A STUDY ON SPATIAL ARRANGEMENT OF TOBA BATAK DWELLING AND ITS CHANGES

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Preface

Unlike the sopo, although more and more modern houses are built; ruma still continues to retain its symbolical value in traditional society. Inevitably, most of the Tobanese have expanded their ruma either to the back or the side of the house due to need on more spaces. The present houses have two zones located either at the back or the front, called the front house and the back house. The front house is assumed as basic house type and the back house as extended house. The observation of 32 houses in ten’s hamlets is found two tendencies in term of function or usage that are apparently arising. Firstly, the front house is maintained as main house with some changes in spatial arrangement. For instance, formerly, the Toba Batak dwelling consisted of single rectangular form in which means the single large room. It had been purposed for the multi family, who has relationship with their kinship system. The present houses are categorized as single house for one nuclear family. The front and the back house have several private rooms and service rooms. However, the front houses have constantly a large room as public room where are used for family meeting, working area, and ceremonies. Secondly, the front house is still maintained as the previous with some small changes, but the extended house has been further developed so that earlier functioned merely as service area, nowadays have gradually changed as main house where the daily activities conducted. Due to this change, the front house tends having meaningless as a house; it was merely as serving the guests, gathering when ceremonies held, and gaining the prestige from other people in their society.

From the older sources and observation, the change spatial arrangement analysis is caused by some factors such as the leadership authority from huta into kampung. The western education and life style affected the original custom, which initially introduced by British, the missionaries either from America or Europe and Dutch during sovereignty Indonesia. The shifted leadership had combined some huta-s into one leadership authority, which had been influenced by the natural environment of the huta. Interactions among different social groups have affected to some extent the tradition of those involved, which
in turn may have modified dwellings. Inter-ethnic conflict significantly declined during the period of Dutch control. Overall, the huta is gradually more open than the previous. Afterwards, new building technology is developed particularly concrete structure as occurring in other part of Indonesia. The infrastructure such as road and sanitary environment has been improved so that the adoption of new material is affordable. The over exploitation of forest has caused the vegetative material such as timber, rattan, palm fiber is no longer enough available. Nowadays, the vegetative material is more expensive than the manufactured material such as brick, iron corrugated sheet, and plywood. Besides, the durability of the vegetative material less than the manufactured material, therefore, the family prefers to build the brick house. Overall, it affected the changes in physical of house such as roof structure, wall structure, entryways, addition of partitions and ceiling, thus those appear some changes on the perception of space from the Tobanese themselves, which is the most important changes during as to two hundred years. In primitive culture where the inter-ethnic conflicts throughout history, for example, contributed to increasingly defensive measures relating to either built form of village or dwelling. Therefore, the Toba Batak house is approached by the trap door, the tint wall (wall which having slope), and lack of windows. Because, the house is not only functioned as shelter, but also as the protection from the enemy who will attack the village. Nowadays, the trap door has almost been vanished. The house has no longer single entryways. Most of the Toba batak house at the present day has more than two entryways. The tint wall particularly at the back wall has been demolished replacing with the wall without having slope. The present house has been fitted by the window. Overall, the house is more open and bright.

Despite other people tent to build the modern house as identified the modern life style. It is noteworthy that the tradition to gather particularly in Christmas day, New Year and important events such as wedding and funeral is able to persist Toba Batak traditional dwelling from extinction. In addition, the Toba Batak prefer to bury their body in their homeland, although, they have moved away from the village. During the gathering time, every family member needs a house to stay. It becomes a prestige for the Toba Batak people if they have ‘ruma’, which is in good condition, such this ruma is locally called
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‘Pasaktian’, literally means inherited house. Therefore, recently many families, who get success in ‘pangarantoan’, built such this rumah. It will be though resided once in a year or they will ask for their relatives to maintain or reside the house.

Finally, the conclusion and reflections contained in this thesis merely as a starting point to generate overall the development of the Toba Batak dwelling related research, which is still limited particularly from Indonesia’s researchers.
Chapter 1. INTRODUCTION

1.1. The Background of study

Toba Batak dwelling is one of traditional dwelling in North Sumatra Province, Indonesia, known since 18th century in other countries. Today, as occurrence to most of traditional architectures elsewhere in the world, the outlook of most Batak hamlets and dwelling are also experiencing the change significantly in accordance to the process of changing in politic, socio-culture and economic growth, in the other words — modernization.

The traditional Toba Batak dwelling, the so-called Ruma or Jabu, with their rich symbolism, functions as a central mythic point of reference for the clan and a major symbol of Toba Batak identity. It is place where children were born, newly-weds enter and old people die. In addition, the ruma belongs to a patrilineal or a segment thereof: a group of three to four generations of people who are related in patrilineal line. Patrilocality used to be the general norm, and it is still the common pattern today, except for those men and families who have moved away to the pangarantaoan (migration site). In village communities, patrilineal related men tend to live in adjoining houses, forming a huta (hamlet).

Fig. 1-1. The present Toba Batak dwelling, 2002
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Despite there was no statistic data to account the precise number of the traditional houses, the number of traditional Batak dwelling seems to decrease year by year. One of the reason for decreasing the traditional houses initially since Dutch occupation was a big wave migration Many hamlets were ‘ghost huta’ since the inhabitants altogether immigrated to other place\textsuperscript{1}. According to the Toba Batak genealogy, there were almost 285 ‘marga’-s (clan). The \textit{marga} generally represented a \textit{huta} (hamlet). Older sources for instance Marsden (1788), Boer (1920), and Loeb (1930) informed a hamlet comprised of 4 up to 20 houses. Today, a hamlet having all the houses with the traditional Toba Batak style is rare found. Sometimes, there were only one or two Toba Batak style houses remaining in a hamlet. Others preferred to rebuild a simple timber house or modern house made of brick structure. From the both type of building in Toba Batak village, the \textit{sopo}’s, are going to disappear and converted into house. Particularly the economic activities are no longer mainly depending on the field cultivation. As Boer (1920) mentioned this change was already well established by his time. Unlike \textit{sopo}, however, more and more modern houses are built; \textit{ruma} still continues to retain its great ideological value.

In addition, the number of traditional house seems to decrease due to the overexploitation of the forests. The Toba batak house was formerly made of vegetative material such as wood, bamboo, rattan, and palm fiber. Nowadays, most of the house has applied the manufactured material. Then, the tropical climate with heat, heavy rain, some typhoons and earthquakes have also contributed to the extinction of the houses. Therefore, over period of time, changes in the appearance of villages and houses inevitably have arisen.

Furthermore, nowadays, it is noteworthy that most of the Toba Batak has expanded their house to the side or back of the house. However, it was unknown when the changes precisely have taken place. Since it is essential to investigate the spatial change from the past architectural type up to the present so that it is possible to identify how the appearance of this change particularly from late 18\textsuperscript{th} century onwards and its influences in the future.

1.2. Overview on Toba Batak Architecture.

Before dealing with spatial arrangement of Toba Batak dwelling, it is necessary to provide an overview of Toba Batak architecture of the previous studies i.e. information which have
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been initially written from 18th century. Even though, the literature related to Toba Batak architecture from the late 18th century is rarely available. There is only one source—the works of William Marsden (1788), who has discussed as to this.

Marsden’s description (1788:369-395) on Batta, as the general for the entire Batak sub ethnic group, was derived from his experience during his eight years of stay in Bencoolen and his friend, Charless Miller, who wrote a pioneer paper on Batak. In his book titled ‘The History of Sumatra’, he described various subject such as on lifestyle, believes, literature, law and custom of the Sumatra people, as well as the natural environment such as flora and fauna in this island. Marsden described the Batta village as eight to ten houses. The number was seldom exceeds twenty as in one kampong. The house was surrounded by high earthen wall, which on top of these fences was planted a row of prickly kind of bamboo. It formed an almost impenetrable hedge twelve to twenty feet thick. The houses were built by wooden frames, placed side by side resembling the shape of the ship, and roof covered with ijk (palm fiber).

During 19th and 20th century many travelers, adventurers, missionaries, and scholars from America and Europe especially from Holland and Germany visited the Batakland. According to some sources published in 20’s centuries, among the first Europeans who succeeded in penetrating the Batak-districts, Richard Burton and Nathaniel Ward (1827) must undoubtedly be named, followed by two American missionaries, Munson and Lyman, in 1834. Then, in 1840 a German ethnologist, F.Junghuhn, led an expedition to study Batak culture and religion. His observation was published in his, ‘Beschreibung der Battländer’, Berlin 1847. Later, in 1851, the Dutch Philologist, Dr. H.N. van der Tuuk, who first made a systematic study of the Batak language, visited and settled several years at Barus. He published his book on Toba Batak Language. In his book, there was a sketch on sopo which has been referred by many scholars who investigated the Toba Batak architecture. His sketch is obtained in chapter 3. Next, Ida Pfeiffer who visited Batak land in 1853, described Batak architecture especially on Sopo in her report published in 1856. According to her, sopo was the place where women would weave, where men would pass their time in idleness, and where in the evenings the young girls would meet with her friends. More than 30 years later, B. Von Brenner visited Sumatra in 1886, and then he published a book titled ‘Kannibalen Sumatra’ in 1894. He took some photographs of Toba Batak such as sopo in Silindung and the chief Toba hamlet in
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Ambarita, Samosir Island. From his photograph on Ambarita hamlet, it is appeared that there were two rows of building facing each other in the Toba Batak hamlet. One side was enclosed by a wall and another is without wall. Afterwards, the first technical drawing on Toba Batak dwelling and village was given by the Boer (1920). Boer not only described how to construct a Toba Batak village and house but also mentioned the spatial arrangement of Toba Batak dwelling which will be described in chapter 3. In 1926, Joustra has discussed various aspects such as history, government, law, custom, belief, language and literature of the Batak country and accordingly divided into six parts: Karoland, Timurland (nowadays, known as Simalungun), Northwest Tapanuli (North Tapanuli), Central Batakland (Toba Samosir), South Batakland (Mandailing) and Padang Lawas. Despite there were no sketches given in his explanation, a short description which he called the Central Batak dwelling has been given. He asserted that the Toba Batak village was of squares, free raising, earths rampart surrounds, which had a considerable height and cross-section at the older one. The rampart had been generally planted with a dense of bamboo. On the alaman was usually lacking of planting, and the back of the houses have been usually planted with coffee and other useful plants. Contrarily with the Karo house, the village contained usually no more than 8 houses which were built on piles above pine ground with the steep roof and heavy woodwork. In particular three head forms — Dalihan Natolu (three partite) was clearly recognized, as the Tobanese, Karonese, and the Mandailing. Then, from 1926 up to 1927, likewise the former, Loeb had accomplished fieldwork, he concerned on the people, religion, custom and ethnic laws in Sumatra. Besides, he explained that Toba Batak dwelling was vary considerably. They were built on piles three six feet above the ground. His further explanation on the houses will be obtained in chapter 3 to find out the basic spatial arrangement of Toba Batak dwelling in the past.

