

SPATIAL EVOLUTION OF SAMA-BAJAU HOUSES IN COASTAL AREA OF
SABAH

IZIQ EAFIFI BIN ISMAIL

A thesis submitted in fulfilment of the
requirements for the award of the degree of
Doctor of Philosophy (Architecture)

Faculty of Built Environment and Surveying
Universiti Teknologi Malaysia

AUGUST 2018

Specially dedicated to *Papa, Mama and Maggie*
You guys made this happen.

ACKNOWLEDGEMENT

Anthropology and ethnography have always been part of my interests. I have been to several parts of rural areas in Sabah following the footsteps of my dad ever since I was a 13-year-old: scouring for ethnics' cultural artefacts, exploring the uncharted territories and dealing with people. Architecture on the other hand is my newly found love; and when the chance came by for me to combine these interests, I have never been more excited. Eventually, it leads me to the study of ethnic architecture and after much gruelling and toiling, resulting in the completion of this thesis.

The journey to complete this PhD thesis is illustrated by series of hardships, depression, demotivation, and obstacles that made me on the verge of giving up. However, through persistence and never-ending encouragement, I finally be able to complete this study, albeit taking too much time. I would like to convey my gratitude and utmost indebtedness to my supervisor Prof. Madya Dr. Abdullah Sani Hj Ahmad for your patience, tolerance and confidence in me. Your opinions, guidance and encouragement are part of the reason behind the completion of this research.

I would also like to convey a special gratitude and utmost appreciation to Prof. Dr. Ismail Ibrahim of Universiti Malaysia Sabah for not only being of great assistance throughout my study, but also for being the best dad I have always indebted to. Constant encouragement; knowledge sharing; and continuous help I received in the form of capital injection, made me survive and have the will to continue and finish this journey. A special thank you also to my mother, Salmah Ahmad, for always 'filling my cup' when it's empty, and for always motivating me to be a better man. Not to be forgotten, Ar. Cheah Siew Khim, of whom I have indebted to that I think could never pay back. Thanks for your never-ending support, thanks for believing in me, thanks for supporting me when I'm not in the best of condition physically and psychologically, and thanks for keeping my mental health in check. My gratitude to Dr. Zaimie Sahibil, for helping me during data collection in relatively unknown areas in the rural of Pitas; also for critics and data sharing.

Special thanks also to my friends-cum-research assistants: Amirulnizam Jamaludin, Andry Chin, Farit Azamudin, Nur Paisah Sukman, and Mohd Afis Ismail; and my brother-cum-research assistant: Izaq Yuzaini, for accompanying me to rural areas throughout my studies and helping me in the documentation of data. Thank you to representatives in all three of my study locations: Surong Bin Kurin, *JKKK Kampong Mapan-Mapan* of Pitas, Tawasil Bin Sulaneh, for providing accommodation in Omodal Island for several weeks, and Hj Manap bin Abdul, *Ketua Kampong* of Kampong Tanjung Aru Lama. Thank you also to all respondents of Sama-Bajau who have been vital for data collection, informants, helmsman, and translators- especially in Pitas, Omodal Island and Mabul Island. My deepest of gratitude to you all.

ABSTRACT

The Sama-Bajau is an illustrious and colourful ethnic community with a history that goes as far back as the golden age of the Brunei Sultanate. They were heavily involved in the maritime expansion of both the Brunei and Sulu Sultanates and their ethnic diaspora was scattered all over the coastal areas in North Borneo, creating vestiges of settlements that continue to thrive until this day. Their history was marked by stages of social mobility that saw their physical dwellings evolve from nomadic boat dwelling to sedentary coastal houses. A review of the literature has identified two major categories of coastal houses namely the primal house, a rudimentary house of Sama-Bajau and the modern coastal houses, commonly found nowadays in the coastal areas. However, in modern days, these coastal houses are often viewed in disdain as if they hold no significant heritage and qualities. This thesis aims to investigate the evolution of the coastal Sama-Bajau boat houses into sedentary coastal houses, in search of their spatial qualities, semiotics, patterns, and preferences, and eventually contribute to the documentation of spatial variations. The locations of this research were in three coastal areas in Sabah representing north-coast (Pitas), east-coast (Semporna) and west-coast (Kota Kinabalu) through selected coastal villages of the Sama Bajau. This research employs field research that requires direct contact with the subjects of the study and uses inductive methodology to generate theoretical data. Diagrams were also used to elucidate spatial patterns and variations for classification. Data were obtained through observations, interviews, and documentation of audio-visual recordings. Qualitative data analysis was conducted and the data were classified accordingly. Findings show that there are similarities between boat houses and coastal houses of the Sama-Bajau in terms of spatial progression and individual functions. Documentation of spatial arrangements of individual houses reveals the existence of a core space (consists of a guest area and a sleeping chamber), of which arrangements could be classified into four different variations. Findings also show that modern coastal houses are concentrated towards a linear configuration of spaces. The research postulates that certain spaces of the Sama-Bajau coastal houses such as ‘verandah’ and ‘platform’ have become less relevant as they modernize through eliciting preferences and values. This research serves as an important documentation to enhance awareness on the significance of Sama-Bajau coastal houses and contributes towards the knowledge pool about the ethnic community.

ABSTRAK

Sama-Bajau adalah satu komuniti etnik yang kaya dengan sejarah tersendiri sejak dari zaman kegemilangan Kesultanan Brunei lagi. Penglibatan mereka dalam pengembangan kuasa maritim Kesultanan Brunei dan Sulu di kawasan pesisir di Borneo Utara telah mewujudkan taburan penempatan yang terus berkembang sampai ke hari ini. Melalui pergerakan sosial, kediaman fizikal mereka berkembang dari rumah perahu tidak tetap ke rumah pantai. Kajian literatur telah mengenal pasti dua kategori utama rumah pesisir iaitu rumah primal, sebuah rumah asas Sama-Bajau dan rumah pesisir moden, yang sering ditemui pada masa kini di kawasan pantai. Walau bagaimanapun, pada zaman moden, rumah pesisir ini sering dilihat sebagai tidak mempunyai warisan dan kualiti yang penting. Kajian ini bertujuan untuk mengkaji perkembangan rumah perahu Sama-Bajau pesisir hingga ke rumah pesisir pantai, untuk mengenal pasti kualiti ruang, makna, corak ruang, dan kelebihan tersendiri dan akhirnya menyumbang kepada dokumentasi variasi ruang. Lokasi kajian ini terletak di tiga kawasan pantai mewakili pantai utara (Pitas); pantai timur (Semporna); dan pantai barat (Kota Kinabalu) melalui kampung-kampung Sama-Bajau terpilih. Kajian ini menggunakan penyelidikan lapangan yang memerlukan hubungan langsung dengan subjek kajian dan menggunakan metodologi induktif untuk menghasilkan data-teori. Rajah juga digunakan untuk menjelaskan corak dan variasi ruang untuk klasifikasi tersendiri. Data diperoleh melalui pemerhatian, wawancara, dan didokumenkan melalui rakaman audiovisual. Analisis data kualitatif telah dijalankan dan data dianalisis secara kualitatif dan diklasifikasikan dengan sewajarnya. Kajian ini telah mengklasifikasikan rumah pesisir menjadi dua kategori utama: rumah tradisi, iaitu sebuah rumah asas Sama-Bajau; dan rumah pesisir moden. Hasil kajian menunjukkan terdapat persamaan antara rumah perahu dan rumah pesisir Sama-Bajau dari segi perkembangan ruang dan fungsi individu. Kesenambungan ini ditemui melalui kesamaan dalam perkembangan ruang dan fungsi individu. Dokumentasi susunan ruang rumah individu menjelaskan kewujudan ruang teras (terdiri dari kawasan tamu, dan ruangan tidur) yang mana susunannya boleh diklasifikasikan kepada empat variasi yang berbeza. Dapatan juga menunjukkan bahawa rumah pesisir moden tertumpu kepada konfigurasi ruang linear. Penyelidikan ini juga memberi gambaran bahawa beberapa ruang rumah pesisir Sama-Bajau seperti beranda dan ruang pentas telah menjadi kurang relevan pada zaman moden melalui pilihan dan nilai individu. Penyelidikan ini merupakan dokumentasi penting untuk memberi kesedaran mengenai kepentingan rumah pesisir Sama-Bajau serta menyumbang kepada pengetahuan berkaitan kumpulan etnik Sama-Bajau itu sendiri.

