m

The Function of the Kahayan's River

- As The Water Transportation (Main function),
- As The Raw Material for drinking water,
- The Water needed for taking a bath, washing clothes, etc.

The Problems of the River

In the Rainy Season, The Water of overloaded River becomes flood to the village. In the Dry Season, Water of the River reduces and drought, so the small boats (Kelotok) could not be sailing on this River. The flood could cover up to 11.200 km area with the debit of water 563, 97 (m³/second).

The Characteristics Houses

We are going to present, that The Characteristics Houses in The Urban Settlement of The Kahayan's Riverbank in Palangka Raya, Central Kalimantan are basically depend on the Natural Conditions. The People of its Region have built their houses by adopting its surrounding/Natural Conditions. We found that there are 3 characteristics Houses in The Urban Settlement of The Kahayan's Riverbank in Palangka Raya, Central Kalimantan. The Three Characteristics Houses is absolutely depending on where the house is located. The Houses on the River's Bank are divided in 3 Zones (The Types of the Houses at the Urban Settlement)

- Floating's House is located/standing on really on the river
- The Scaffolding's House/the upraised platform house is the located/standing on between the river and the land/soil. So between water/river

and the land/soil,

- The Ordinary's House/general house is located on the earth/ground/soil

Focusing on how the people of this settlement fulfill their needs in adopting and influence by the Natural Conditioning/Environment. On this Publication/journal we have tried to understand every element of its characteristics.

- Location
- The Materials of the building;
- How people live in it
- The Layout of the house
- The Function of the House
- The Infrastructure
- The Transportation
- Trade and Commerce
- The Status of the People
- The Problems of the Settlements and also its impact to the river, we are also try to give the solution of the Problem

On the River's Zone:

The Typcal of the Houses are The Floating's Houses

- The Houses are floating on the River/Water. Because of it the Structure of the House and the materials For build a house should be depend on where it belongs (with the water). The Materials needed 75% are Woods.
- The Function of the House and the Human activities are also influenced by the condition of the Floating's House. The Floating's Houses are on the Kahayan's River closely to the River's Bank.
- The Material's building of the Floating's House:
 - ✓ The Zincs for the Roof
 - ✓ The Woods for the Wall
 - ✓ The Floor is the Board of the Woods
 - ✓ The Glasses and Woods for the Windows
 - ✓ The Woods for the Door
 - ✓ The Nails
 - ✓ Some Rattans and Bamboos
 - ✓ The Plastics for the Floor's Carpet

The Floating's House



Fig-9: The House is floating on the River/Water
Resources: Interview and Field Research



Fig-10: "Keramba"

The Layout of the House

Main entrance directed to the Main Rooms the biggest room of the house which consists of Living Room and Dining Room. The House has 1-3 bedrooms but The People are sleeping on the Mattress on the Floor. They do not have Bed, but they have Mattress. They do also have Cupboard, Table & Chairs. But sometimes they sit on the floor. It has also Kitchen. But The Bathrooms; Toilet and Washing Clothes Rooms are separated from the Main House. For taking a Bath, Washing Clothes, etc. They used the River's Water. There is no Bath Tub, no Shower, and no Lavatory. The Seize of the House are between 28 m² up to 126 m². The Main Character of this Floating House is they use the open air space of the House as a River's Port to go by a Boat as a Water Transportation. They also make a Business by selling Fishes, Shrimps, and daily needs.

They have also a Room for Fishes and Shrimps Cultivation, They called it "Keramba". They have special room for the tools of fishing etc - "Keramba's"

Room for fishes as a commodity to sell, and very close to the open air because people come to buy the Fish directly to the House through the River. They have also the stairs needed if the River becomes dry, in the dry season. The Number of the Family who lived in the Floating House approximately between 3-5 persons or more. Some people are also used their Houses as the Shops. They are selling: Noodles, Rice, Sugar, Coffee, Tea, Salt, Shampoo, Soaps, Detergent, etc.

The Daily Activities of the member of the family:

The father as the Lead of the family, try to fulfill the needs of the family for their living costs. Some of them are the Fishermen, Businessmen, and Workers. The mother is preparing the foods for the family, make up rooms and cleaning all the houses. The Children are studying. They are having breakfast, lunch and dinner by sitting together on the floor, Traditional way. They are using the Cleaned Water from the Water's supply from Government Enterprise and also Electricity's from the Government's Electricity's

Enterprise. They have Television, Radio. Some People have 2 Televisions in their Houses. They have also 2 Refrigerators.