In late 20 century, many scholars and researchers, which were from various countries such as America, Holland, Japan, Germany and domestic researcher from Indonesia itself have investigated the various aspects of Toba Batak, i.e. religion, kinship law, customary and social organization system. Nevertheless some of them described on Toba Batak dwelling in general: Keuning, J. (1958), Cunningham (1958), Tobing (1963), Vergouwen (1964), Niessen (1977), Sinaga (1981), Hasibuan (1982), Kipp (1983), Barbier (1983), Parkin (1985), Sherman (1990), and Rodenburg (1997) and so on.
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Cunningham (1958) described the Toba Batak house that has boat shaped roof made of the hairy fiber (ijuk), face onto the alaman (a broad central yard). Several nuclear families, a grandfather and his descendants, often live in a single house. Each nuclear family was separated from the others by a partition. In addition to houses, there were other structures, called sopo. The sopo-s are two types of which he called ‘opened and closed’. Then, he pointed out the latter type, the closed sopo, resembled a house, with its boat shape, but there were certain differences. It was smaller than a normal house, and a small door opens from the front, rather than underneath. Another researcher later called this closed sopo as ‘converted sopo’— sopo which had converted into house.

Tobing and Sinaga strengthened ‘the hypotheses (concept) ’ on the Toba Batak house, which were represented from the Batak universe. Then, Yoshida (1973) has given a sketch on this symbol as shown in Fig. 1.4. Vergouwen described the Toba Batak village and house which are similar to the formers.

Niessen investigated the motif of life in the Toba Batak text and textile. She asserted that the spatial arrangement of the village reflected the spatial and order regulating the interior of home. The further discussion will be obtained in chapter 3.

In 1970-s, researchers investigated the Toba Batak houses, they were Yoshida (1973:p.15-18), Sargeant and Saleh (1973), Domenig (1980), Yoshida (1981; p.323-326), Takashi and Kamiya (1982: 67-112), Takeshi Takahashi (1983: 41-42), Napitulu et al (1986). Yoshida dealt with the spatial concept of the Toba Batak house related to their social organization system. For this purpose, he chose the three house types; jabu or ruma, converted sopo and emper which were found in the fieldwork as case study. In his explanation, the ruma already had back house functioned as kitchen. Afterwards, the technical drawings were made in the end of 20th century by Sargeant and Saleh, Takeshi and
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Kamiya, Napitupulu et.al, and Domenig. Sargeant and Saleh explained that beside the two Toba Batak buildings (ruma and sopo), they also found other building type: the converted sopo type and new modern timber house type (Yoshida: emper type). In addition, he described some Toba Batak houses had fitted the partition into interior and added the kitchen building at backside of the house. The Domenig’ drawings (1980:145-147) obviously appeared the Toba Batak house as extended house at the backside. After Domenig, Sherman (1990) in his investigation on economy and society in Samosir Batak elucidated the houses in some hamlets surrounding Pusuk Buhit. His sketches apparently illustrated the house form and house types. Most of those houses have been expanded to the back.

Recently, there were some papers on Toba Batak dwelling published in 2003. Domenig (2003, 195-218) in this publication wrote a paper on contrasting architectural styles for the ruma and the sopo in term of the gendered concept based on field survey in 1995-1999. The ruma and the sopo were compared spatially. Then, he pointed out that the ruma are associated with women and domestic chores and the sopo represented the male. For this comparison, he intentionally chose the most common type of ruma and sopo, which in Boer’ description was hypothesized as the basic type of Toba Batak dwelling.

Afterwards, Rodenburg (2003:114-132), which is still in this publication, has asserted that in symbolic sense, land, house and women in the village have always represented security to Toba Batak males, as they traveled in search of a livelihood. The combination of these three ‘items’ have meant that if opportunities elsewhere failed, one could always return to the village and find shelter, food and well-established network of social relations. While it cannot be denied that, by virtue of the patrilineal inheritance rules, Toba Batak men remain ‘the central pillars’ of the house and occupy the leadership roles in the village, in many cases it is the women who act as the custodians of the house. This paper was derived from her investigation in 1997 on the relationship between out migration and gender roles in North Sumatra.

The Toba Batak architecture overview can be grouped into two parts, based on the time and similarity: the first group is older source describing Toba Batak architecture from late 18 century up to early 20 century such as Marsden (1788), Von Brenner (1894), Tuuk (1864), Boer (1920) and Loeb (1935). The second group is the recent sources such as Vergouven (1964), Sergeant (1973), Yoshida (1973), Domenig (1980 and 2003), Yoshida
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According to the older literature sources above, there were formerly two types of buildings in Toba Batak hamlet; ruma and sopo (rice barn or gathering place). Ruma and sopo are placed into two rows, which are facing each other with a small square between them. It was surrounded by a high earthen wall overgrown by adjacent bamboo fences. They were built with materials collected from the fields and forest, such as timber, rattan and palm fiber (ijuk), which consequently blend harmoniously with their surrounding environment. In addition, it was constructed of hundreds of beams attached to each other without using a single nail. Timber wedges secured the joints, and wooden pegs were used to fasten the walls. The roof formerly made of palm fiber was in the shape of saddleback with decorated gable at
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the front. With some imagination the building resembles a ‘ship hull’. In vertical plan, spatial division of *ruma* and *sopo* were applied for each part of construction; lower construction (under floor space), middle construction (raised floor space) and upper construction (roof space). This division symbolized their cosmological graphic as they believe in three worlds; lower, middle and upper world.

1.3. Overview on Concept of space, Traditional Dwelling and Settlement.

*a. The concept of space*

Cornelis van de Ven in his book ‘Space in Architecture’ elucidated the concept of space based on many opinions from many architects around the world. He asserted to describe space depending upon in the context they (some architects, designers, artist, painter and so on who gave the opinion) conceptualized and described space, and he mentioned three ways they conceptualize space as follows:

- *the way we handle space – the concrete, physical*
- *the way we experience space – the phenomenological, experienced, perceptual, tangible*
- *the way we imagine space – the abstract, imagined*

Then, he concluded the concept of space according to the opinions of architect, designer, artisan, and planner into nine points as follows:

1. *the general relationship between the idea of space and modern architecture*
   “the fact that the first ideas of space emerged together with the first movement of modern architecture, Art Nouveau, demonstrates that the idea of space is inherent to modern architecture.”

2. *the position of architecture in relation to other visual arts*
   The Hegelian aesthetic system: beauty in art is attained by the perfect expression of an idea, the hierarchy of the arts will be defined by the degree of immateriality in the means of expression Architecture was identified as the ‘lowest’ of arts because of its materiality. “... the idea of space contributed to the belief in the early twentieth century that architecture fulfilled a principal role in the establishment of the total work of art.”

3. *the academic tradition in aesthetics created unbridgeable gaps between the artist and art-scholars. Distinctions established since Kant. “Hierarchical systems of art were proven to be inadequate, in particular, after the new concepts of space and time involved the total environment and blurred the formal distinctions between the fine arts.*

4. *the idea of space gave architects a chance to escape the material treatment of Style. Without material there was no Style, in the traditional eclectic and formal-symbolistic way.*
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5. the idea of space developed both as a functional and aesthetic tool, but ended as a functional tool.

6. the physical content of the idea of space caused the architectural ideas to move in a direction parallel to ideas on space in philosophy and natural sciences. A threefold division described by Albert Einstein in 1953 “... any work of architecture follows three premises of physical space: that of space as place; that of the absolute concept of three-dimensional space; and that of the relative concept of space-time.”

7. the idea of space does not exclude the importance of mass. Mass is the target for empathy, as a tool for postmodern signs (Venturi) and as a tool for getting the user involved through external typology of the architectural mass (Kahn) “In general we may conclude that positivist ideas of space have evoked the recognition that its negation, mass, is just as important, due to perceptual and behavioral influence of empathy.”

8. the idea of space can be developed through a spatio-plastic unity. Maybe the best solution is a dynamic balance between the two, space and mass, as described by Sitte, Schmarsow, Brinckmann, FL Wright and De Stijl.
   “... from a material standpoint, the idea of space leads to the thesis of spatio-plastic unity, finding expression in three ways: exterior space (mass); interior space; and culminating in the interpenetration of both interior and exterior space. All renewal in spatial expression will start from one of these universal premises.”

9. the idea of space can be based on four kinds of perception of space. Based on Hildebrand’s ‘kinetic vision’ the perception of space can be reduced to four basic ways of perception the idea of space. “... all possible aspects of the perception of space can be reduced to four: a) planimetric or two-dimensional space, b) one-point-perspective or three-dimensional space, c) ‘irrational’ space-time, or four-dimensional space, d) imaginary space as produced by motion pictures. Our perception of architectural space is, in one way or another, the synthesis of these four phenomena.”

From these points, the conceptualized space of this study refer to the way we handle the space which brings us to the physic or the concrete of space as well as in two and three dimensional form, horizontal and vertical, proportion and direction and the way we experience the space that give us on the idea and perception of space developed as functional or purposive intention.

b. Traditional Dwelling and Settlement

In recent years interest in the social and cultural values, images and perceptions underlying traditional dwellings and settlements has become widespread among scholars in various disciplines. Specific label such as “vernacular”, “indigenous”, “primitive”, “tribal”,

Isnen Fitri: A Study on Spatial Arrangement of Toba Batak Dwelling and It’s Changes, 2004.
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"folklorist", "popular", and "anonymous" have been introduced to describe the subjects of variety of inquiries. Many of these qualifiers originated from particular disciplinary bases and may not be interchangeable. For example, vernacular architecture in many part of today’s world often cannot be considered indigenous, because it relies on imported materials to achieve local styles. Defining vernacular architecture less by subject than by method, while, a thing is traditional if it satisfies two criteria:

Firstly, it is the result of a process of transmission, and it has cultural origins involving common people. Professional traditions satisfy the former, but not the latter condition.

Secondly, the buildings and spaces, which are deliberately non-academic, provide for the simple activities and enterprises of the ordinary people. Besides, it strongly relate to place through respect for local conventions, and which are produced by a process of personalized though and feeling, rather than utilitarian logic.

Some researchers attempted to define the influencing factors in house form and spatial arrangement of traditional dwelling. As Rapoport concluded as follow:

"Once the identity and character of a culture has been grasped, and some insight gained into its values, its choices among possible dwelling responses to both physical and cultural variables become much clearer. The specific characteristics of a culture – the accepted ways of doing things, the socially unacceptable ways and implicit ideals – need to be considered since they affect housing and settlement form."

In arguing the causal factors of house form, in Rapoport’s view, he regarded socio-cultural factors as primary, and natural forces as modifying factors. Then Levi-Strauss pointed out that house as a specific form a social organization which area likely represented of kinship theory. Later, Paul Oliver who is the author of the Encyclopedia of Vernacular Architecture of the World asserted ‘the vernacular architecture which comprises the dwellings and all other buildings of the people related to their environmental contexts and available resources, they are customarily owner – or community – built, utilizing traditional technologies. All forms of vernacular architecture are built to meet specific needs, accommodating values, economies and ways of living of the cultures that produces them'.
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Of some argues on the definition among the labels, even though criteria on vernacular architecture according Paul Oliver and traditional mentioned above, this study prefer to use ‘tradition’ which constraints for the two criteria as mentioned previously.