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LIST OF ABBREVIATION

AAA	American Anthropological Association
AD	Adjacency Diagram
BNBC	British North Borneo Company
ESSCOM	Eastern Sabah Security Command
GTM	Grounded Theory Methodology
JKKK	<i>Jawatankuasa Kemajuan Dan Keselamatan Kampung</i>
KTAL	Kampong Tanjung Aru Lama
MEC	Means End Chain
MCSBH	Modern Coastal Sama-Bajau Houses
OSK	<i>Orang Suku Laut</i>
PEC	Person-Environment Congruency
PPRT	Projek Perumahan Rakyat Miskin Tegar
SAFODA	Sabah Forestry Development Authority
TSBH	Traditional Sama-Bajau House
TMH	Traditional Malay House
UNHCR	United Nations High Commissioner for Refugees
YDPN	Yang Di Pertua Negeri

GLOSSARY

A'a sama	- Other term for Sama Dilaut
Babag	- Floor beam
Babag Diata	- Floor frame
Babag Hag Rinding	- Rinding Wall beams
Bakal	- Sama language for <i>Nibong</i>
Bangsa Moro	- Autonomous political entity made up from collective Muslim tribes in Southern Philippine
Balat	- Sea-cucumber
Bayanan	- Main boat of Sama-Bajau
Bilik	- Dedicated room
Biral	- Peripheral boat
Bumiputras	- The term to describe Malays and other indigenous people of Southeast Asia.
Bulihan	- Rear
Barisan Nasional	- Largest party in the Parliament of Malaysia.
Bajau kubang	- Sub-group of Pala'u
Boggo-boggo	- Peripheral boat of which added with outrigger called katig for easy glide on the water.
Bomoh	- Shaman or witchdoctor
Datu	- Feudal lord under Sulu Sultanate; also known as Pengiran in under Brunei Sultanate
Developing house	- Term introduced in this study to identify modern coastal house in its developing stage (in the process of adding spaces)
De jure'	- Stateless where they are deprived from getting benefits

of being a national in Malaysia.

- Diom luma/ diom** - Main structure of the house; sleeping area
- East coast bajau** - East coast Bajau is a term given to generalize the many groups of Bajau collectively in the coastal area of east Sabah. This groups name after themselves based on the geographical location of the group itself for example the Bajau Laut living in Omadal Island are called as Sama Omadal or Bajau Omadal.
- Emic** - Perspective from within the social group (from the perspective of the subject)
- Etic** - Perspective from outside (from the perspective of the observer).
- Gaya Island** - Island located in Kota Kinabalu; Gaya Island nowadays still accommodate several Sama-Bajau villages e.g. Kampong Kasuapan and an illegal village, Kampong Pondo, of which accommodate hundreds of undocumented illegal immigrants
- Gubang** - Peripheral boat; commonly can be found tied to the back of the main boat.
- Hag tanggah** - First column of the house
- Hag lumah** - Column of the house
- Hag onnom** - Column of six
- Hag rinding luma** - Wall columns
- Hag siyam** - Column of nine
- Hahron** - Ladder to the house (usually from the water)
- Igal-Igal** - *Igal-igal* is a traditional dance for the Sama-Bajau in Semporna an is widely recognized
- Jomo sama** - Other term for Sama Darat
- Jambatan** - Walkway; catwalk leading to the house
- Karamaian** - Events that usually involve crowds
- Kasau atop** - Roof frame
- Ketua kampong** - Chief of the village.
- Ketulahan** - Local term for ‘cursed’; bad luck

Kusih	- Kitchen
Katig	- Boat's outrigger
Kibin mundahan	- Front deck
Kibin bulihan	- Rear deck area
Kumpit	- Other name for Sama-Bajau's boat in Philippine
Kulimpapa	- A tree that grows wild in Mangrove area
Kenduri	- Feast; a ritual common among the muslims to appreciate certain event such as remembering something and requesting blessings headed by imam or any religious adept.
Lantai Luma	- Flooring
Lansa	- Other name for Bayanan; main boat of Sama-Bajau
Lepa-lepa	- Main boat of Sama-Bajau and has become an important cultural artifact where it is being decorated with carvings.
Lapohan	- Traditional cooking appliances made by clay
Lawang	- Door
Magellan-Elcano expedition	- The first attempt to circumnavigate the globe under the command of Ferdinand Magellan that sailed from Seville in 1519.
Majlis Berkhatan	- Circumcision ceremony
Makaheka kubul Umaral	- 'This where we came from, and this is where we return'
Malayism	- The term referring to assimilation of Malay influences by other ethnic.
Malleability	- The term used in this study to refer to the flexibility of Sama-Bajau community to their preferred authority
Mag-paigal	- Ritual to celebrate spirit during full moon accompanied with <i>igal</i> dance.
Magpai-bahau	- Ritual to celebrate new yield
Mag-omboh	- Ancestral spirit
Menganyam	- An act of weaving
Mohang bulihan	- Rear space

- Mohang mundahan** - Intermediary front area in between front deck and diom
- Mundahan** - Front deck
- Musolla** - Prayer building smaller than a mosque
- Nipah** - Mangrove leaves that is used for making a roof
- Nibong/bakal** - Mangrove palm
- Nomadic Sea Bajau** - Nomadic sea bajau or more synonymous with the sub-ethnic of east coast Bajau: the Pala'u.
- Orang Suku Laut** - Orang Suku Laut (OSK) of Indonesia closely resembles Sama-Bajau in lifestyle; even though there are several studies nullifying the link between the two, there are some scholars posit that OSK is part of a diaspora of Sama-Bajau
- Out-bound coastal houses** - Out-bound coastal houses are usually located directly to the shore and is not linked within the framework of catwalk bridges. These coastal houses are likely more individual.
- Pagkanduli** - Ritual to present prestation to sea spirit often celebrated with *igal* dance.
- Pamatulakan** - Ritual to oust bad spirits
- Pahalian** - Resting area
- Papan** - Timber plank
- Pallilibu** - Fishing activity that would take normally hours and the fishing area that is not far from their village
- Pala'u** - The pejorative term for the still nomadic Sama-Bajau by other dominant groups.
- Pamelahan** - Cooking Area
- Panas** - Refers to the unfavourable condition of the house that is portrayed figuratively. Panas also means 'hot', signifying a condition that brings unpleasant feelings to the household and that it could invite calamity to the house in the long run.
- Patulihan** - Sleeping area
- Pentan** - Platform space

Pengirans	- Feudal lord under Brunei Sultanate; also known as datu amongst those under Sulu Sultanate
Penyejuk	- Easement to the house; give good sense
Pemensanan	- Helm
Pengosehan	- Cleaning area
Pencarian ta'un'	- Foraging month'
Pongka	- Fishing activity that would take few days due to far away location but usually with more haul and benefits.
Pogil	- A tree having the same property as Tangar
Primal house	- Term introduced in this study to refer to the traditional coastal house of Sama-Bajau
Putu	- One of the traditional food of Bajau Laut Semporna, where cassava is cut into pieces, dried and subsequently steamed to perfection. It is consumed daily replacing rice and is usually eaten with fish and other seafood
Rezeki	- Fortune
Rumah ibu	- Main house; popular term in traditional Malay house
Sakai	- Fishing activity that would take weeks or even months out in the open sea.
Sama-bajau	- Collective term referring to all groups of Bajau including those west-coast Bajau, east-coast Bajau and Pala'u.
Sama dilaut	- Also known as Bajau Laut; sea-based Sama Bajau
Sama darat	- Also known as Bajau Kota Belud; land based Sama-Bajau
Sama-Lipid	- Sub-group of Pala'u
Santing	- A tree used for making house materials
Sapit	- Alternativenam for Lepa-Lepa in Philippine
Sedentism	- The term for the practice of living in one place for a long time. Also known as sedentarization.
Seed house	- Term introduced in this study to identify modern coastal house in its infancy (with minimal spaces)

Selawat	- Islamic citing to praise the prophet
Serambi	- Verandah; also known as <i>sibai</i> amongst <i>Sama-Bajau ubian</i> dialect
Semi-sedentarized	- The term is in reference of the condition of nomadic Sama-Bajau who are sedentarized but only for a temporary period due to the likeable living condition before they move out to another more desirable ground.
Sibai	- Verandah or also known as Serambi in Traditional Malay House; a place to receive guests. In Omdal, the <i>sibai</i> area is often referred to as <i>pentan</i> or kaki lima, which is the same term for platform.
Stagnant house	- Term introduced in this study to identify modern coastal house in its matured stage.
Tandawan	- Window or openings
Tamu	- A market where two or more ethnics congregate and exchange items. Still being practiced until today.
Tangar	- A tree also known as tagal; similar to mangrove
Tempel	- Main boat of Sama-Bajau
Tjengking	- Main boat of Sama-Bajau specifically in Southern Philippine
Tompek	- A traditional food, where cassava is shredded and dried before fried without oil in a pan. Usually consumed with fish and other vegetables. This dish also popular amongst the Suluk.
Tukang	- Skilled laborer or craftsman.
Water village	- Water village settlements are not exclusive only to the Bajau, but also widely discernible amongst the Suluk, Iranun and even Bugis
West coast bajau	- Sama-Bajau living in west coast area of Sabah such as Kota Kinabalu, Tuaran, Kudat and Kota Belud
Yang di-Pertua Negeri	- The ceremonial governors of the Malaysian state without monarchs (hereditary head of state)

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The real challenge for the human to survive in this ruthless environment is for them to seek shelters with structures that can provide them safety from the likes of animals and bad weather. From living in the cave until the dawn of independent shelters made with advancement of knowledge, human shelters have evolved, varied with variety of forms and materials to suit the local environment. A shelter, or a house, is not only made for the sole reason of safety and protection, but also to suit the other psychological and physiological needs of the occupiers. These needs are what influences the form and shape of a house and with psychological and physiological needs are met, a house is no longer served as a mere shelter, but called as a ‘home’ to the occupiers.