Zone of the River's Bank

The Type of the House is the Scaffolding's Houses/Upraised Platform Houses. Because the location of the House is very unique between The Kahayan's River/Water and The Kahayan's River Bank/Land/ Soil. So the Scaffolding's Houses are very high for the water and the land. The foundation of the Houses made by Woods. The Height of the Foundation "Between" 6-8 Meter. The Structure & the Materials of the Houses are slightly different from the Floating House. They have also the Scaffolding's Street and Bridge.

The Material's building of the Scaffolding's House/Upraised Platform House

- The Zincs for the Roof
- The Woods for the Wall
- The Board of the Woods for the Floor
- The Glasses and the Woods for the Window
- The Woods for the Door,
- The Nail
- Some Rattans and Bamboos
- The Plastics for the Floor's Carpet
- Cement
- Sand
- Stones
- Lime/Plaster
- The Paint

The Scaffolding's Houses/Upraised Platform Houses



Fig-10: The Houses are located between The Kahayan's River/Water and The Kahayan's River Bank/Land/ Soil.
Resources: Interview and Field Research



Fig-11: The View of the Houses in the Dry Season

Some activities of the Scaffolding's/ Upraised Platform: Functions:

- The Living house,
- The Shops,
- The Small Restaurant,
- The Storage,
- The School,
- The Mosque,
- For Drying Clothes,
- The Structure for the house is made of the Woods.

The Lay Out of the Scaffolding's House

The Main Rooms are the biggest Rooms of the House for The Living Room and The Dining Room; The House has 3 -5 bedrooms. Some of them have the Beds, but some People are sleeping on the Mattress on the Floor, because the Floor is covered by beautiful Plastics. It has also Kitchen, Bathroom and Lavatory. The Member of the Family who lived in this House is about 5 – 7 Persons or more. The Role of the Family is very significant. The Father is the Head of the Family. The Mother is taking care of their Children and the Children are studying. But the whole Family is working together for selling some Goods in the House or they are selling some Foods. So some of the Houses are Shops but some of them are Restaurant. In the daily life beside their Business some of the Families are sitting on the Chairs while they are chatting or eating. But some of the other Families are sitting on the Floor as traditional way. While the Family who lived in the Floating House has the business by selling the fishes and the Shrimps but the Family who live in the

Scaffolding's House has a store or a small shop or Small Restaurant in the house. The Seize of the Scaffolding's House is between 20 m2 – 285 m2. For the Transportation the People are using Boat, Car, or Motorcycles. They are using the Cleaned Water from the Water's supply from Government Enterprise and also Electricity's from the Government's Electricity's Enterprise.

The Earth/Soil's Zone

The Typical House is the Ordinary's House/Modern House

The Location of the Normal/Ordinary House is near the river's bank and also closed to The Economics Street. The Street is from the asphalt. The Houses are for living House and they have Socials facility and Economics facility. The Activities is the same with the whole Activities of the Human Beings who lived in the Ordinary House.

The Material's building of this house is from

- The Tiled Roof or the Zincs for the roof
- The Bricks
- Cements, Sands, Stones, Plaster, Woods for the Wall
- The Ceramics or Cements for the Floor
- The Glasses and the Woods for the Window
- The Woods for the Door
- They also need Rattan, Bamboos, and Nail etc.

The Ordinary's House



Fig-11: The Location of the Normal/Ordinary House is near the River's Bank and also closed to The Economics Street.

Resources: Interview and Field Research



Fig-12: Interior Design of House and Social Facilities

The Layout of the Ordinary's House

- The Living Room
- The Dining Room
- 4-5 Bedrooms
- Bathroom, Lavatory
- Kitchen
- Garage

Some of the houses are using as Shops, Restaurants etc. We will not explain too detail about this Ordinary's House because All of Us We have known already very well about it. And also the Furniture is also the same like our furniture at home. To give more knowledge about this settlement, we will give more data that could bring the better idea about it, **such as:** Infrastructure:

- The Bridge: from the Woods and Cement
- The Street: from the Woods and Cement and also the Asphalt
- The Transport: through the River and the Street by Boat, Car, Bicycles and Motorcycles.
- The River's port: for the People, who would like to go by the Boats and for the Parking of the Boats.

Trade & Commerce

The Main Product of this area is Fishes, so the General income of these people comes from selling their Fishes of the River. Besides it they are selling also the Daily needs and Foods.