Dating from 1980’s, a hundred papers on the traditional and vernacular architecture explained the traditional house may symbolize concepts of the cosmos, or act as analogue for the abstractions of belief. Thus, even a simple dwelling may reflect both material and spiritual worlds of its builders and occupiers. For instance, Tjahyono, G. (1989), a researcher from Indonesia, investigated on the aspects of the Javanese\textsuperscript{10} world view, especially those having to do with configuration of social reality, relate to the design and use of traditional Javanese dwellings. Thus, he concluded that the Javanese dwellings strongly express the ideas of center and duality through architectural form and spatial arrangement. Unity through opposition emerges in the division of space into opposing realms such as inner and outer domains, and it also emerges in the fashioning of complementary shapes such as the omah (the basic dwelling unit) and the pendopo (as a public house in Javanese house compound). Yet such duality has been neutralized and unified by a center. Despite building shapes roughly express these ideas, their importance can only be fully apprehended through rituals, for the ideas of center and duality are enfolded in a comprehensive belief system that guides social conduct.

Mitsuo Inoue asserted that the space in Japanese architecture was influenced by the ideas of ‘emptiness’ and ‘nothingness’ in Buddhist doctrine which came to exert great influence over the Japanese in beginning of the medieval period. Afterwards, in latest publication in this year on Asia’s Old Dwellings, Matsuda Naonori (2003; p.285-318), mentioned that in the Japan’s traditional houses; the significance of spatial conceptions as to the climate and environment surrounding the house was considered to be primary reason for the characteristic of Japanese house. In addition to environment surrounding the location of house, the characteristic of space in house was influenced by the culture as well.

The researchers from Korea, Sang Hae Lee (1987) and Pilwon Han (1994), have investigated the traditional Korean settlement; characteristic of order, place definition, location and structure. In their view, they found out two causal factors that affect the pattern settlement. Firstly, the worldview is regarded as the micro cosmos by the people. In Korea, the spatial structure of their settlement was much influenced by the Fengshui and Confucianism (Chutzu ideas). The Fengshui was introduced to Korea in 9th century and up to
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the present; its basic concepts are not changed. As the whole, the worldview may be regarded as one of the forces that help the spatial structure constant. Secondly, the climate, topography, and plants become the important elements of natural environment in its affect to the spatial organization in village and house. Furthermore, Pilwon Han added the socio economic structure, which is relatively changeable from time to time also gives affect to the spatial structure of house and settlement.

From the discussion above, there is a confluence of environmental with practical and socio-cultural factors that together produce an interrelated environmental-cultural explanation for the house forms. Dwellings are humanized spaces that communicate and shape family organization as well as express the web of beliefs, values, and norms of the larger community via vehicles of ornamentation.

The study on the ‘vernacular’ architecture according to Paul Oliver, dated back from late 19th century onwards, were formerly embedded in travelers and adventurer’s accounts, sometimes included in the reports for scientific expeditions, were performed in the diversity of approaches and methods employed. Accordingly, he explained that there are several aspects to the spatial approach to vernacular architecture. Firstly, there is the phenomenological and ethno graphical task of comprehending the way built space is experienced in daily life by the members of a given social system and then describing and transmitting that experience. Secondly, the ethnological and sociological task of achieving a deeper understanding of that experience by taking account of the language and works of art generally employed by the members of the society to express it. Finally, there is the anthropological and architectural task of interpreting works of architecture – whether simple shelters or luxurious houses, whether functional or religious – by relating observable structures to the experience of builders and users, experts, and theorist. In addition, he concluded that the type of approach which are categorized into two broad type: one is to start from the observation of building and trace back to the experience of the builders and user, and the other is to start from the living experience of built space and from that to seek to understand how the building were conceived and created. The historian intends to trace the spatial concept from the old texts and examine it by hearing information in the field work.

The observation of building and trace back to the experience of the builders and users has been chosen as the study approach to find the concept of space of case study. In addition,
in looking for the changes or evolution of the concept of space, it will be traced back to the older texts and information from older people in the field work.

1.4. The Problem and Study area

*What is spatial arrangement of present Toba Batak dwelling, from older sources informed that it has changed, why does it take place and how does its change in appearance from late 18th century onwards?*

This study focuses on the Toba Batak dwelling. The location of study is situated in Toba Batak land, North Sumatra, Indonesia particularly in Sianjur Mula-mula nearby the Pusuk Buhit, Samosir Island, Porsea and Balige. Samosir Island is a large island in Lake Toba, the biggest lake in South East Asia. As mentioned previously, the field survey is limited to observe 30 houses of 10 *huta*-s. The tenth *huta*-s are situated Toba Samosir regency which is one of the youngest regency in North Sumatra Province officially established in 1999.
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Table 1. Case study

<table>
<thead>
<tr>
<th>Name of hamlet</th>
<th>Number of samples</th>
<th>Location</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sianjur Mula-Mula</td>
<td>3</td>
<td>Outside of Samosir</td>
<td>Sianjur Mula-Mula</td>
</tr>
<tr>
<td>2. Lumban Sakkalan</td>
<td>3</td>
<td>Samosir</td>
<td>Simanindo</td>
</tr>
<tr>
<td>3. Sialanguan</td>
<td>3</td>
<td>Samosir</td>
<td>Simanindo</td>
</tr>
<tr>
<td>4. Sidolok-dolon</td>
<td>3</td>
<td>Samosir</td>
<td>Simanindo</td>
</tr>
<tr>
<td>5. Lumban Sihaloho</td>
<td>4</td>
<td>Samosir</td>
<td>Pangururan</td>
</tr>
<tr>
<td>6. Sitio</td>
<td>4</td>
<td>Samosir</td>
<td>Pangururan</td>
</tr>
<tr>
<td>7. Sinapuran</td>
<td>3</td>
<td>Samosir</td>
<td>Pangururan</td>
</tr>
<tr>
<td>8. LumbanNabolon</td>
<td>3</td>
<td>Outside of Samosir</td>
<td>Porsea</td>
</tr>
<tr>
<td>9. Hutagaol</td>
<td>2</td>
<td>Outside of Samosir</td>
<td>Sigumpar</td>
</tr>
<tr>
<td>10. Matio</td>
<td>2</td>
<td>Outside of Samosir</td>
<td>Sosor Dolok,Balige</td>
</tr>
</tbody>
</table>

1.6. Objectives

The principal purpose of the study is to analyze the spatial arrangement of present Toba Batak dwelling and its changes particularly from late 18th century up to present with considering on some influencing factors such as natural environment and socio-cultural environment.

Another purpose of this study is to enrich the understanding of the present Toba Batak dwelling which explain from the 30 houses as the case study and a clearer architectural and historical description of Toba Batak dwelling.

1.5. The significance of the study

The significance of this study on the spatial arrangement of Toba Batak dwelling can be appreciated for various aspects. Firstly, the measured drawing of the 30th houses roughly as case study would be an architectural document which can support the further research or another research topic on Toba Batak dwelling.

Secondly, spurred by accelerated economic development that has come on the heals of decades of neglect, warfare, and political upheaval, much of Asia’s inherited past has been vanishing rapidly. Sometime the engine of recent economic growth, however, has brought with it the utter destruction of countless dwellings, entire villages, and complete neighborhoods that had miraculously survived, only now to be unceremoniously and hastily pulverized. Toba Batak architecture, one of the traditional architecture in North Sumatra
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Province, is going to vanish in the near future as well. Before time is running out, the result of this study will be significant in order to support another research on sustainable architecture and ethno-architecture in North Sumatra Province.

Thirdly, the Toba Batak region is the most favorite tourist destinations in North Sumatra Province. The tourists come to this area to see the beautiful view of Toba Lake and to visit the historical sites. The traditional houses additionally are interesting attraction in bringing more tourists into this region. Since the characteristic of the 30th houses as the case study will enrich the documentation on the tourist attractions in this region.

1.7. Methodology and Limitation of study

This research is based on field survey that was carried out in July- August 2002, December 2002 - January 2003, March 2003 and October 2003. It is performed by taking photographs, measuring the 30 houses as sample, and also interviewing the owners, villagers, the carpenters and the leaders of traditional societies. While, the study literature is performed by collecting information that describes the Toba Batak house in late 18th century up to the present.

The first field survey (July 17-18, July 22nd – August 2nd, 2002) is to measure 30 houses as case study, as well as the observation of daily activities and spatial usage of the residents. Then, the interview with older people has also been carried out to find the genealogy of the village descendants. There are 11 surveyors which divided into 4 groups. Each group measured and observed one house which chosen as case study.

The second field survey (December 18th - 24th, 2002 and January 5th - 7th 2003) is to complete the measurement of the huta-s, interview the resident, villagers and carpenters to find out spatial arrangement in huta and house construction method. There are 6 surveyors, who complete the measurement and the interview.

Further interview with other carpenters is carried out by two surveyors for the third field survey (March 18th - 20th 2003). In addition, observation on spatial usage of some houses at night has been performed by staying for one night at a house in Sialanguan hamlet as well. There are two surveyor in charged in the field survey.
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The fourth field survey (October 25th-27th, 2003) is to complete socio-economical condition of the inhabitants, socio-cultural valued, particularly some important ceremonies i.e. funeral, wedding and after giving a birth. Besides it also complete the questionnaire in looking for the spatial arrangement of the houses in the past time. There are 5 surveyors in charged in this field survey.

The observation of the spatial usage is generally limited only for one day observation from morning to evening (8.00 am- 19.00 pm). On the other hand, observation of spatial usage of some houses at night was carried out in the third field survey. The second field survey which has been performed in December and January is the best time to observe the activity of the people. Their relatives who have moved to other cities have return to the kampung. This is good opportunity to observe particular ceremony or gathering activity. Then, in discussion on seating arrangement during the important ceremonies in this study, such as funeral, wedding ceremony merely rely on some references and questionnaire results.

Prior to observation at field work, the literature study on the older texts on Toba Batak dwelling published the late 18th century onwards were performed in order to find out spatial arrangement of Toba Batak dwelling at the time which was assumed as the basic spatial arrangement of Toba Batak dwelling.

In the other words, this study comprises of three parts:

The first is to find out the basic spatial arrangement of Toba Batak dwelling built in from late 18th century up to near present by tracing back to older sources and references.

The second is the observation on 30 houses as case study. The aim here is to identify the present spatial arrangement of the case study by measuring them included identifying its construction system, socio-economic condition, spatial usage (one day observation). Then, it is followed by tracing back the spatial concept in the past to find out the spatial change of case study in which has been completed by interviewing the older people in the field work.

The third is to compare between the present spatial arrangement and basic spatial arrangement initially informed since 18th century onwards, which based on three items; the physical appearance, the function or purposive intention, and visual perception of space.