Space is an essential entity in house that gives comfort to the occupiers and also to give them freedom, privacy, and security. A house also must have a structure that supports the space, and with structure there must be a solid material to be used for it. These materials are usually gained from surrounding environmental context. Environment plays a major role into giving a

house its own identity and character; and with the environment, comes the local community of which using the environmental resource itself to make their own shelters. Example of this community best can be seen in Sabah and Sarawak ethnic housing of which their architecture is pure and localized. For example, structure of the house is tied by rattans, walls are made by tree bark and bamboo strips, roof is made by neatly arranged thatched *nipah* leaves, flooring is laid and carved from bamboos and *nibong* trees, and column from *tangar* and *santing* woods. This traditional house is commonly can be seen with the likes of Rungus, Murut, Kadazandusun, Iranun, Brunei, Bisaya, Tausug and Bajau.

In general, this house consists of three types: semi-subterranean; surface dwelling; and pile dwelling (Abdul Halim Nasir, 1985). The most common in Sabah and Sarawak is the third – pile dwelling. The construction of this house is influenced by customary and beliefs from site selection process until the part where occupiers would enter the house. In this context, usually the customary chief e.g. local shaman would appease the spirit in order to avoid any disturbances for the occupiers (Moktar Hj Ismail, 1992). Traditional houses can still be found in modern days and located in certain districts with highest concentration of certain ethnic groups: Pulau Banggi (Dusun Bonggi), Kudat (traditional house of Dusun, Bajau-Laut and Rungus), Kota Belud and Kota Marudu (Dusun, Bajau, Sungei people), Tambunan and Keningau (Kadazandusun), Tenom and Pensiangan (Murut), Semporna (Bajau Semporna) also from Papar until Sipitang. These traditional house are built with variety of concepts and designs based on the locality of environment; also with their own cultural aspects and arts significance.

1.2 The Bajau

Bajau as part of Sama language speakers is the most widely disperse maritime group within South East Asia waters ranging from northern Philippine to south western of Thailand until northern Australia (Sather, 1997). This Sama speaker community are related to the other two major ethnolinguistic groups influenced by location, speech pattern, history and culture: Mokens in Mergui archipelago and Orang Suku Laut of Riau-Lingga archipelago. They have

been travelling the waters to search for livelihood and evidence of an unhindered voyage of sea nomads (Sather, 1995) has been recorded by Spanish conquistador in the Sulu Sea as early as sixteenth century. This community is nomadic, scouring from sea to sea for a living and they have been variously recognized as ‘sea gypsies’, ‘sea folk’, ‘boat people’, ‘sea hunters’ (Sopher, 1977) and generally ‘sea nomads’ is preferable terms used by scholars and public alike (Chou, 2006)

In a more specific location like Sabah for example, there are many terms for Bajau people stemmed from scholars and European travellers naming after this people. These terms are basically based on the research done and to be more specific towards geographical location. Even the terminology of “Badjao” or “Bajau” was a reference used by outsiders. Terminology in introducing Bajau people could be confusing due to several terms being used by scholars to identify this community. However, these terms are deemed superficial and only be used by the authority and scholars for identification. This community call themselves as *Jomo Sama*, as in west coast Bajau and *A’a Sama*, as in the east coast which means Sama people (Sendera & Nornis, 2008; Nornis, 2012). There are terms based on the location of the community itself- *Sama Dilaut* which means sea oriented Sama and *Sama Darat* which means land-oriented Sama. Still, this community prefer to be called Sama (Sather, 1997) implying the word ‘we’ (Saat, 2003b). However, these terms are not accurate to portray the west coast Bajau who are still relying on sea for a living. Rahim et al (2010) posited that using east coast Bajau and west coast Bajau are the correct term for generalizing these sub-communities. Another term for *Sama Dilaut* starting to sedentarized is *Bajau Kubang* (Sather, 1997; Ali, 2010; Brunt, 2013), but this term is only specific on the east coast. Researcher chose to use Sama-Bajau for most of the term for universality if the description is not to be specific. Sama-Bajau on the other hand is used to collectively referring to Sama or Bajau (Donohue, 1997; Rodney et al., 2010).

Several local scholars and early scholars postulated that Sama-Bajau were originated from Johor (Van Dewall, 1884 and Rutter, 1922 as in Rodney et al., 2010; Beng Liang, 1977; Nimmo, 2001b; Ali, 2010; Ismail Ibrahim et al., 2013). However, this theory is based on myth and hearsay and was never proven until Pallesen (1985) inferred that Sama-Bajau dispersed from Zamboanga in the southern Philippine. The dispersion is what made up the majority Sama-Bajau

in the region comprising Malaysia, Philippine and Indonesia. In Sabah alone, this particular ethnic making up to 13.4 % of total population and it is assumed that they are more and currently growing in the coastal area of Sabah (Department of Statistics Malaysia, 2013).

There are many reasons for their major exodus towards Sabah coastal areas, in which majority of them are political and economic refugees (Nimmo, 1986; Sather, 1997). Besides, they are known as nomads for a reason and one of them are their distribution of resources network in which they will keep on shifting until their need for resources is fulfilled (Chou, 1997; Lowe, 2003; Nolde, 2009). Many of the current generation of Sama-Bajau still living in the coastal area of Sabah are direct descendent of the first generation who migrated to Sabah.

Decades past since their first major exodus yet many of them remains in Sabah to continue with their living. However, they find themselves stateless where they are deprived from getting benefits of being a national in Malaysia, a condition UNHCR refers to as '*de jure*' stateless (United Nation High Commissioner for Refugees, 1954). They are blatantly denied of extraction of resources and access to multiple amenities by legislation (Brunt, 2013). Despite many humanitarian suggestions made by the authority regarding Sama-Bajau, especially those in the east coast, paradoxical statement ensued whereby in recent publishing materials, Bajau Laut in east coast area are considered as unresolved problem.

Sama-Bajau were sea nomads before they are separated into several groups that some of them managed to live a sedentarized life in which they eventually create a new ethnic practising agricultural based livelihood while creating a new material culture (Saat, 2003a). Looking back at the origins, this ethnic wander the sea in search for livelihood and dominating every resource available to them like pearls, sea cucumbers, dried fishes to be traded away under the rules of Sulu sultanate, in which they were governed by high ranking individuals (Warren, 1985; Saat, 2003). This is happening in the past and in the contemporary, the value of the sea to them still regarded as indispensable though majority of this community has embraced urbanization and being sedentarized.

Sedentism is the major platform for Sama-Bajau to actually reanimate the identity (Warren, 1983). Nowadays, many of the boat cultures were vanishing from the life of Sama Bajau. In fact, boat nomadism has been disappearing in South East Asian waters upon post-independence period in Malaysia (Sather, 1997) and also the building of one nation identity in Indonesia (Chou, 1997). Sedentary is the process of living a life without the account of being nomads and living inside a structure where they are able to do activities relating to religious practice. In fact, Islamization has caused Sama-Bajau to stay inside a permanent structure so that they are able to do prayers properly (Sendera, 2007). In southern Philippine, it is only through sedentary lifestyle that Sama-Bajau would be acknowledged as a Muslim by a more dominant group like Tausug (Nimmo, 1994 & 2001a). Sedentism also means that they are moving forwards with life by adopting a lifestyle of what they deem as more civilized ethnics. Moreover, this process is part of an on-going process of vertical social mobility for Sama-Bajau (Saat, 2003b). This process eventually subdivided Sama-Bajau into two groups as mentioned by Sather (1997) – *Sama Darat* and *Sama Dilaut*. West coast Bajau can be said to be the product of perfect sedentary process where duration and different phases of inwards settlement become the major role in consolidation of West coast Bajau in which their economic orientation and part of their culture changed significantly (Sendera and Nornis, 2008; Rahim et al., 2012).

Sama-Bajau have both achieved and lost their identity in the sedentary process. What was once a community rich with cultural heritage and colourful beliefs within the environment of boat dwellings, has now become monotonous and struggling to survive in the flow of urbanization. Whereas, those who have been early sedentary and moved inland, consume time long enough to influence their job pattern or activities (Sendera & Nornis, 2008) and be able bring themselves further in vertical mobility that they able to take opportunities surrounding them such as utilizing the land for crop plantations (Kling, 1995) and commerce (St John, 1974). This successful transformation is what composed West Coast Bajau today. Moreover, colonial policies imparted by BNBC (British North Borneo Company) had positive impact on the economic transformation of Sama-Bajau albeit controlled and capitalised (Beng Liang, 1996; Saat, 2003a; Saat, 2003b). Prior to colonial times, Sama-Bajau of the west coast has already revelled in high social status by recognition from Brunei Sultanate (Pallesen, 1985; Saat, 2003a; Ali, 2010; Ismail Ibrahim et al., 2013). However, comparing with other ethnics during the

colonial times, Sama-Bajau are far left behind due to the lack of education opportunities imposed on them (Saat, 2004). Many influences from other culture inseminated the life of Sama-Bajau creating a new material culture that give rise to a solid identity now acknowledged by other tribes. This is the process called for acculturation. Acculturation is the catalyst behind the transformation of the cultural attributes within the life of Sama-Bajau pushed by interrelated economic, ecology and demographic factors (Lenhart, 1997). This community even relate themselves to the Malays, stemming from their histories revolving around Johore and Brunei Sultanates. Even during the formation of Malaysia, they are the biggest supporters behind the formation of Malaysia and today, they are mostly supporting Barisan Nasional as the party that fight for Bumiputra's rights. In many ways it is postulated that Sama-Bajau are part of Malay diaspora as they exhibit many Malay cultural traits (Saat, 2003a), some scholars considered them as "lower class of Malays (Findlayson and Raffles, 1826, in Chou 2006). 'Malayism' is the term that brings about awareness to the personality of most West Coast Bajau (Saat, 2008).