The Shops, Store, Market, for the Daily Needs

- They used their Houses also for selling the Goods and Basic Needs
- There is also the Market for the three types

of the Houses

- Floating Market for the People who are living in the Floating's House etc.
- Scaffolding's Market for the People who are living in the Upraised Platform Houses etc.
- Traditional Market and Supermarket and Mall for the People who are living in the Ordinary
- Houses etc

The People who are living in this Urban Settlement are selling and buying the Goods/Items;

- Fish
- Shrimps
- Rice
- Sugar
- Coffee
- Tea
- Milk
- Oil
- Fried Oil
- Shampoo
- Soap
- Detergent
- -Food
- Shoes, etc.

Recreation and Leisure's Places:

The People in this Urban Settlement are also needs the recreation and leisure facilities such as: Cinema, Public's Park, Swimming Pool, the Cultural Hall for performing Music and Dancing Folklore, Restaurants etc.

Table-1: The Percentage of the Employment

1	Businessmen	3,3%
2	Fishermen	8,3%
3	Farmer	8,3%
4	Workers	3,3%
5	Unemployed	6,7%

Table-2: The Percentage of the Member of the Family

1	3-5 Persons	70 %
2	> 5 Persons	30 %

Table-3: The Transportation (Transportation to the office etc.)

1	Car & Motorcycles	60 %
2	Public Transportation	13,3 %
3	Boat	16,7 %
4	by foot	10 %

Table-4: Religion

1	Christianity	6,7 %
2	Moslem's	93,3 %

Table-5: Cleaned Water

1	Publics Water Supply	38,3 %
2	Jet Pump	58,3 %
3	River's Water	3,3 %

Table-6: The Roads

1	Tanah/Soil	5 %
2	Asphalt	
3	Woods	95 %

Facility

Table-7: Television

1	Television	96,7 %
2	No Television	3,3 %

Table-8: Telephone

1	Telephone	3,3 %
2	None	96,7 %

Table-9: Transportation

1	Car	6,7 %
2	Motorcycles	63,3 %
3	Boat	6,7 %
4	By Foot	23,3 %

Table-10: Salary

1	< Rp. 1 Million	66,6 %
2	Rp. 1-2 Million	16,7 %
3	> Rp. 2 Million	16,7 %

Originality

Table-11: The Habitant of its Settlement could divided by their originality)

1	From Central Kalimantan	28,3 %
2	From Kalimantan	68,3 %
3	From outside of Kalimantan	3,3 %

Table-12: Education

1	No Education	1,6 %
2	Elementary School	60 %
3	Junior High School	26,6%
4	Senior High School	1 %
5	D3	1,6%

Table-13: Ownership of the House

1	Private/the Owner	18,3 %
2	Bought Houses	71,7%
3	Hired Houses	1 %

The Materials

Table-14: The Material of the Walls

1	From The Bricks	1,7 %
2	From The Wood	95 %
3	From Rattan & Wood	3,3 %

Table-15: The Material of the Roofs

1	Zincs	98,3 %
2	Sirap/Wood Tile	1,7 %

The Material of the Floor (The Wood; 100%)

Table-16: The Function

1	Living House	75%
2	Living House & Small Shop	25%

Table-17: The Condition of Houses

1	Good	95%
2	Bad	5%

Resource: The Interview, as Result to the People in Urban Settlement (May and July 2009)