As mentioned previously, there were almost 285 margas in Toba Batak region. A huta generally was predominated by a marg, therefore a sib represented a huta (hamlet). Older resources as mention previously, a hamlet consisted of 4 up to 20 houses. Thus, there
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were formerly as to 1140-5700 traditional houses in Toba Batak region. Due to limited time and financial constraints, the survey observed 30 houses, which were located in ten (10) hutu-
s, and in each huta 2-4 houses have been chosen. The reasons to choose these villages are firstly, historical background that was one of the old villages in that area. We can identify it from their genealogy (tarombo). Secondly, the village has the Toba dwelling style and still be inhabited by the people until the present. It can be found some old villages, but nowadays the houses were no longer inhabited. On the other hand, some old villages in Samosir Island and Balige region have been converted into museum, for instance Lumban Pea Museum and Ambarita Museum.

In the part of analysis of the ancient and old architectural works in this study only focus on the traditional dwellings which have a real life of 120 or 80 years old. Another architectural works which categorized as the present dwelling were the life less than 50 years old has also been chosen. It is slightly different from the common definition used in other countries in the Asian region and elsewhere in the world. For instance China, India, the process of architectural and urban development started 3000 year ago. Some Japanese wooden architectural work is as old as 1500 years. While in Sumatra, Indonesia, most of the old traditional architectures in Sumatra were initially noted from the Dutch’s occupation, regarded as to 500 hundreds ago.

In addition to the reasons to choose 10 hamlets as case study mentioned before, there are some specific reasons for choosing some hamlets as below:

a. Sianjur Mula-Mula which nearby the Pusuk Buhit believed as the cradle of the Batak; Lumban Sakalan is one of hamlets in Buhit area which famous with the traditional textile locally known as ulos;

b. Sidolon-dolon is famous with its shallot.

c. Lumban Nabolon in Porsea is one of hamlet in Toba Batak which still has the single public sopo located opposite to the village chief house. Based on the observation initially started in 2000 and information from local people, the size of village chief house is the biggest in Toba Batak region which still exist up to the present.

d. Hutagaol in Sigumpar is one of hamlets nearby the tomb of Nomensen, a missionary from Germany who succeeds in spreading Christianity in Batakland.
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1.8. Procedures and Strategy of Study

INTRODUCTION
The background of study
Aim, Methodology, Scope of Study
Overview Toba Batak Architecture
Overview Concept of Space & Traditional Dwelling

STUDY APPROACH

THE BACKGROUND OF STUDY AREA
General Area
Natural Environment
Socio-cultural environment
Case Study

COLLECTING & ANALYSIS DATA
COMPARATIVE ANALYSIS

Field survey
Observation

Questionnaires
The past condition
SPATIAL ARRANGEMENT
Case study

The present
SPATIAL ARRANGEMENT
Case Study

CONCLUSION
The spatial arrangement
of present Toba dwelling
and its change

Fig. 1-5. Procedure and Strategy of Study
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1.9 Thesis framework

This thesis is consisted of four chapters as below:

Chapter 1 is essentially introduction of the study and an overview of the Toba Batak architecture by reviewing from the previous studies performed by some researchers then followed by an overview of traditional dwelling, settlement and change in order to find the study approach which is suitable applied for the study besides equip the reader with the necessary background of the analyzing space.

Chapter 2 presents an overview of the background of the study area. In order to look up a set of influenced factors such as built environment, worldview, socio-economic and culture of the inhabitants that influences the spatial arrangement of Toba Batak dwelling and its changes.

Chapter 3 deals with finding out the basic spatial arrangement of Toba Batak dwelling by review some literatures published since late 18th century onwards which investigated the Toba Batak architecture. This chapter only focuses on the ruma type, and converted sopo type which was assumed as the basic building types in Toba Batak architecture.

Chapter 4 presents an analyzing of the present spatial arrangement of 30 houses which was chosen as case study. The analyzing space employed here is based on the measured drawing of the houses and interviewed the older people in the field work. Then, it is followed by investigating the spatial arrangement of case study in the past, which has performed by the questionnaire results.

Chapter 5 is the comparative analysis of both conditions between the present spatial arrangement of case study and the basic spatial arrangement of reviewing older sources, initially written in late 18th century.

Chapter 6 is the conclusion. It comes by making the comparative analysis of present spatial arrangement and its changes from the late 18 century.
Chapter 2. THE BACKGROUND OF STUDY AREA

This chapter aims to mention the background of study area where essentially comprises of two parts: firstly, the description on study area for whole Toba Batak land; secondly, the description on certain area which is chosen as case study.

Description on the study area mainly comprises of two items with some extends as influencing factors of the spatial arrangement: natural environment, socio-cultural environment including socio-cultural value, socio-economic condition and worldview (cosmos and belief).

2. 1. General Area

2.1.1. Historical Background

The name of ‘Batak’ refers to an ethnomological and linguistic group of people in Indonesia. The origin of the name of Batak is not certain, but it was already in use in the seventeenth century. 11

The Batak as main ethnic group is divided into six or seven sub ethnic groups: the Toba, the Angkola, the Mandailing, the Karo, the Pakpak or Dairi, the Simalungun, and the Pardembanan. Even though the Bataks argued they are dissimilar, most of the anthropologist, historian and ethnologist agreed that they speak the same language, which was manifested in seven easily differentiated dialects. In addition to their myths and traditions point to a common origin, their kinship or their social organization with its varied forms of expression is basically the same.

The cradle of the Toba Batak is still in debate up to the present. Most of the Batak consider the Toba Batak territory as the cradle and the land of origin of Batak ethnic group. According to their myth, the Toba Batak believe they have their common forefather, Si Raja Batak, descended from heaven and lived first at Sianjur Mula-Mula (=the primordial protruding land), situated on the slope of at the western side of Lake Toba. Afterwards, the common forefather, Si Raja Batak, spread out to adjacent Samosir, and from there, gradually to the whole Batak land.
Chapter 2 The Background of Study Area

Ethnically the Batak are Proto-Malays. This term was popularized by the brothers P. and F. Sarasin who expounded the theory that at the end of the last glacial age the Indonesia archipelago was separated from the mainland by tumultuous rising of the sea-level. Remnants of the aboriginal Vedas were left scattered throughout the islands. Several forest tribes, such as the Kuku of Sumatra and the Toala of the Celebes, are identified as their descendants. Long afterwards, a wave of immigrants from southern China spread across South-East Asia via the Malay Peninsular. These were the Proto Malays. They pushed the Veda tribes into the mountains and forests. A couple of thousand years late another wave of pushed the Proto-Malays into the mountains. These were the Deutero-Malays who pushed the Proto-Malays into mountains. On the other hand, some ethnologists did not fully agree with this theory. Until the present day, the original ethnic of Toba Batak is still unclear.

The Toba Batakns remained separated from the outside world until the quarter-century, 1825-1850, when the first western missionaries entered the area. American and British, later followed by French and Dutch, but the conversion of Batakns to Christianity and the establishment of a strong church resulted primarily from the efforts of German Lutherans. The major effort of conversions was directed by L. Nomensen, who founded the Rhenish Mission in 1863 in Batakland. Out of the Rhenish Mission was later to develop the Huria Kristen Batak Protestant which became the largest single Batak church group even before World War II. Therefore, according to Cunningham (1958), the Batak history could be divided into three periods — pre-contact isolation (2000 B.C.-1600 B.C), pre-western contact (before 1600 A.D.), and post-western contact particularly since establishment of Indonesia Government. In addition, these periods cannot be definitely established by historical dates, it can be understood instead in terms of cultural content.

As three period mentioned above, there are significant change in ‘huta structure’ in Batak land. Formerly, huta was territorial residence unit which were rooted by the kinship system. When the era of Dutch Government in the Batak land, as to twenty hutus had been combined mere residential area in order to establish the effective region. This is due to the combined effects of Dutch Government policy, the new influences of Christianity, improved communications, and western education, which have created greater social, economic, and spatial mobility. This process has been extended and even intensified by the revolution particularly since the transfer of sovereignty in 1949 from Dutch Government to the Republic
Chapter 2 The Background of Study Area

of Indonesia. The government of the Republic Indonesia has added the significant contribution by eliminating the *huta* entirely as a unit of civil administration. Later, there had been a reorganization and combination of *huta*-s into a larger unit called a *kampung* (the Malay word for village).

![Map of Mount Pusuk Buhit located in the western part of Toba Lake.](image)

Fig.2-1. Mount Pusuk Buhit located in the western part of Toba Lake, Sherman, 1990:p. 18

2.1.2. The Natural Environment

2.1.2.1. Geography

The Toba Batak as a sub ethnic group of the Batak group has been inhabited in the middle of other Batak sub ethnic groups. To the north and northwest their neighbors are the Karo, Simalungun and Dairi or Pakpak Batak. In the east their territory borders on the Malay who living along coastal area of Sumatra; while to the south of the central Batak-land live the Angkola and Mandailing Batak groups. In fact, there was confusion to define the bound of
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Toba Batak region. According to older information, Toba Batak region sometimes was called the central Batak, due to its location is on the center of another Batak sub ethnic group. Most of the ethnologists and historian agreed that the Toba Batak region was located in the centered around the Lake Toba. Its vast body was approximately 1,102, 60-kilometer square (430 square miles) of water area, in places as much as 1700 feet deep. It was positioned in the highland of central North Sumatra province, Indonesia.

![Image of the holy mountain, Pusuk Buhit, from Samosir Island, 2000](image)

From purely geographical view point, the Toba Batak region as written by a scholar, J.Keuning\[^{13}\] , was divided into four districts, as below:

- **firstly**, Lake Toba, about 2,950 feet above the sea level, with the Island Samosir—populated by some 100,000 people (statistic in around 1950) — in it, and the areas along the lake's eastern and southern shores, densely populated and fertile, with a favorable, even climate due to the leveling effects of the large surface of water;
- **secondly**, the sawah (irrigated rice field) plain of the Silindung, some 25 miles to the south, similarly elevated to 2,950 feet, but much warmer during the day and considerably cooler at night time, thirdly, the barren highlands of Toba, a steppe region trenched by ravine, cold and bleak in the rainy season—a region where the inhabitants must wrench their meager harvest from an unwilling soil;
- **fourthly**, the holy mountain-terrain (Pusuk Buhit), which includes Habinsaran, and the area between the interior and the coast of the Indian Ocean, the heart of Bukit Barisan Mountains, often covered with jungle."

\[^{13}\] Isnen Fitri: A Study on Spatial Arrangement of Toba Batak Dwelling and It's Changes, 2004. USU e-Repository © 2008
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Nowadays, the region previously mentioned by J. Keuning is divided into two administration region; The North Tapanuli Regency and The Toba Samosir Regency. The Toba Samosir Regency geographically is at $2^\circ06'-2^\circ45'$ North Latitude and $99^\circ21'-99^\circ10'$ East Longitude. The land area cover 3,440.85-kilometer square (1,344 mile square) and the Lake area as already mentioned earlier, 430 squares mile. Thus, one third of region is covered by water area.