Another group of Sama-Bajau who are recently sedentarized found themselves to be in the borderlines. They are trapped in the interstice of borderlands between two countries, in the socio-economics of the contemporary between heavy reliance with land infrastructures and skills limited to the sea, and also trapped in the settlement within the border of sea and land (coastal settlements). This sedentism was part of an organized effort by Malaysian government since achieving independence (Ismail Ali, 2010; Ismail Ibrahim et al., 2013). These situations are applied to Sama-Bajau living in the coastal area in which they also called as 'border community' (Kemkens, 2009). This is part of sea nomadic transition which draws comparison with Lapita sea nomads where they began gradual movement towards the land involving stilt houses, marking the point at which ocean space was favoured equally with land space (Nunn, 2007). This group can be posited as those who are unable to be separated from their lifestyle and livelihood inherited from their ancestors. They would still return to the sea based on their only skills that they have and attachment that they hold towards coastal living.

There is also a sub-group called *Pala'u* under *Sama Dilaut* category which is still living in the boat and adamant on getting themselves modernized like their neighbouring community. The group remained maritime based and non-agricultural absence from crops and landed property (Fox, 1995). Contrary to the case of Orang Suku Laut Riau (OSK), of whom tried to

restrict cultural contact from outside in order to preserve their own cultural values (Lenhart, 1997), *Pala'u* in east coast Sabah are 'marginalized' in which they slowly losing their own identity while restricting cultural contacts with other community. Ironically, *Pala'u* relies on inter-contact with neighbouring tribes to beg for food and help. They live in an absolute passive life that has been marginalized for decades from the more dominant community, e.g. the Tausug. Even the authority seems to be neglecting the well-being of this people especially in natural resource management where most of their fishing grounds have already fell under the protected areas, causing them to lose their livelihood (Brunt, 2013). They are historically marginalised as they are deprived of their space and tenure of territoriality. Today, they are deprived from getting education and the benefits of a citizen in Malaysia in what this group can be considered as 'de jure' statelessness- applies to anyone who is not deemed national under the state law (UNHCR 1954).

1.3 Research Problems

Government recently addressed the coastal community to call for relocations of their settlement. Recent incursion of armed Sulu militants in their quest of contesting land ownership over the land of Sabah in 2013 have pushed the government to be wary over the security of water villages scattered around the coastal area in the east coast. The incursion has become an excuse for the government to relocate and abolishment of water villages (Daily Express, 2013). It has been long since the government wanted to relocate the coastal settlements only to be held back in fear of uprising (Malaysia Kini, 2013) and their settlements in addition, are the reflection of what is happening with the Orang Suku Laut in Indonesia, whom lifestyle are the complete opposite of the nation's development and environmental sustainability (Chou, 1997). Relocation of this community also is part of the initiation by the government to achieve the long adhered 'Vision 2020' introduced in 1991 (DPN, 1991), to abolish poverty and to level the social gap by 'equity growth' in order to build a one nation identity shared by all citizens which is a precursor to modernization and better living conditions (Lenhart, 1997). The problem arised on how this community would survive if they are to be relocated.

It would be the most sensible option to resettle this community and inseminate them with proper infrastructures and amenities. The question on whether it would be implemented thoroughly or merely providing them with houses to live in is up to the authority. Without doubt, amenities are important, but so does the character and identity of coastal Sama-Bajau abodes. Identity in general has been listed by Saat (2003a) as comprising three parts: terms given, Islam and maritimic economic base. However, he does not point out the underlying identity of Sama-Bajau built environment that has been vital in the survival of Sama-Bajau until today. Not only the built environment, cultural landscape of Sama-Bajau also complements their identity as suggested by Chou (2006) in an effort to rethink of the marine world as Sama-Bajau cultural spaces and place making (Lowe, 2003; Chou, 1997). There are debates on the validity of Sama-Bajau abodes for being worthy of identity identification and without qualm those abodes are just manifestation of Sama-Bajau endurance. They are rudimentary and built for survival. However, there more than just outlook, but the space distribution and its networking in the realm of Sama-Bajau. In the early days, this community would claim ownership of and sovereignty over the place connected by inter-related kinship ties (Chou, 2006), creating a vast cultural landscape extended from their abodes and settlement. Alas, in modern days they are trapped within the control of the authority. What was once their territory in which Sama-Bajau are free to roam, is now bounded by demarcation of sovereign states (Rodney et al., 2010; Noor, 2013).

1.4 Challenges

Coastal Sama-Bajau houses has been considered as simple shacks which hold no perpetual values worthy enough to be considered as traditional house by many. However, understanding traditional house, it is a manifestation of heritage, traditional forms and values (Rashid, 2007) which could represents the culture of the occupants dwelling in it. These houses concept and design are usually filled with rich form of beliefs, order and taboo in which most of these beliefs are enherited orally from the previous generations (Husin Ali, 1971). Additionally, Koenigberger et al, posited in Rashid (2007) that a traditional house is a structure designed by the user in without restraint in time, low investments, using local materials in construction that is

being assist by kins and acquaintances. Comparable to the dwellings Sama-Bajau in the coastal settlement, the reality of the dwellings are actually complementing the statement yet it is seen as a detriment to outsiders- higher ranked societies and authority. Danger of imposing this people to the modern housing system could prove to be detrimental to Sama Bajau already dying culture and heritage just as happen to the terrace housing system that has become common in the post-independence era in Malaysia (Tajuddin, 2003).

They are also facing with diminishing culture due to the oppression from the authority and surrounding tribes. What was once marginalized people, are further marginalized in these very days. Fraction of this people have already pushing themselves hard to have a place in the society. They are trying hard to be on par with other communities, thus causing them to abandon their cultural identity. Due to the heavy reliance upon neighbouring tribes, acculturation process slowly occurs to the extent that Sama-Bajau is trying to prove their existence by assimilating that eventually exacerbate into marginalization. Regardless, the culture of coastal Sama-Bajau seems to be diminishing whenever they progress towards urbanization.

This study here to look at the lifestyle changes based on the two points presented above thus taking a look at the spatial development within individual homes through chronological standpoints. This spaces will be analyzed by its functions and meanings in order to find a common spatial character of coastal Sama-Bajau house. The research then progress to find out the preferences of the user. Understanding character would lessen the burden of this coastal community who are still looking for solid identity and eventually help the higher ups in revising their policy to these particular community.

1.5 Research Aims

The aim of this research is to discover the values of costal Sama-Bajau house by understanding character/identity through spatial qualities and user needs - with respect to cultural esteem it imposed on the users.

1.6 Research Objectives

The objectives of this research are:

- i. To identify space fundamentals in coastal Sama-Bajau houses and its growth towards modernization.
- ii. To assess the variation of spatial arrangements in coastal Sama-Bajau houses.
- iii. To determine the inherent values the end-users perceives towards achieving suitable/ appropriate housing attributes.
- iv. To develop a spatial theory and guidelines based on the findings to assist in conserving spatial character towards modern development.

1.7 Research Questions

Based on the objectives above, there are several research questions that need to be complemented per se. These research questions is what drives for the objectives to be answered:

Objectives 1:

- i. What is the coastal Sama-Bajau houses?
- ii. What are the spaces identified in traditional coastal Sama-Bajau houses?
- iii. What are the cultural interpretation and functions of the identified spaces?
- iv. Is there a continuity or reiteration of the identified spaces with other coastal houses?
- v. What is the current interpretation of the identified spaces?

Objectives 2:

- i. What are the variations of spaces in modern coastal Sama-Bajau houses?
- ii. What is the growth trace in modern coastal house in relation to traditional house?
- iii. What is the most common growth amongst coastal houses of Sama-Bajau?

Objectives 3:

- i. What is the user preferences towards housing attributes?
- ii. What is the end-values that drives occupiers into settling on their own preferences

Objective 4

- i. What is the spaces that persists functionally and in line with cultural worldview?
- ii. How are the findings able to contribute to the development of Sama-Bajau build environment?