Table-18: The Table of the Houses

	The Floating Houses	The Scaffolding House	The Ordinary House
Types of the Houses at the Settlement	The Houses are on the Kahayan's River, closed to the River's bank	The Houses are located between the Kahayan's River (Water) and the Kahayan's River Bank/Land/Soil	The House are located on the Ground (Soil) at the River's Bank of Kahayan
The Material's Building of the Houses	<ul style="list-style-type: none"> - The Zincs for the Roof - The Woods for the Wall - The Floor is the Board of the Woods - The Glasses and Woods for the Windows - The Woods for the Door - The Nails - Some Rattans and Bamboos - The Plastics for the Floor's Carpet 	<ul style="list-style-type: none"> - The Zincs for the Roof - The Woods for the Wall - The Board of the Woods for the Floor - The Glasses and the Woods for the Window - The Woods for the Door, - The Nail - Some Rattans and Bamboos - The Plastics for the Floor's Carpet - Cement - Sand - Stones - Lime/Plaster - The Paint 	<ul style="list-style-type: none"> - The Tiled Roof or the Zincs for the roof - The Bricks - Cements, Sands, Stones, Plaster, Woods for the Wall - The Ceramics or Cements for the Floor - The Glasses and the Woods for the Window - The Woods for the Door - They also need, Rattan, Bamboos, Nail etc.
The Lay Out of the Houses	<ul style="list-style-type: none"> - The Main Rooms are the biggest Rooms of the House for The Living Room and The Dining Room - 2 – 3 Bedrooms - Special room for the Tools of fishing etc. - "Keramba's" Room for fishes as a commodity to sell, and very close to the open air became people come to buy the fish directly to the house through the river - room for taking a bath, washing, toilet, they take the water directly from the river - the kitchen - the clean water and electricity distributed by the public water and public electricity enterprises belongs to the government - the stairs needed if the river become dry-day season - the number of the family who live in the Floating House 3-5 Persons - Furniture Normally they have only cupboards, TV & Refrigerator. But they are sleeping and sitting on the floor (traditional's way) 	<ul style="list-style-type: none"> - The Main Room : Dining & Living Rooms - 3-4 Bedrooms - Toilet & Bathroom - Kitchen - Water & Electricity for Public Water & Public Electricity supply by the Government Enterprises - Number of Family 3-7 Persons 	<ul style="list-style-type: none"> - The Living Room - The Dining Room - 4-5 Bedrooms - Bathroom, Lavatory - Kitchen - Garage

The Problems of the Settlement

The Main Problem to the environment

This Urban Settlement especially, the people who lived in the floating's houses and scaffolding's houses, because of the domestic's water is triggered the pollution to the environment especially because the wasted and dirty water from it polluted the river's water. The Government should arrange how the wasted water has special dam or tunnel, so the wasted water will not mix with the river's water. So we could protect the good & healthier environment;

Poisonous Animals endangered the People's Life:

The People who lived in the floating's houses and the scaffolding's houses sometime find the poisonous animals such as snake, scorpion in their houses. So it endangered people's life;

The Health and Sanitary problems:

Because this settlement's location is too closed to the river, it will bring the bad condition to the people's health and also create the sanitary problems too; they use the water from the river for taking a bath, washing clothes etc. we could imagine how bad this condition to the people's health;

Public Buildings in the area of the Settlement

Because The People need The Schools and The Mosques, so they build them in this area. The type and the materials for the schools and the mosques as the same as the building for the scaffolding's houses. We should make the observation about the strength and the capacity of the public buildings because of the numbers of the people who will stay together in the same time at that places.

The Location and the Nature's Condition will influenced the Type and the Materials in Building the Houses:

We have found that the People built their houses such as the floating's houses, the scaffolding's houses and the ordinary's houses in this area and also selected the materials for them influenced by the location and the nature's conditions;

Legal Matters

The building of the Houses is illegal. The government's legislative forbid/ the people not to build the house at the kahayan's river bank. The whole Houses are illegal

CONCLUSION

- Government should make the new Settlement, which is healthier and more comfortable for the People who are living in the Urban Settlement. The Government and the Private sector also should make the Hospital, the Health Center for the People, the Schools, The Mosques, and the other facilities so People could have Better Health and

life.

- The Government should relocate them in the new Houses. Although is not so far away for the Bank, but they still have the access to the river.
- Because the main product of this society is Fishes and shrimps. So the government should make the regulation how people catch, buy and sell and people could eat the healthy & fresh fis.
- Giving the new knowledge & skill to the people who live in this area not only from the Sail/catching the Fish and Shrimps, but they also could have the new jobs such as Public Servants, the staff of the offices, Nurse, Doctor, Teacher etc.
- Moreover, the whole Urban Settlement in this Area is illegal in the point of View of the Law. So The Government e.g. Local Government of Palangkaraya's Province should make the hard effort and make the better planning for relocate them in the Healthier and better condition and Environment;
- The other solution is the Government should give protection & giving the advice to the people/society: the healthy life; the better house for living; the better education; and the better health, etc.
- The Most Important things for making The Kahayan's River back to the Good Environment and Nature, giving the best Protection from the wasted and dirty water so the River's water in a better condition. Avoiding the Urban Settlement on the River or in the River's Ban.
- We could see clearly from our paper that the Way People make the Houses and selected the materials for it absolutely influenced by the location and the Environment. For this reason We Found that there are Three Types of the Houses at The Kahayan's River in Central Kalimantan.

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