![Fig 2-3. Map of the Toba Samosir Regency, The Toba Samosir Regional Planning Board, 2002](image)

2.1.2.2. Topography

The Toba Batak region lies on 300-1500 meter heights above sea level and in hilly topography, which has elevation from 2% up to 45%. Most of the villages therefore are situated at hilly topography as shown in Table 1.

![Fig 2-4. Percentage of Toba Samosir Regency Area by Height Above Sea Level, The Toba Samosir Statistic Bureau, 2001](image)
Chapter 2 The Background of Study Area

Table 2.1. The location and number of villages in Toba Samosir Regency according to the topography

<table>
<thead>
<tr>
<th>Administration Region</th>
<th>Sea shore</th>
<th>Valley</th>
<th>Hilly and Mountainous area</th>
<th>Flat land area (also near the lake shore)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Samosir Island</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(700-1800m above sea level)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Harian</td>
<td>-</td>
<td>-</td>
<td>11</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>- Sianjur Mula-Mula</td>
<td>-</td>
<td>-</td>
<td>11</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>- Onan Runggu</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>- Onan Runggu Timur</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>- Palipi</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>- Pangururan</td>
<td>-</td>
<td>-</td>
<td>17</td>
<td>19</td>
<td>36</td>
</tr>
<tr>
<td>- Simanindo</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td><strong>Outside of Samosir Island</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(200-1650 m above sea level)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Balige</td>
<td>-</td>
<td>-</td>
<td>11</td>
<td>28</td>
<td>39</td>
</tr>
<tr>
<td>- Laguboti</td>
<td>-</td>
<td>1</td>
<td>4</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>- Silaen</td>
<td>-</td>
<td>-</td>
<td>9</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>- Porsea</td>
<td>-</td>
<td>3</td>
<td>12</td>
<td>34</td>
<td>49</td>
</tr>
<tr>
<td>- Habinsaran</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>- Lumban Julu</td>
<td>-</td>
<td>4</td>
<td>25</td>
<td>12</td>
<td>41</td>
</tr>
</tbody>
</table>

Source: The North Sumatra Province Statistic Bureau, 2000

Regarding on the preferred site to set up the new village from older source, it is understandably the reason for the village site on hilly and mountainous area. As Boer described that the concept of village site at the beginning, where possible, had been built in unapproachable place such as hill tops, steep river bank or hill surrounded by swamp. Inter-ethnic conflicts throughout history, for example, contributed to increasingly defensive measures relating to either built form of village or dwelling. Since the inter-conflict significantly decreased due to the shifting of leadership in region, nowadays, the village can be set up in any location. For instance, in Samosir, there are many new villages along shore of the Toba Lake.

2.1.2.3. Land Condition

Unlike the Eastern and Southern side of Toba Lake, which is densely populated and fertile land, in the Samosir Island and north of this island, the soil composition is dominated
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by kind of *tufa Toba* soil\(^4\), sand mix with clay, lime and some others are liming of stone soil that unfertile for agriculture. Due to this land condition, the Toba Batak has preferred to migrate to other regions which have a large and fertile field for cultivation.

2.1.2.4. Climate

Generally, the climate of Sumatra is characterized as being of ‘equatorial monsoon’ type. Samosir has the most pronounced dry season of all Sumatra, since it lies in a highland crater, from which the surrounding landmass slopes down to the encircling seas. The average of temperature between 17\(^\circ\) C - 29\(^\circ\)C and the average humidity is around 85.05 percent. According to the Toba Samosir Statistic Bureau report, the amount of rainfall totally during in 2000 is 1,469 mm, which the highest and the lowest in December and June. The climate has much influenced the roof shape and its structural system. Discussion on this topic will be obtained in the next chapter.

![Rainfall in Toba Samosir Regency by month in 2000, The Toba Samosir Statistic Bureau, 2001](image)

Fig.2-5. Rainfall in Toba Samosir Regency by month in 2000, The *Toba Samosir* Statistic Bureau, 2001

2.1.2.5. Vegetation

The southern and eastern sides of *Toba* Lake are covered with the forest which comprise of pine trees, banyan trees, palm sugar trees, rattans and so on. The materials for constructing the houses were taken from this forest. Mostly, hamlets in Toba Batak were surrounded by a high earthen wall (like a ramparts) overgrown by dense bamboo stools. The dense bamboos hide the buildings of the hamlet. "The corners of the ramparts were defended
from square towers called hubu-hubu\textsuperscript{15}. According to Marsden' description, previously the tower was a big tree, which was used to spy the enemy entering the hamlet. This environment is still maintained in some hamlets in Samosir. Other hamlets particularly in Balige and Porsea area, this environment had gone nevertheless. Furthermore, Ypes elucidated the environment of the village (consisted of some hamlets) which some elements such as small garden, rampart, rice field, pond, cemetery and hill where the villagers used to watch the enemy coming. Additionally, there was such kind of banyan tree surrounding Toba Batak hamlet and village as mentioned previously by Boer. This tree locally known as Hariara or Jajabi was believed to be a sacred tree to keep the ancestors souls. According the local people, nearby the hariara the village founder and the villagers was buried. This tree seems to be the Tobanese tree of life representing the cosmic totality and order. Thus, hariara tree planted close to the corners of earthen wall was being a sun shading, as well as the wind break for the strong wind.

Toba Batak dwelling used vegetative material for the house construction. All materials were taken from the forest nearby the village. However, the vegetative material such as palm fiber, rattan and timber is no longer existed due to the high humidity and amount of the heavy rainfall along the year making fasten pace of vanishing, moreover affordability to find the modern material for example iron corrugated sheet, brick, cement and so forth decreased. As the result, most of present Toba Batak dwelling has used manufactured material.

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Fig.2-6. The environment of the Toba Batak hamlet, Domenig 1981:146
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The natural environment of Gasariboe village

Legenda:
1. *Turun ni bulu* (?) of pangeahan ni huta (chief of village)
2. *Alaman* (village square)
3. *Parungkuan* (?)
4. *Suha* (the rampart)
5. *Harbangan* (village gate)
6. *Bahal* (a pathway towards the village)
7. *Tua*, small garden which was planted with coffee and other useful plants
8. *Botapasar* (pathway/road connected to the other hamlet)
9. *Parik* (divided into two Parik Bulu duri and parik bulu surton (?)
10. *Panil* (?)
11. *Pangeahan ni huta* (chief of village), (?)
12. *Barung-barung* (hill)
13. *Sibolaksangkar* (rice field (?)
14. The site of old village
15. The former market site
16. Cemetery
17. Pond

Fig.2-7. The environmental elements of a Toba Batak village, Ypes, 1932

2.1.3. Socio-Cultural Environment

2.1.3.1. Population

The population in Toba Batak land initially was counted by the Dutch Government, the information which is accessible from statistical data in 1930. The table below shows the population growth of Toba Batak *Samosir* from 1930 up to 2001. Accordingly, it was appeared that the population had decreased in some areas particularly in *Palipi, Simanindo, Porsea,* and *Lumban Julu* from 1930 up to 1961. Cunningham has referred to the big weave migration to the east cost Sumatra such as *Simalungun, Asahan* and *Medan,* after the post war. In fact, the migration has been continuing up to the present day.
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Table 2.2: The population growth of Toba Samosir region in 1930, 1961, 1980, 1990, and 2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Haran</td>
<td>8312</td>
<td>20280</td>
<td>21357</td>
<td>20788</td>
<td>19905</td>
<td>11650</td>
<td>2.54</td>
<td>0.93</td>
</tr>
<tr>
<td>2</td>
<td>Sianjur Mula-Mula</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Onan Ranggu</td>
<td>21284</td>
<td>25130</td>
<td>26086</td>
<td>27945</td>
<td>28141</td>
<td>18956</td>
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<td>0.37</td>
</tr>
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<td>4</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Pulip</td>
<td>21902</td>
<td>17711</td>
<td>16014</td>
<td>22189</td>
<td>22492</td>
<td>21821</td>
<td>0.67</td>
<td>0.17</td>
</tr>
<tr>
<td>6</td>
<td>Panggaran</td>
<td>21934</td>
<td>32051</td>
<td>33712</td>
<td>32353</td>
<td>31871</td>
<td>35656</td>
<td>1.23</td>
<td>0.51</td>
</tr>
<tr>
<td>7</td>
<td>Simanindo</td>
<td>21785</td>
<td>19428</td>
<td>20251</td>
<td>19543</td>
<td>19709</td>
<td>19895</td>
<td>-0.37</td>
<td>-0.45</td>
</tr>
<tr>
<td>8</td>
<td>Belin</td>
<td>21089</td>
<td>30336</td>
<td>30764</td>
<td>35810</td>
<td>37717</td>
<td>42228</td>
<td>1.07</td>
<td>0.14</td>
</tr>
<tr>
<td>9</td>
<td>Labuttii</td>
<td>12700</td>
<td>14287</td>
<td>15969</td>
<td>17295</td>
<td>18147</td>
<td>18526</td>
<td>0.27</td>
<td>1.07</td>
</tr>
<tr>
<td>10</td>
<td>Nalinsaran</td>
<td>15971</td>
<td>21086</td>
<td>22574</td>
<td>25342</td>
<td>24118</td>
<td>22119</td>
<td>0.95</td>
<td>1.04</td>
</tr>
<tr>
<td>11</td>
<td>Sian</td>
<td>17188</td>
<td>18370</td>
<td>17926</td>
<td>19044</td>
<td>18790</td>
<td>20052</td>
<td>0.12</td>
<td>0.04</td>
</tr>
<tr>
<td>12</td>
<td>Puruea</td>
<td>25196</td>
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<td>22671</td>
<td>25302</td>
<td>31500</td>
<td>36073</td>
<td>0.83</td>
<td>1.05</td>
</tr>
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<td>13</td>
<td>Lambaan Juju</td>
<td>28725</td>
<td>22833</td>
<td>23625</td>
<td>27693</td>
<td>27643</td>
<td>27315</td>
<td>-0.51</td>
<td>0.34</td>
</tr>
</tbody>
</table>

Note: Sub district Sianjur Mula-Mula and Onan Ranggu Timur was established in accordance with Toba Samosir Regency in 1999
Source: Purba, O.H.S., 1997:p.130 and The Toba Samosir Statistic Bureau, 2001

In addition, based on the investigations which were performed by the other scholar, Purba, O.H.S. (1997), there were some reasons for the Tobanese that were likely to migrate to another region. One was social cultural reason which there was broad feeling of each of the Tobanese or the Batak, to increase the size of their genealogy. In their society, the people would be more respect to them if their genealogies of such inheritance for twenty generations; moreover their generation achieved the high position in term of leadership, knowledge, and wealthy. Nevertheless, the main reason for migration to other region was due to the geographical situation. The land for agricultural field was finiteness and isolation. Since economic subsistence still mainly depending on the agricultural aspects so that it stimulated the people to find another area for cultivation. Other people who are still willing to live in the village, they are required to find other economic subsistence such fishery, cattle raising, workers on public services and so forth. Additionally, Purba has shown this occurrence by making investigation the number of ‘ghost huta’(the former hamlet site) in Simanindo as shown in Tabel 2.3.
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Tabel 2.3. The former hamlet and empty house in Simanindo, 1989

<table>
<thead>
<tr>
<th>Village</th>
<th>Number of hamlets</th>
<th>Number of inhabited hamlet</th>
<th>Number of houses Inhabited</th>
<th>Not Inhabited</th>
<th>The former hamlet site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinto</td>
<td>19</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Sihuhasapi Uruk</td>
<td>26</td>
<td>19</td>
<td>38</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>Sihuhasapi</td>
<td>15</td>
<td>14</td>
<td>67</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Toruan</td>
<td>16</td>
<td>15</td>
<td>49</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Siparapat</td>
<td>11</td>
<td>11</td>
<td>78</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Purba OHS (1997:114)

2.1.3.2. Socio-culture

Simanjuntak (2002) asserted that the changes of socio-cultural of Toba Batak are because of the acculturation among the original socio-culture and Dongson, Hindu, and western. The western culture had been initially brought by British, Dutch, and missionaries either from America or Europe.