The structure of research objectives along with research questions pose on each of them is pictured on figure 1.1. Objective one would answer the fundamentals of the coastal house and its conceptual. The focused subjects on objective one are the Sama-Bajau origins, evolutions, and the variation of coastal houses. Cultural interpretation also would be elucidated in this chapter. Objective two would discover more on the spatial quality of the coastal house of which includes discovering common spaces, functions, justifications, modern interpretations and growth. Objective three is dedicated to finding spatial patterns amongst Sama-Bajau coastal houses and objective four is to find user's preferences regarding their housing attributes.

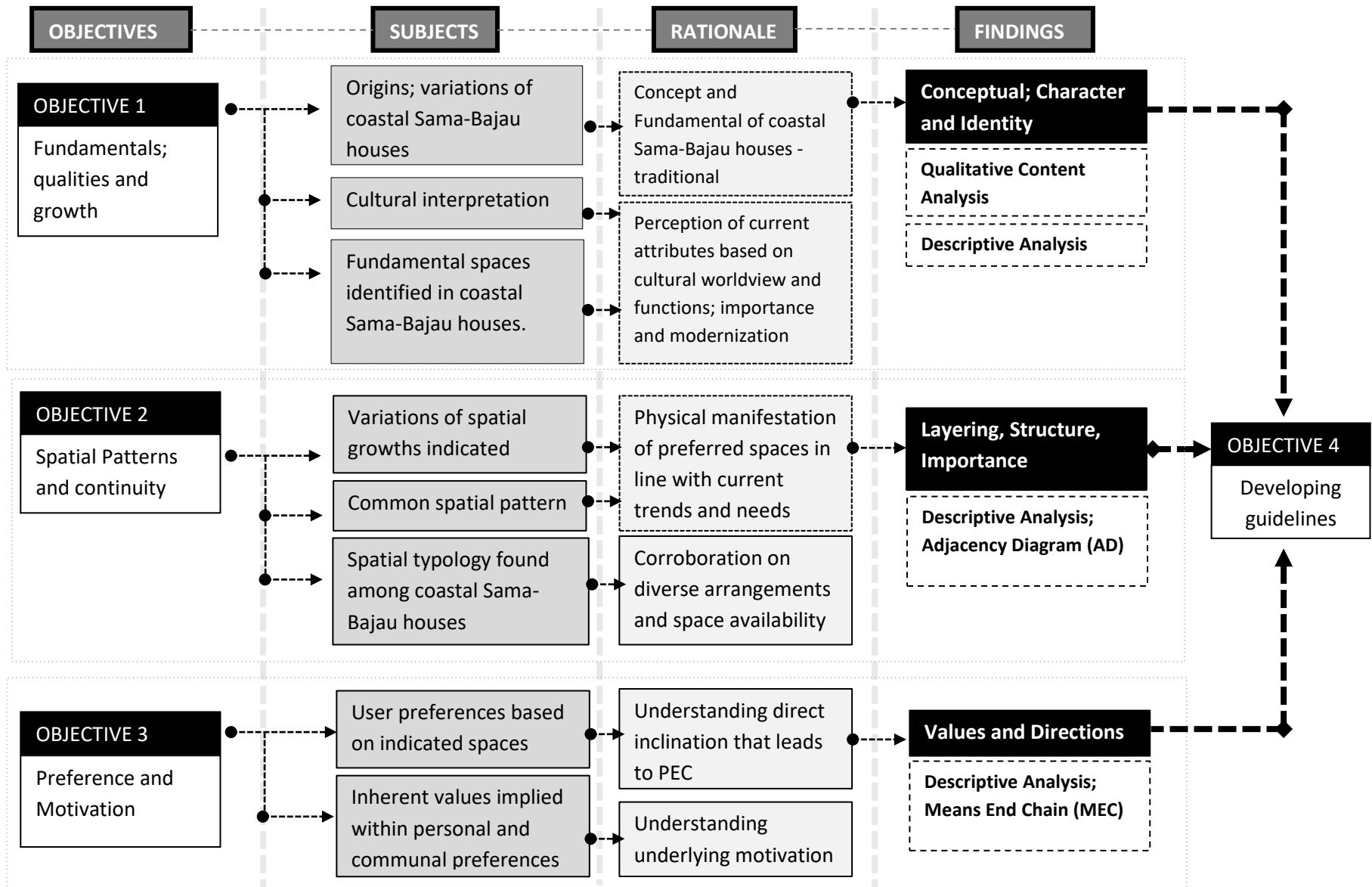


Figure 1.1: Research objectives framework

1.8 Spatial Qualities and User's Preferences

Space is the most fundamental concept in architecture. Space is created by a specific set of natural and artificial things (Arnheim, 2007). Space can be perceived through capability of movements: continuity of movement or stoppage of movement (Fakouhi, 2008). Spatial perception is possible by the presence of perceptible objects or limitation elements - or by the order established by these elements e.g. floor, ceiling, wall, therefore space is relative to the objects (Arnheim, 2007). Space has two features: '*spatium*' and '*extensio*' (Heidegger, 2000). *Spatium* and *extensio* afford the possibility of gauging things and what makes a space for according to measurements and directions. It is universally applicable to any grounds perceived as part of it even without the aid of mathematics (Grutter, 2007). The fact that the nomadic Sama utilizes the concept of home-space (Chou, 1997) as their own personal space corroborate to this idea. Their space can be perceived objectively and can be identified by its defining element. Space is not predetermined nor fixed, but a personal perception dictates and define a space (Grutter, 2007). Nomadic Sama has no physical limitation as dictates by their own definition of space. In phenomenology, space has several definable elements: dialectic of inside and outside, centrality, surrounding, territory and range (Mahmoodinejad et al., 2009). The relation between internal and external, which is the first aspect of objective space, shows that spaces have various levels of extension to the surrounding (Norberg-Schulz, 2009). However, their definition of space has been altered once the liberty of roaming has been taken away from them. It is then when they became sedentarized that their worldviews shifted and the transcendence of their living space began to materialized within their perceived 'place'. While space is an abstract field (Moghtadaie, 2007), place is a location or part of the space that has a meaning and value (Grutter, 2007). Place is the fabric of direct communication between the environment and human lifestyle (Moghtadaie, 2007).

Spatial quality is achieved when there is users' satisfaction associated with the usability of the space (Harun et. al., 2011). It involves cognitive psychology, emotions, behavior, scenarios and perception. This experience is influenced by personal interpretation of a situation based on the cultural background, sentiments and physical conditions of the users. Interaction with a system, design, or facilities offered would generate complementing reaction to user's

expectation which in turn produce the ‘quality’ of the said system, design or facilities offered. It is an interconnected cycle of attempting to satisfy needs and desires of human (Stern, 2003; Abdullah et.al., 2008). User experience is an event quality of experience, which is granted by achieving satisfaction and gratification from the interaction with different elements in a context of usability [Fenker, 2008]. The quality it offers is beneficial to the end users, and influence social factors, emotional, and physical well-being. Usability measures the values of users’ experience related to assessment of quality in-use (Blakstad et. al., 2008; Alexander, 2008). To understand space usability, it is imperative to understand the space based on semiological approach (Parsaee et. al., 2014). Semiological approach of space is based on the quality defining components of the space itself. These components are categorized in two: architectural mechanism and socio-cultural. The subjects under these components are as follows - architectural mechanism: spatial organization (circulation, functions, zoning, sequences) and physical structure (proportions, materials, color, ventilation and lighting, ornaments). Socio-cultural: social (family, privacy, territory, economic and politics) and cultural parameters (history, worldviews, traditions and custom).

1.9 Space Extensions (Personalization) and Spatial Growth

Space extensions is part of personalization process stemmed out of person’s desires for a change. Kopec (2006) and Fernandez (2007) describe personalization as a substantiated symbolism of personal identity, and delineating territories. Most literatures and common practices used personalization to decorate and rearrange semi-fixed components of the house while other ways that could incur large spending consist of modifying fixed components such as columns, walls, and floors (Jusan, 2007; Fernandez, 2007) which in turn contributing to the growth of housing spaces. Spatial personalization that commonly occurs within Sam-Bajau dwellings could always be subjected to the later. Personalization in built environment particularly home personalization can create a dynamic and transformative house which can cope with any lifestyle changes of the resident over the changing phases of their life (Baldwin & Tomita, 2007). Through personalization, residents are able to cope with the inadequacy of their

home (Jusan, 2007). There are many efforts to relocate Sama-Bajau people from their home ground as a countermeasure to poverty and national image since the nation achieved independence. The eventual relocation of Sama-Bajau to low-cost quarters might be unfavorable to the user needs and cause incongruity between the user and the environment. Even when personal needs which were overlooked in the original design of the house, it can still be fulfilled through modification (Giullani & Bucchignani 2000). Knowing the needs before resettlement would benefit this community greatly. Altas & Ozsoy (1998), being adaptable is an important spatial feature in achieving satisfaction in mass housing type. User needs which were overlooked upon the inception of the first design can be fulfilled through modification and through gratification of a certain needs (Giullani & Bucchignani 2000) leading up to the growth of spaces within a household.

Communal personalization as opposed to the individual personalization however fairly exist in Sama-Bajau coastal settlement in terms of kinship distribution within a certain area they deemed theirs and can be seen by extensive growths linking dwelling to dwelling. This is due to the nature of nomadic Sama-Bajau in the past that perceived their community as personal belongingness. These growths of personal belongingness could reach up to hundreds of kilometers back when they are still nomadic by looking at the maritime realm as an assemblage of their home-spaces. They operate by forging extensive links to other villages or fishing grounds far away which hold cultural, historical and kinship significance through marine environment they deemed their own (Nolde, 2009). As opposed to the modern housing where mobility leads to “placelessness” causing lack of place attachment (Tall, 2007; Fullilove, 2004; Norberg-Schulz, 1988), Sama-Bajau on the other hand used their mobility to pervade the water wherein the place attachment stemmed due to high degree of familiarity. However, since major sedentarisation occurred during post-colonial period, their home spaces have become more limited and defined due to demarcation of sovereign states (Rodney et al., 2010). Nevertheless, the fact remains that personalization and spatial growths exist due to the inflows of globalization influences. When urbanization increased, so does the notion of ‘individualism’ diluting the concept of communal living of the community. What was once called egalitarian society based on the kinship relation (Miller, 2011) now they have become more and more individualistic due to the materialistic affection promotes by the rapid waves of globalization.

1.10 Methodology

The nature of this study is ethnographic and fieldwork data collection method is appositely used in this research on selected sites. Fieldwork methodology is qualitative in nature and will be used to analyse the data obtained in this research. Data gained using fieldwork collection involves identification, documentation, observations and interviews. Sample of this research is based on purposive and that the data collected in a relatively small sampling size. The observation procedure to create descriptive data on paper from oral sources is based on Bogdon and Taylor (1978). In general, qualitative requires three stages: direct observation (experience); interviews (behaviour); and analysis (Lincoln and Guba, 1985). According to O'reilly (2005), accurate and relevant data is procured through 'participant observation' of which there are three methods: primary data gained from the informant; understanding between two parties; and discovery – a critical thinking focusing into the study (Fetterman, 2010). However, the main principle of fieldworks remain which is the willingness of the researcher to delve deeper into the research subject and devote on it (Ellen, 1984).

This research aims to first study the transformation of boat dwellings to coastal houses. This research can be categorized as social exploratory in its nature applying grounded theory (GTM) to elicit theories or meanings from variety of data collected. This study involves eliciting the fabric of Sama-Bajau life and its physical manifestations that can be shown in their built environment. The other steps involve these followings: to identify the essence of the houses; to find the pattern of the houses; finding preferred attributes; and to find out the preferences among Sama-Bajau respondents.

1.10.1 Data Collection

There are four methods in eliciting data on sites which are observational, interviews, documentation, and collecting audio-visual materials. All these four are the basic strategy used in this research and the research will be done openly with the knowledge of the respondents.

Discreet data collection is conducted during informal conversation with non-respondents. However the data is limited for the information of the village attended as whole. The list of activities during the collection of data are as follows:

- i. Visit each individual house within selected settlements and locations. This visit requires the participation of the original owner of the houses.
- ii. Participatory observation by insider's perspectives rather than being an outsider. Meanings that researcher will stay inside the settlement to experience the lifestyle of the villagers.
- iii. Identifying cultural attributes and spatial attributes based from the information gained, supported by data collected from semi-structured interviews with the villagers.

1.10.2 Data Collection Process

The process of collecting data on the site is assisted by several research assistants by their own goodwill devoid of any payment of sort. The assistants are tasked to take pictures and to communicate with the villagers. There are also individuals in each of the site, that assist researcher in liaising with respondents to reduce suspicions and to ease them to give more accurate data during interviews. These individuals allow the researcher to communicate directly with informants such as *tukang* and *ketua kampong*.

Data is gained through a set of interview form with structured questions as a guide to obtain information from the informants/respondents during the data collection. This form is not to be filled by the respondents but rather as a guide for the researcher to convey a list of questions for the respondents to verbally answered; and it is expected that the answer would be open ended. The set of questions consist of family organization, personal preferences, space usage, daily space usage, ceremonial space usage, cultural knowledge, external influences and personal opinions. The physical data of the respondents' houses also would be drawn and documented with respondents' agreement. All these data are recorded through voice recording, video recording, photographs, sketched and written in interviews transcript.

Secondary data in this study is particularly indispensable. It is imperative to know that studies of Sama-Bajau have accrued to the fact that it has been a major topic of interest in recent years. Attentively, these studies are what formed the basis of this research for a depth of understanding of Sama-Bajau cultural attributes. Secondary data for this research are extricated from anthropological books, journals, concurrent researches, dissertations and any evidences such as visual recordings and photographs.

- i. Journals including Social Issues, Historical Studies, Anthropology, Journal of Society and Natural Resources, Environment and Behavior, Journal of Techniques and Culture, Journal of Human Relation and Social Geography Planning perspectives, Journal of Qualitative Research, Journal of Environmental Management, Journal of Art and Science Commerce, Journal of Sustainable Development, Civil and Environmental Engineering, Environmental Planning, etc.
- ii. Unpublished and on-going studies including doctoral theses, master's degree and governmental reports
- iii. Archival records on photographs, journals, and drawings if available.

1.10.3 Observation

Researcher would spend time as an insider observer to understand the lifestyle of the occupants. Researcher is required to live within the settlement and study the pattern of space usage and the permutation of the community. In some fortunate cases, there would be a ceremonial or rituals event that the researcher could take part of. Observation technique opens the opportunity for the researcher to meet the community in practical manners and becoming part of the community itself; the participatory-observation is classified as emic. Video recording also will be made during the observation process time to time.

1.10.4 Interviews

There are two types of interviews that will be applied in this research. Firstly, a direct-approach interview with respondents so that researcher is able to focus and receive the information first hand which include unstructured and unexpected answer coming out from the informants/respondents. It could be hidden sentiments that respondents trying to suppress rendering the interview session to be fully effective and obtained more unexpected data. Secondly, interview sessions in group also will be applied in this research. Group session would open up more information regarding the community's collective thinking, and preferences. Information given by several respondents at the same time requires it to be validated by others thus making the information more accurate, honest and detailed.

Interviews in this research is done based on the semi-structured question in the interview form, hold by the researcher in order to gain information in order, applies to any other informants/respondents as well. This is to allow more casual interview session without making it too formal of which would make the data collection session seems to be too cautious and restrained. A casual environment is preferred as the respondents are able to be in comfort and give out reliable answers.

1.10.5 Documentation Using Tools

Documenting tools such as smartphone: used for taking videos and audio recording; digital camera for taking pictures; and notebook for sketching, documenting spatial configuration and other physical structures are all considered indispensable during collection of data in this research. That includes a laptop for easier storage of documented data on site. Usage of audio-visual tools could assist in giving the researcher a smoother experience during data collection.

1.11 Location

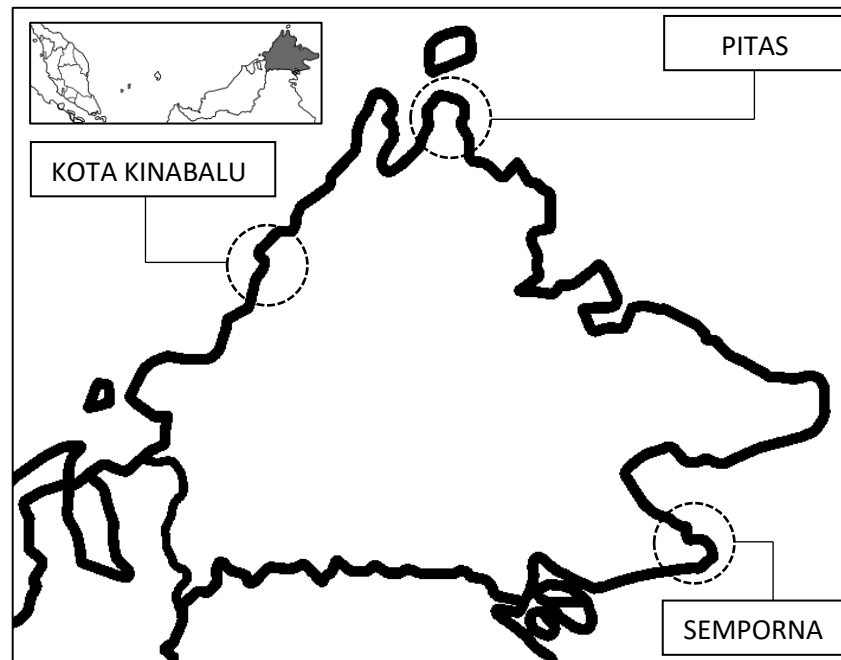


Figure 1.2: Map of Sabah and locations identified

It is important to note all the locations that have Sama-Bajau coastal dwellers in them. Based from recent observation, coastal settlements particularly on the east coast (*Sama-Dilaut*) still have several boat dwellers in which they chose to live with it by ignoring the influences and factors that making them sedentary. However, in the current situation, they are no longer nomads as they tend to revolve within the same area due to the opportunity present in their area of living. Ironically, this opportunity most of the time is restricted by the authority due to the image this imposed that deemed unhealthy to the tourism. Furthermore, when they are restricted within protected area that control natural resource management by the authority, they tend to go back to nomadic lifestyle, even to those who already living a sedentary life (Brunt, 2013). Due to this, location to study boat dwellers and coastal dwellers of east coast are likely to be within the area of *Semporna* (Beng Liang 1996; Sather 1997; Brunt, 2013). Several local and foreign scholars of whom recently studied into the life of *Sama-Dilaut* in the east coast also pointing to *Semporna* as the place for studies for the most rudimentary manifestation of *Sama-Dilaut*. Referring back to

the origins of Sama-Bajau, *Semporna* is historically the first settlement of *Sama-Dilaut* during their major exodus in 1887 (Warren, 1985).