Pedersen (1970) and Parkin (1978) assumed that the Batak culture can be traced back to a series migration from South China and North Viet Nam sometime during the eighth and seventh centuries B.C. The early Bataks, settling in the region of Lake Toba in North Sumatra, were probably shifting cultivators of root crops of perhaps rice with nonmetallic technology.

Prior to the contact to the western world after 2000 B.C. before A.D. 1500, as Pedersen mentioned that the Toba Batak had contacted with Hindu-Buddhism possible from India and Islam likely from Minangkabau, Malay or West-Central Sumatra.

The ethnologists, anthropologists and historians agreed that the Toba Batak culture was much influenced by Hinduistic world. For this was named Tideman (1942), Pedersen (1970) and Parkin (1978) who focused on this topic. They concluded that the influence is obviously appeared on the religious idea such as in names of deities: Batara guru, Soripada, Mangalahulan, Boraspati, in their calendar where the names of the days and months are of Sanskrit origin, in their soothsaying; in the architectural style of the saddle-backed roofs, the style of house decorative carvings such as Singa (lion) ornament, wet rice culture, chess, cotton and spinning wheel, their copper bracelets and their script. Another Indonesian ethnologist mentioned below16:
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"The Batak culture especially the Toba Batak culture essentially from the fusion of old rooted pre-Hindu culture and Indian Buddhist and Hindu influences which appeared towards the fifth century. The pre-Hindu culture might be called "Old Megalithic Culture". Amongst these characteristics, mention should be made first of all of the megaliths themselves, still perpetuated to this day in the form of (＝lion) which adorn modern grave. Also the "horned roof" houses, the first picture of which is to be found on a bronze drum of Dong Son culture, which spread out over South East Asia from North Indo-China about third century B.C., demonstrate the longevity of the Old Megalithic culture "

![Fig. 2-8. The ornament of Sinya-singa (the lion sculpture) adorned the façade of Toba Batak house, 2002](image)

![Fig. 2-9. Stone chair – Ambarita – Samosir: One of the old megalithic in Toba Batak, 2000](image)
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Fig. 2-10. The remnant of the Megalithic culture of the ancient Batak in Tomok and Samosir, 2000

Fig. 2-11. The modern sarcophagus for the important ancestor in Simanindo. It was decorated with a miniature replica of a traditional house (jaro). The Holy cross Christian on top of roof reflects the synthesis of their ancient culture and their new religion, 2000.
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The Dutch Government has occupied Toba Batak land since 1833 where gradually up to mid 20th century affected religion, life style, education, technology particularly in housing construction method and sanitary environment. Despite the people still practice the original belief in their daily life, the missionaries however have succeeded in spreading the Christianity throughout of Toba Batak land.

2.1.3.3. Kinship

According to the older and current sources, in the Toba Batak society, the kinship system with its interwoven bonds of affinal relationship is of primary importance. The Marga, a sib, which traces back its descent from a single male ancestor, is one of the basic kinship units in the Toba Batak social organization based on three components, which is locally called Dalihan Natolu (tripartite structure). Literally, dalihan natolu means the three stones of equal height, which are arranged on the earth and upon which the cooking-pot is placed. Technically, it refers to the three affine, which are known respectively as follows:

a. ‘Hula-hula’ which is the affinal relatives, and the marga of these relatives acquired through the marriage of male of one’s marga, on the other word is the wife-givers
b. ‘Dongan sabutua’, literally dongan=friend, sabutua=the same belly in other words ‘companions of the same womb’ meaning members of one’s own patrilineage, thus all males belonging to the same Marga.

c. Finally the group of called Boru which commonly means “daughter” but here means those affinal relatives, and the marga of these relatives, acquired through the marriage of a female of one’s marga. In the other word boru was called the wife-takers.

Traditionally, a Batak village or group of villages was founded and controlled by one marga. This patrilineage within a marga sib held ultimate jurisdiction over a rather broad section of land, called golat, which was claimed by the first settler for his group. The founding father inevitably claimed more land that he, his family, kinfolk, or friends could immediately inhabit, clear and cultivate. Therefore, formerly, they applied the dalihan na tolu concept to divide the land in village which will be described in the following chapter.

2.1.3.4. Marriage

The anthropologist and ethnologist who investigated the custom of the Toba Batak for instance Loeb, Joustra, Vergouwen, Niessen, Sherman asserted that a symmetrical connubium — a preferred form of marriage with a mother’s-brother’s daughter which locally known as Pariban is practiced in Toba Batak society. Marriage with a father’s sister’s daughter is obviously strictly forbidden. This system was known as matrilateral cross cousin. Furthermore, Vergouwen (1964) pointed out some rules of marriage in Toba Batak social structure. One of them, a man may not have two wives from the same marga later due to conversion in Christianity; this rule was translated as forbidden for polygamy in any case. Therefore, there is no information on the Toba Batak man has two wives live altogether within a house as occurred in rumah bolon in Simalungun. Toba Batak house is commonly lead by a nuclear family as the owner and several families which related to their kinship.

Previously, young couple, who just married, lived together with family of the husband’s parent, in whose house they are lodging, with whom they are boarding, by whom they get their served out. As long as they lived with their parents, they have no household, no finances of their own; the young man was not independent yet as member of community and the young wife does not prepare the food for their husband and herself. However, she helps
her mother-in-law to keep house. They become independent after the ceremony of ‘manfæ’\textsuperscript{17}, which aim at the participation of young couple in “the middle world”.

2.1.3.5. Death

Loeb (1989:p.72) asserted that the Toba Batak practices burial and reburial ceremony. About nine years after death, if they can afford the expenditure for the bones party so that the bones of the deceased are excavated and stored in a charnel house by his relatives, today known as Tugu. Before that the bones used to be stored in a chest and placed inside the house on the songkor\textsuperscript{18}. Nowadays, the tugu is built in various forms which often represented of the family economic status.

According to Niessen (1985:p.102), Hutagaol, an informant in Balige, the inhabitants in Samosir and Porsea, the goal of every Toba Batak is to attain a ripe old age and have plenty of descendants. Every Toba Batak people who achieved this goal when they die called by Saurmatua. Only for the saurmatua is the most complex burial enacted with the pattern of exchanges the ulos (traditional cloth), rice, and meat. When this goal was not be attained either because the person not having enough offspring, or because life is snatched away ‘too soon’ than the sadness reigns. Nevertheless, there was particular funeral ceremony for a Batak man having no descendants, in particular boys in the family who could ascertain his line presented in his genealogical tree. This funeral dance known as “Tortor” (dance) of Si-Galegale (Gale=weakling, the Unfortunate). In such case his wife was allowed to keep her inheritance on joro, which is the miniature house made of the wood and roofed by ijak. It was built by the widow who deceased husband, particularly if she is left without male children and she is no her brother in law who could inherit her. In addition to the peculiarity of the Toba Batak funeral were expressed in construction of their last resting-places and in the funeral ceremonies themselves. Music and dance accompanied the deceased and special rites assured his unhindered passage to the after life. Furthermore, the informants emphasize that there was rule for the seating arrangement during this funeral ceremony particularly for the saurmatua which is being discussed in the following chapter.
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2.1.3.6. Socio-economic structure

2.1.3.6.1. Economic Activities

Agriculture is the principal means of subsistence in the whole Toba Batak region (Toba Samosir Regency). According to the statistical data in 2000, sawah (wet rice cultivation) is highly developed in south-eastern of Toba Lake in Balige, Laguboti, Habinsaran, Silaen, Porsea, and Lumban Julu. There was also sawah in northern of Samosir Island: Pangururan and Palipi. While another part of Samosir island used to practice widely dry-field farming and vegetable cultivation such as corn, cabbage and onions. Habinsaran area has been developed by some plantations, which comprise of coffee, rubber, tea and palm oil tree plantations.

A second important means of subsistence is cattle raising. Buffalo and other cattle such as pig, and chicken are very numerous on the Tobaland. Hunting and fishing are of lesser importance. In the recent years, fisheries have been developed along the Toba lake seashore. Some people also pursue specialized activities of handling and processing agricultural products such as owner of rice or maize mills, agent for fertilizer, maize and livestock. Recently, there are some non-agricultural occupations such as laborers, teachers, civil servants, merchants, workers in public or health service, and so forth.

In daily life, the Toba Batak women play important role in their household economic life. As Loeb (1989:p.29) informed that the traditional women do almost all the work, in the house as well as in the field. While the men are occupied in the field, the women occupy themselves with household work of various kinds, with the weaving of fabrics, the planting of baskets (karong) or mats (tikar) out of banana leaves. However, nowadays there is division of job between these two genders to play role in their household economic life. In main cities of district s in Toba Batak, there were fairly seen the woman works as teacher, officer in government and company.

2.1.3.6.2. Socio-Economic Status

Prior to the freeing of slave, the Toba Batak society was divided into three ranks: the nobles (Raja or chief of village), the commoners and hatoban or slaves (Loeb, 18989:p.40). The noble members are of the ruling sib who was not actual executive Rajas. As mentioned before, each village in Toba Batak was lead by a head of village who called in various name
Chapter 2 The Background of Study Area

such as tungga ni huta in Samosir Island, si Puan Bonti or Raja for the big village or mother village in Balige which represent of the economic of social status. The tungga ni huta is usually has the highest economic level. In the village, the house of tungga ni huta can be recognized by the size and decoration i.e. the more important the people, the bigger the house and the more complete the decoration. The house for tungga ni huta called jabu bolon (lit.translation, big house; jabu=house, bolon= big).

After declaration of Indonesia independence, the structure of government affected the leadership in Toba Batak village. At the present day, the tungga ni huta play no longer any important role.