Another location to be considered is in the north coast, in which the settlement there is neither too urbanise or too rudimentary. However, the influence is presence as they are probably nullified from being to incline towards either side. Out of all literature studies done, this is one of the few that touched on the Sama-Bajau settlement in the north coast with more research are leaning towards east coast due to the authenticity it presents. Apart from that, north coast settlement also located in the intermediate of the east and west physically.

Table 1.1: Population of Sama-Bajau based on location

Location	Targeted District	Population	Total Population
Urban	Kota Kinabalu	74, 731	278, 900
Semi-Urban	Semporna	78, 550	
Rural	Pitas	4, 055	171, 379

Source: Population Distribution and Basic Demographic Characteristics (2010)

Lastly, are those in the west coast of Sabah whereby the once maritime-oriented Sama-Bajau has completely shifted towards agrarian lifestyle in which they eventually formed new material culture. This Sama-Bajau is called *Sama Darat* or west coast Bajau. This west coast Bajau was originally like their many other counterparts, maritime oriented livelihood. However, increasing contact with inland tribes, increase their dependency on land resources (Miller, 2011). Some scholars postulated that the west coast Bajau and east coast Bajau are inherently non-related and according to Banker (1984) confirmed that they spoke of different languages. However, most recent research calls for similarities of language used (Arifah & Sendera, 2007). Researcher concluded that there is a similarity and the fact that west coast Bajau is actually a manifestation of *Sama Dilaut* who has been acculturate and achieved an institution comparable to those of land tribes. This similarity is what brings the insertion of west coast Bajau as part of the studies. Majority of the West Coast Bajau community settling in Kota Kinabalu, Tuaran, Kudat, Papar and Kota Belud (Beng Liang, 1996; Saat, 2003).

1.12 Research Scope

Topic when referring to the Sama-Bajau could be massive and that scoping down and limiting the research are essential. The selected variables to be inducted in this study prove to be too many to be covered especially those involved with the number of houses that should be taken for the typology studies and those of built environments. Regarding site selections, prior to the field works the potential locations shall be identified based on the previous research done in order to achieve the accuracy of the abodes concentration. The sites also should be within Sabah specifically and will cover on the east coast, north coast and west coast settlements. Specific locations will be determined based on previous research concentration and also recommendation by local experts in Sabah itself. Below are the following scope in the site selection:

- i. Located within Sabah
- ii. Specific to three locations: east coast, north coast and west coast.
- iii. Specific to two categories: boat dwellings and coastal houses, with focus on the latter.

Another scope highlighted in this study is the cultural attributes that need to be covered. Studying culture requires a commitment of time especially when researcher is trying to understand the variables discerning the culture itself. In this research, the variable will be covered to reflect each components making up Sama-Bajau life, however the depth for each of the variables will be corroborated by existing theories from previous researches. The attributes also would borrow from many studies regarding other sea gypsies in Indonesian water in which a handful of studies have been done regarding this community. Orang Suku Laut (OSK) is a result of diaspora of Sama-Bajau separated by location, language and history. Their lifestyle is comparable with Sama-Bajau with only the level of exposure to modern knowledge demarcate the boundary between Sama-Bajau and other sea gypsies tribes.

Apart from that, built environment will be scoped down towards spatial usage within the individual houses. Based on the pilot study done, the form of the dwellings and even materials are not in the focals of the research due to the fickle nature of the components. These components are direct outcome of the socio-economic of the dwellers in which will be elaborated

in the literature reviews. However, space arrangement and distribution are influenced by their lifestyle and kinship structure, thus greater focus will be invested on spatial organization in the subject of study. This research also will touch on the utility of surrounding living environment towards providing the spatial flexibility and utility apart from physical outlook of the houses. This study also will be deduced in regards to evidential materials that can be studied and using comparative analysis and parallel comparison. The study also will be analysed using chronological analysis or longitudinal study of the existing data gained during data collection. Hitherto, very few documentation or photographs showing vivid spatial arrangements can be found in the archive for traditional houses ranging far beyond pre-independence period of Sabah. This study basically inclined towards looking the existing physical structures found within the ubiquitous coastal Sama-Bajau houses in Sabah.

1.13 Limitations

Limitation of this research would also relate back to the focus of the research. In the process of conducting this research, there are several probabilities and obstructions that might that limit the efficiency of the data collection:

- i. Respondents may not be willing to provide information as questions ask might disturb the sensitivity of their customary beliefs.
- ii. Respondents may provide inaccurate information and may not be honest; however intermittent questioning on daily basis within data collection duration would validate and strengthen any doubt.

1.13.1 Time

Time is an utmost valuable determinant in this research. Therefore, the period of collecting data need to be planned carefully ahead. However, it is understandable that data collection period is not always going according to planned schedule. As location dictates, the distance between the university and selected sites are more than just drive and drop by. The sites are located on east Malaysia with only possible access via airways that leads to Kota Kinabalu, the capital state of Sabah to reach the site on the west coast. Researcher then need to travel 200 KM via road to reach the north coast site; and 550 KM to reach the town of Semporna and subsequently take a one-hour boat journey to reach the site on the east site. Proposed study time in this research is around 3 months per location. Considering there are 3 subjects to be studied, concerning north coast, west coast and east coast. Overall time allocated for field works is 1 year and considering one-month data entry would be allocated within interval of each subject being studied, that means it would sum up to a total of one-year completion of field works including data entry and to yield new theory that can be tested for subsequent studies. Based from the previous survey study, it is deduced that researcher would only be able to attend 3 houses per day at maximum for interviewing and collecting data. Not to mention the weather and safety factors especially when going to insular settlements or within conflict areas.

1.13.2 Ethical Consideration

Encroachment in the territory of a certain community is never to be overlooked by the settlers especially in remote settlements deep in the rural areas. Throughout initial survey on coastal villages in Sabah, many curious villagers have come to enquire the purpose of the researcher to their village due to the obvious gesticulation from house to house for collecting data. This inquisitive attitude most likely stemmed from their insecurity regarding their status and their timid involvement with the state authority. Living a remote life, it has become a norm for them to avoid conflict (Brunt, 2013) fearing that it might cause the authority to focus its attention to their life, leading to doubt and uncertainties over their peaceful life that they are

currently comfortable with. Technically, relocation is their main concern over the land they are on. After all, Sama-Bajau is a peaceful and comparatively non-violent community (Sather, 1997)

This study in many ways is close to anthropological and proper guideline has to be followed in order to achieve a lull research environment. Guidelines from American Anthropological Association (AAA) for example has stated that researchers must never to invade the safety, dignity, or privacy of the people with whom they work, conduct research, or perform activities with (AAA 1998). Most of the village that I went during the pilot study, emphasized on the intervention of their village head. Thus, informing the head of village is the first thing to do before asking for consent from individual houses. It is fortunate for the researcher to be able to speak Malay language making the conversation and collecting data easier. However, some of east coast Bajau community are not able to speak Malay language that they chose to converse in Bajau language. Language translator is needed in this situation. The informants also are not to be concealed, unless they request it to be anonymous. In all situations, introducing the research to the informants and explaining the benefits of the study is the right to do to imprint a positive reaction among the informants targeted. However, names are not the objective in this research but their dwellings. It is imperative to have them to agree to participate in the study.

1.13.3 Security

Security threat is another concern in collecting data especially on the north coast and east coast area. It is widely known at the moment that certain parts in Sabah are in conflict with the neighbouring south Philippine archipelago. In March 2013, there was an incursion of armed Militants from Mindanao claiming land ownership from Malaysia in Lahad Datu causing much commotion in that region and recently in *Semporna*, a tourist was shot dead and his wife kidnapped by an armed group in Semporna (The Star, 2013). Not to mentioned incidents happened in the past that would instantly give a clear image of insecurity in the coastal area of Sabah leading to the creation of ESSCOM by the government in 2013. As of now, there is a compulsory curfew in the area covered by ESSCOM at night especially in the coastal areas. This

situation would hamper the time limit for the study time to be only during the day. Certain areas are also barred to be visited due to the uncertainty in security unless researcher is accompanied by members of special force. Even so, authority's consent is not easy to be sanctioned and might take weeks to months, making the duration allocated of the study would effectively be disrupted. Careful consideration should be initiated on the selection of sites. Coastal dwellings that can be found in Kudat and Pitas areas - which still relatively safe if to be compared with those in the east coasts. Sites in the east coast shall be selected highly dependent on the availability of army posts in the area as indicated by the authority. Regardless, boat settlers or Sama-Bajau that still living a traditional way of life unaffected by time, are mostly located in *Semporna* region. Several islands have been identified based from the records previous local researchers went to do their studies, and the final selection of site is influenced by safety and history that the site offers.

1.13.4 Scarcity of Data on Traditional Sama-Bajau Coastal Houses

Boat dwellings nowadays have been diminishing over the years. Recent survey study in Mabul Island dictates reduction of boat dwellers due to the sedentism and several factors that caused them to leave boat life which is no longer sustainable. Data pertaining to the boat dwellers will be based on previous studies than actual participatory observation. Even though there are several families indicated to be still living in boat dwellings, their locations are not fixed and could move elsewhere that would jeopardize the time of the study. The data analysed for the boat dwellers subsequently will be used as fabric in comparative analysis with those of coastal dwellings, in which space typology study will be conducted. As a counter measure, a revisit to Mabul Island may be needed to enhance the reliability and validity of boat-dwellings data. Another method to overcome scarcity of boat-dwelling data is to summon occupants from tradition houses to guide and bring researcher to their relatives that are still living nomadically by boat-dwellings.

1.13.5 Data Reliability and Validity

The biggest concern in data collection is the data reliability gained from the informants especially in personal preferences. Data consistency is the major concern when elucidating data during interview in order for the result to be viable. However, data regarding preferences are often erratic and could be influenced by immediate motivation, comforts and ideology. This could make the data less reliable. To overcome this, researcher has to take the initiative to utilize intermittent questioning to the informants. For example, the data gained from the informant from an interview question shall be repeated at least three times intermittently over the course of interview session. The answer to the question should be the same and thus internal consistency could be achieved. In any case that the answers found to be contradictory, the informant have to be visited on the next interview session, possibly after one or two days gap. The answers gained on second session would then be correlate with the first session in order to find a common ground – the terminal answer.

For validity, the data collection shall target household decision-makers as the target informants or as ‘confounding subject’ in the study. This is done in order to get the best possible direction that certain household would go and its intended growth. Decision-makers in household are often to be seen as males, however in the community of coastal Sama-Bajau, female decision-makers are always present – with many of them are single parents, or household elders that dictate the direction of the household growth. The selection of houses on site also are to be done randomly. This is to be done to avoid bias in housing selection. The houses attended would then be categorized in the analysis section. The random selection also implies that the population of the study to be heterogenous, comprising of varying social and economic backgrounds. Probably, the most apparent dependable factor in the data collection is the economic affordability of the occupants or specifically the decision-makers of the household. For this matter, their preferences would vary significantly as informants would have resorted to being inhibited when it comes to voicing out their desires and preferences. In this study, it is compulsory for the researcher to kindly explain to the informants for them to get rid of their fear for personal affordability; and for them to have the impression that they could afford housing extensions. These actions would greatly help in the validity of the data internally and externally.

1.13.6 Focusing on Spatial Study

As explained in research scope, the focus in this study is mainly pertained to the usage of spaces in individual houses. The chronological study of the traditional house concentrating on spatial evolution is due to the unyielding value it carries. Study done by Chou (1997) asserts done the nomadic boat dwellers in the past use the environment as the home spaces for them to consider as home. Their kinship networks not only bound boat to boat but also connected to the far-flung mooring settlements in the vast sea not limited to the boundary of physical walls. As they became sedentary, this network has become more centralised to the immediate settlement and thus giving them the identity based on island they moored in. The trace of spatial arrangements found in boat dwellings effectively comparable to those found in their sedentary dwelling that is the traditional coastal house (Zaimie Sahibil, 2015). Due to this, it is presumed that the spatial quality is persistent even in the face of sedentism. Home spaces of Sama-Bajau is the only component that transcends time and their social mobility for it is certainly persist even in the wave of modernization. Thus, the unyielding value it carries still lingers consistent to the issues raised in the early chapter.

The usage of materials on the other hand, while having its own regional values that helps a lot in adapting to the local climate, is not considered as durable and susceptible to severe weather conditions. While having its own values, when facing modernity – the choice of materials is often neglected in modern coastal houses. Regardless, the inclusion of choice of materials are only appositely beneficial and indispensable within the effort of conservation. Same goes to the measurement of the stilts, wall heights, etc. While not totally discounting the values of these components, perhaps, the extension of this study would spur the conservation movements of the Sama-Bajau traditional houses and as a knowledge gap in the Sama-Bajau knowledge pool. As in this study, major focus would be given to the unyielding quality that transcends time and utility, that is the spatial component. Need to be reiterated that this study is not part of an effort to conserve physical characteristic of the house.

1.14 Thesis Structure

This thesis consisted of eight chapters, which are defined briefly as follows: Chapter 1 is for research problems, ethnic introduction, aim, objectives, research questions, brief methodology, scope, limitation and significance. In Chapter 2, transformation of Sama-Bajau coastal houses will be discussed from historical perspectives through several influences ranging as far back when the Sama-Bajau was nomadic boat-dwellers; and to understand their home-space understanding. Methodology to achieve each objective in this research will be discussed in detail in Chapter 3. Chapter 4 will explore on the traditional coastal Sama-Bajau boat dwelling on its variation, space semantics and spatial arrangement before correlating it with traditional Sama-Bajau house. This chapter would discover the fabric and conceptual of coastal Sama-Bajau house. The result in Chapter 4 would then be used in Chapter 5 as a basis. This chapter presents the result of spatial analysis in regard to the spatial growth in modern coastal houses of Sama-Bajau, of which can be found ubiquitously along the coasts of North Borneo. Chapter 6 shows the result of documentation of spatial variations found in modern coastal houses and further categorized these patterns into several groups using adjacency diagram (AD). Chapter 7 on the other hand, show the result of elicited values found amongst Sama-Bajau respondents to show the inherent spatial qualities and values within their home. Finally, in Chapter 8, conclusion of the research with its implication, contribution and suggestion for future researches were presented. Figure 1.3 shows the research flow of the thesis in brief.

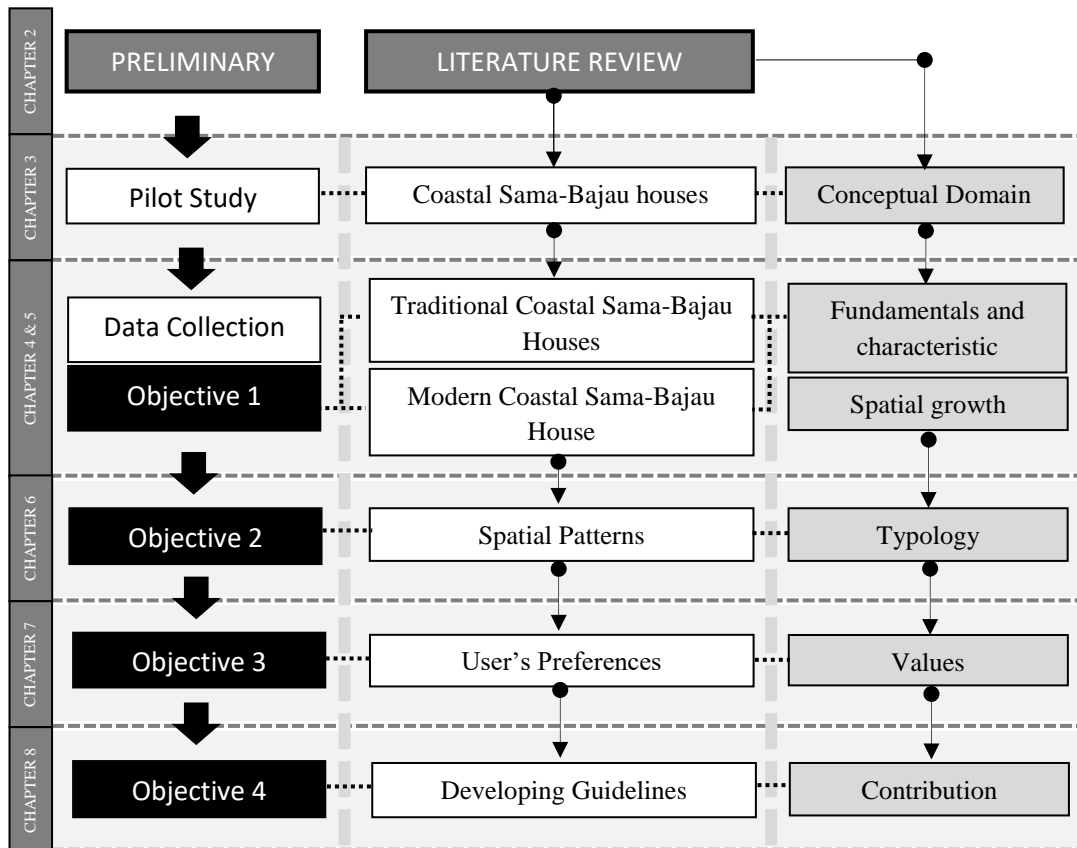


Figure 1.3: Research flow diagram

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