2.1.3.7. Belief and Cosmos

There were some scholars and historians discussing the Toba Batak mythical world view (Warneck 1909, Loeb 1935, Tobing 1956 and Sinaga 1981, Parkin 1987). Nevertheless, most researchers had highlighted the original Toba Batak belief briefly (Marsden 1788, Vergouwen 1964, Hasibuan 1982, Tideman 1936). In their report, the cosmos of the Toba Batak consisted of three layers represented of three worlds: the Upperworld, the Middleworld, and the Underworld. The High God, Mulajadi Nabolon, dwells in the highest sphere of the Upperworld. The middle world belongs to the man. In addition to the plants and the animals were also created to inhabit the Middleworld. The underworld is the home of the dead, the ghosts and the demons. Underworld desolates the Middleworld. The sickness, failure of harvest and cattle, epidemics and death are attributed to the underworld.

Then, Sinaga (1982:64) argued that these three worlds are represented by particular symbols as follow:

- The Upper world was symbolized by the tambatua (the magic paste), tano solam and hornbill. The symbolism of a hornbill had been explained as the manifestation of the High God, Mulajadi na Bolon. Its relation with tambatua is understood as feed for the sacred bird as is described by the following prayer to Mulajadi na Bolon. The mythical bird, here called Lenggang Godung and Hulambu Jati, gave birth to the “Trinity” and later to Sideung Parujar and man.
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- The Middleworld was represented by the octagon which symbolize linking of the upper and the under world. Though, there was no explanation on the octagon; what and how it was originated.

- The underworld was symbolized by tortoise buried under the pole, which was called *Naga Hurma Jati*.

After Yoshida, Domenig (1981) illustrated the Toba Batak house reflected of the three worlds. However, the reflections of these symbolized particularly in house space form are obscure. Nevertheless, in vertical plane the houses functionally reflected of this cosmos.

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![Diagram](image)

Fig. 2-13 The Toba Batak house represented of their cosmology, Domenig 1981:162
2.2. Case Study

2.2.1. Natural Environment of the hamlets

As mentioned before, the general appearance of hamlets in Toba Batak was surrounded by bamboo thicket which was planted on the earthen wall. The species bamboo was a very tall-growing and difficult to see the houses from outside of hamlet. This part will describe the appearance of hamlets of case study at the present day.

a. Huta urat, Sianjur Mula-Mula, Pusuk Buhit

There were some hamlets in valley of Sianjur Mula-Mula, in fact the first hamlet according to villagers has vanished, and then the hamlet, namely Huta urat which has been chosen as case is the second hamlet. Huta urat is surrounded by rice fields and the cemetery (tugu) of the village founder located in the center of rice fields. Additionally, there is a small church nearby the hamlet. A dense bamboo thicket, which formerly enclosed the hamlet, was disappeared, only remain earthen wall piles up. There is public toilet or bathroom just at the right side after the village gate seemingly no longer unused since some houses has provided toilet indoors. Nowadays, there is one house recognized as the basic type of Toba Batak dwelling. Other houses, which also called the ruma or jabu by the villagers, even though, the style and the construction are actually different from the ruma type. It is reminiscent of an amalgam of the Malay house and the Toba Batak house. The other people recognized this house as the Angkola house, another traditional house in Batak ethnic group. Later, the following pages will discuss the characteristic of this house types. Such this house types are fairly seen in Pusuk Buhit area. Additionally, this hamlet is famous when one of its descendants became the Regent of North Tapanuli in 1980-s. Nowadays, this house in which is chosen as one of case study, has been developed into brick structure with two stories at the back.

b. Lumban Sakkalan, Buhit

This hamlet is situated on the upper side parallel to the ring road of Samosir Island. Due to the dense bamboo thicket at the western side the houses are difficult to see from the ring road. However, at the eastern side, the dense bamboo thicket was disappeared so that it is accessible the hamlet from this side. The tugu of the hamlet founder rests near the ring road or
Chapter 2 The Background of Study Area

beside the road toward the village. There are some ruma-s situated in two rows facing each other and some gaps between them indicated that some have been demolished. Some modern timber houses (emper type) have been built. Additionally, in this village, a view of some women who weave in front, beside and under the house is common. They weave after return from the field. It seems that traditional textile weaver is being primary or secondary economic subsistence in this village.

c. Sialangan

Similar to Lumban Sakkalan, this hamlet located parallel to the Samosir’s ring road. A part of dense bamboo thicket is still enclosed the hamlet but there is no dense bamboo thicket at the entrance to enter the hamlet, which located behind of the one row of houses. A linear path to access the rice field and the tugu is perpendicular with the open square separated the two rows of houses. There are some shallots lying on the mat at this open square where some children are playing around it. All of the houses are the ruma type with lacking of ornamentation. Some houses have been approached from the front wall of house. There is spacious garden at the left corner of hamlet site indicated the former house site.

d. Sidolon-dolon, Tanda rabun

This hamlet is not far from the hamlet that mentioned previously. The earthen high wall as to 2.5 -3 meter overgrown with bamboo enclose the hamlet. Unlike other villages, the houses in this hamlet comprises of three rows, the main two rows opposite each other with the open square between them. A new row has arisen behind one of them separated by a narrow path. Most of houses in the new row are built as new house type (emper); however, two of them are the ruma type, which are approached from the front wall. According to the villagers, the heavy rain falling down during many years has caused the land eventually to subside. Therefore, the houses have to re-position particularly the position of the posts. It is commonly done every ten years.

e. Lumban Sihaloho, Simamarta

The condition earthen wall overgrown the bamboo thicket is still maintained well. The gate which located southern part is directly toward the open square that separated the two
rows of houses. Likewise another hamlet, it has no sopo. Most of them are ruma type which two kind of ladder position to approach the houses, one is from underneath and other is the front wall. Other houses are modern timber house type (emper). The location of this hamlet is along the shore of Toba Lake, therefore the water supply for daily life somehow is taken from this lake i.e. bathing, washing the clothes and cleaning the kitchen tools.

f. Sitio, Simanindo

This hamlet is located beside the famous open air museum in Samosir Island, Simanindo Museum, which can access by the lake. There is a jetty only 200 meter from the hamlet where the boats that bring tourists from other jetties such as Parapat, TukTuk, and Tomok even from other place i.e. Simalungun dock. Simanindo is one of main town in Samosir Island, therefore there is some other public service around this hamlet such as weekly market, police station, and church. Since it is quite close to the road and no thicket closes it off. Likewise other hamlets, there are two rows of building comprises of ruma type and other emper. There is no sopo remain in this hamlet.

g. Sinapuran

Location of this hamlet is appropriate with the description on Toba Batak hamlet given by Boer (1920). The position of houses forms letter ‘O’, which enclose the open square in the centre. The dense bamboo thicket is still maintained each back side of two main rows houses while other sides are almost disappeared. A chief hamlet house located in the middle of house is no longer occupied. Other houses comprise of ruma type, emper type and modern brick houses.

h. Lumban Nabolon Parbagasan, Porsea

The large open square which located in the middle of two rows of building has changed into road to access other hamlets. There are only three ruma-s and one sopo, five empers and one modern house of brick structure. According to informant, this hamlet already has 10 descendants, if it is assumed one descendant as to 20 years, it means that this hamlet has been constructed since 200 years ago. Two of ruma type is still used trap door to
Chapter 2 The Background of Study Area

approach the house. The ornamentations each house seemingly appear the basic typical Toba Batak dwelling which has informed by older sources.

g. Hutagaol, Sigumpar

This hamlet is located close to the tomb of Nomensen, one of missionaries from Germany who succeed in spreading the Christianity in Toba Batakland. There are also some gaps between some of buildings which indicate that some have been demolished. The emper and modern brick house (emper) have also been built replacing the basic house type. The ornamentations of the houses apparently show the typical ornamentation, which often appear in Balige area. According to an informant who is an artisan, the ornamentations of Toba Batak houses in Balige is the more difficult in comparison to other area in Toba Batak region.

h. Matio, Sosor Dolok, Balige

There are some hamlets side by side around this area. Entering this hamlet has to pass the open square of other hamlets which has changed into circulation path to access the next. There are five sopo-s, which have been changed into houses and some gaps between them, which indicate that some have been demolished. Additionally, emper and modern brick house have been built replacing the Toba Batak style dwelling. The dense bamboo thicket is no longer existed surrounding the hamlet.
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Fig. 2-14. The environment of hamlets, 2002
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Tabel 2.4. The general topography of the case study

<table>
<thead>
<tr>
<th>Administration Region</th>
<th>Valley (River bank)</th>
<th>Hilly and Mountainous area</th>
<th>Flat land area (also near the lake shore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samosir Island</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(700-1800m above sea level)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sianjur Mula-Mula</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lumban Sakkalan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sialanguan</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>- Sidolon-Dolon</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>- Lumban Sihaloho</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>- Sitio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sinapuran</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside of Samosir Island</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(200-1650 m above sea level)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lumban Nabolon</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>- Hutagaol</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>- Matio</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2.2. Dwelling type

As mentioned before, the Toba Batak buildings were formerly classified in term of their function, such as house locally known as jabu or ruma and rice barn or sopo. As some sopo-s have been converted into houses, so that nowadays the open sopo is rare found. In term of function therefore the ruma and the converted sopo are the same, but their building structure slightly dissimilar. In addition, their spatial arrangement is also slightly dissimilar. The subject of some similarity and differences between the ruma and the sopo in term of building structure and spatial arrangement has been discussed by Domenig (2000). Other house type, which was constructed several decades ago known as Emper. Yoshida has reported that the emper type has replaced the ruma and sopo type suddenly. Furthermore he described it entirely receiving the European influence and at the time the houses built in particularly along the principal road.

On the other hand, of the observation on 30 houses has regarded another type of house in Sianjur Mula-Mula which is different from the three types of house mentioned previously, be named the Angkola type. This type is fairly seen around Sianjur Mula-Mula area which is believed as the cradle of the Batak. The angkola type, in term of building structure and spatial arrangement are slightly dissimilar to the ruma type.
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![Diagram of Toba Batak dwelling types](image)

Fig. 2-15. The dwelling types by Yoshida (1973:p.209)

2.2.2.1. The *ruma* type

a. The entryway is from the underneath which located in the middle of floor just behind the front wall.

b. The size of building is ranging from 4-8 meter in length and 6-12 meter in breadth.

c. The construction set upon stilts, and covered with a saddle-shaped roof. The outward slanting walls are fitted in between the edge of floor and roof.

d. Having the partial attic floor, at the back and the front, the spaces are open towards the living room below, while horizontally the front space of attic (*bonggar*) ends in an open gable balcony. This balcony has various functions particularly as places for the orchestra festivals or for exposing a coffin in the context of funeral rites.
2.2.2.2. The closed *sopo* or converted *sopo* type

a. The entryway is from the small door at the front wall of the house

b. The size of the building is generally narrower in comparison to its width than a *ruma*

c. Likewise the *ruma*, it is set upon stilts, and covered with a saddle-shaped roof. However, the construction system is similar to *sopo*'s construction, which having cantilever for floor construction, and the outward slanting walls are fitted in between the edge of floor
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Previously, the original sopo have no wall closed the space, so nowadays it called ‘open sopo’.

d. The attic floor runs the whole length of the building, There is a large attic is ended by the closed gables without balcony outwards.

Fig-2.17. The Converted Sopo Type, 2002
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2.2.2.3. The Emper type

a. According to Yoshida and Sargeant 'report, every village has the *emper* type which as regards entirely receiving European influenced.

b. The ladder is positioned at the front wall however there was no specific place to locate it in mid or near the corner of front house.

c. The size of building is commonly smaller than a *ruma* and *sopo*, formerly this type was inhabited by *hatoban*. Recently, the wealthy people are likely to build such this house type with some modifications of style.

d. The construction set upon the stilts which is roofed with various roof shape such triangular prism shape and most of them have no gable and balcony at the front gable.

e. There was no attic as like *ruma* and *sopo*. Sometime there was terrace at the front.

Fig. 2.18. The *emper* type (photograph by field survey 2002 and sketches by Yoshida, 1973)

2.2.2.4. The Angkola type

a. It has been influenced by the *Angkola* house type, the other house type of the Batak ethnic group adjacent to southern part of Toba Batak region. This house type seems like an amalgam of Toba Batak house and Malay house. It was fairly seen in Sianjur Mula-Mula and other villages around Pusuk Buhit which is believed as the cradle of Toba Batak, such as Sagala and Limbong.

b. Likewise the closed *sopo*, the ladder is positioned at the front wall of the house.

c. The size of the building is generally a slightly smaller than *ruma*, ranging from 4-6 meter in breadth and 5-10 meter in length.
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d. The construction is similar to ruma's construction, however having no slope for the walls fitted in between the edge of floor. It is also set upon stilts, and covered with a saddle-shaped roof.

e. Some houses have the narrow front attic, which is ended by closed gable without a balcony (bonggar) facing to the outward.

The 30's houses of case study comprise of ruma type, converted sopo type and angkola typ. Therefore, the analysis for case study discussed in chapter 4 deals with the ruma, the converted sopo, and the angkola type as shown on the table below:
### Table 2.5. Classification of case study according to building type (2002)

<table>
<thead>
<tr>
<th>Hamlet</th>
<th>Number of <em>emper</em></th>
<th>Number of <em>sopo</em> type</th>
<th>Number of <em>ruma</em> type</th>
<th>Number of <em>Angkola</em> type</th>
<th>Sample Number</th>
<th>type of house</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sianjur Mula-Mula</td>
<td>3</td>
<td>-</td>
<td>1</td>
<td>6</td>
<td>A1</td>
<td>Ruma 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A2</td>
<td>Angkola</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A3</td>
<td>Angkola</td>
</tr>
<tr>
<td>Lumban Sakkalan</td>
<td>2</td>
<td>-</td>
<td>7</td>
<td>-</td>
<td>B1</td>
<td>Ruma 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B2</td>
<td>Ruma 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B3</td>
<td>Ruma 2</td>
</tr>
<tr>
<td>Sialanguan</td>
<td>1</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>C1</td>
<td>Ruma 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C2</td>
<td>Ruma 2</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>C3</td>
<td>Ruma 3</td>
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<td>Sidolon-dolon</td>
<td>8</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>D1</td>
<td>Ruma 3</td>
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<td></td>
<td>D2</td>
<td>Ruma 2</td>
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<td></td>
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<td>D3</td>
<td>Ruma 2</td>
</tr>
<tr>
<td>Lumban Sihaloho</td>
<td>2</td>
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<td>7</td>
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<td>Ruma 2</td>
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<td></td>
<td></td>
<td>E3</td>
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<td>-</td>
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<td></td>
<td></td>
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<td>F2</td>
<td>Ruma 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>F4</td>
<td>Ruma 2</td>
</tr>
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<td>Sinapuran</td>
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<td>-</td>
<td>13</td>
<td>-</td>
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<td>Ruma 2</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>G3</td>
<td>Ruma 2</td>
</tr>
<tr>
<td>Lumban Nabolon</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>H1</td>
<td>Ruma 1</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>H3</td>
<td>Ruma 2</td>
</tr>
<tr>
<td>Hutagaol</td>
<td>3</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>I1</td>
<td>Ruma 2</td>
</tr>
<tr>
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<tr>
<td>Matio</td>
<td>8</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>J1</td>
<td>Close sopo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>J2</td>
<td>Close sopo</td>
</tr>
</tbody>
</table>

In fact, the *ruma* type is classified into three types in term of its entrance. The first type is the entryway through the underneath of house precisely located in the middle of the floor just behind the front wall. The second type is the entryway is from underneath of house, but the door located at the new wall constructed just behind the front wall. The third type is the entrance at the front wall as the plain house type. Despite their spatial arrangement and main building structure are the same, mostly, the case study consist of the *ruma* with the entryway for the second type. There are two case studies (H1,H2) with the entryway from the
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underneath of houses by using the trap door. And there are three case studies (A2, A3, and D1) with entryway from the front wall of house (D1). Otherwise another Indonesian traditional house, the classification of house only rests on their function for instance house and rice barn. Particularly, there were specific name of houses in Toba Batak village which was to distinguish each house according to their social structure rank and social organization such as Jabu (ruma) Bolon, Jabu Siaporik and Jabu Jolo. Only the chief hamlet’s house is known, which was represented as nobility house. It seems that there were slightly differences among them particularly in that of size and decoration on the front wall and gable. Since no information in writing and informant who knew this system well in the field work so that no other explanation was available except this.

![Image](image_url)

Fig. 2-20. The ruma type with entrance at the frontage, 2002

Additionally, the observation of 30 houses, it has found the significant differences between ruma type in Samosir and in Balige, Porsea area. For instance, there are slightly differences of the roof shape between in Samosir and outside of Samosir particularly in Balige and Porsea area. According to the carpenters in Samosir Island, the length of the front house is equal to the length of diagonal front gable. In fact, this concept was found in some cases in Samosir Island, while another did not apply it. Furthermore, the back ridge point of the Toba
Chapter 2 The Background of Study Area

house in Samosir is higher than at the front, while in Balige and Porsea is opposite, which the front is higher than at the back. According to some opinions from the local people in Samosir, the philosophy why the back ridge point higher that front due to the next descendant wishing to be more success and wealthier, while another opinion is the most important space of the house positioned at the right back, so that the back ridge beam must be point out higher than the front. In Boer’s opinion, the front is higher than back in order to protect the space in front of the house (alam= village square), where the rice block lesung is placed, the women weave, the fisherman repair the nets, the workmen relax, the children play, the pig, dogs and chickens are fed and visitors received, in shorts it was caused to shade the place where they stay for the greater part of the day.

In addition, the structural system both of the house types has slight differences as well, as illustrated in the next figure.

In Samosir

In Balige and Porsea

Fig. 2.21. The differences of the front roof form in Samosir and Balige area
Chapter 2 The Background of Study Area

2.2.3. Socio-cultural environment

All of the inhabitants of case study are Christian. Their economic subsistence mainly depends upon the wet rice cultivation and vegetable cultivation. In some cases, beside cultivate the fields; they are also traditional textile weavers, temporarily merchants, teachers and carpenters.

Table 2.6. The number of inhabitants in village (2002)

<table>
<thead>
<tr>
<th>Hamlet</th>
<th>Number of descendants</th>
<th>Number of Houses</th>
<th>House hold</th>
<th>Number of inhabitant in village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sianjur Mula-Mula</td>
<td>&gt;10 (??)</td>
<td>10</td>
<td>10</td>
<td>39</td>
</tr>
<tr>
<td>Lumban Sakkalan</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>43</td>
</tr>
<tr>
<td>Sialanguan</td>
<td>6</td>
<td>9</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Sidolon-dolon</td>
<td>5</td>
<td>23</td>
<td>21</td>
<td>56</td>
</tr>
<tr>
<td>Lumban Sihiloho</td>
<td>4</td>
<td>9</td>
<td>8</td>
<td>34</td>
</tr>
<tr>
<td>Sitio</td>
<td>7</td>
<td>9</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Sinapurun</td>
<td>5</td>
<td>16</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td>Lumban Nabolon</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>Hutagaol</td>
<td>3</td>
<td>10</td>
<td>10</td>
<td>42</td>
</tr>
<tr>
<td>Matio</td>
<td>3</td>
<td>13</td>
<td>13</td>
<td>46</td>
</tr>
</tbody>
</table>
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![Diagram showing Economic Activity and Number of Household Member](image)

Fig-2.23. The Economic Activities and the number of household member

<table>
<thead>
<tr>
<th>Hamlet</th>
<th>Sample Number</th>
<th>Present Resident</th>
<th>Year of construction</th>
<th>Year of Renovation</th>
<th>Structure Front House</th>
<th>Structure Back House</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A2</td>
<td>br. Tungkang</td>
<td>c.1900</td>
<td>1945, 1970,2001</td>
<td>Timber</td>
<td>Brick</td>
</tr>
<tr>
<td></td>
<td>A3</td>
<td>br. Naibaho</td>
<td>c.1940</td>
<td>Unknown</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td>Lumbar Sakkalan</td>
<td>B1</td>
<td>br.S.Tanggang</td>
<td>c.1900</td>
<td>1965, 1998</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>B2</td>
<td>T.Tanggang</td>
<td>1941</td>
<td>1962, 1990's</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>B3</td>
<td>A.J. Sagala</td>
<td>1938</td>
<td>1970's, 1998</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td>Sialangan</td>
<td>C1</td>
<td>A.Silaholo</td>
<td>c.1900</td>
<td>1987</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>C2</td>
<td>M.Situngkir</td>
<td>c.1920</td>
<td>1962</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>A.Anju Manik</td>
<td>c.1920</td>
<td>1953, 1996</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td>Sidoron-dolon</td>
<td>D1</td>
<td>P.Manik</td>
<td>c.1900</td>
<td>1970's, 1998</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td>K.Sinaga</td>
<td>c.1900</td>
<td>1956</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td>H.Manik</td>
<td>c.1900</td>
<td>1953, 1990's</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td>Lbn Silaholo</td>
<td>E1</td>
<td>W.Sinamarta</td>
<td>1927</td>
<td>1972, 1990</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>E2</td>
<td>J.Sinamarta</td>
<td>1950's</td>
<td>1954,1999</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>E3</td>
<td>M.Sinaga</td>
<td>1930</td>
<td>1965</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>E4</td>
<td>J.Sialat</td>
<td>1920's</td>
<td>1940,1962,1975</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td>Sitio</td>
<td>F1</td>
<td>D.Sidauruk</td>
<td>1953</td>
<td>1997</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>F2</td>
<td>J.Sitio</td>
<td>1950's</td>
<td>c. 1990</td>
<td>Timber</td>
<td>Timber and brick</td>
</tr>
<tr>
<td></td>
<td>F3</td>
<td>Br.E.B.Sagala</td>
<td>1940</td>
<td>c. 1990</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>F4</td>
<td>M.Sagala</td>
<td>c.1900</td>
<td>c.1950, 2002</td>
<td>Timber</td>
<td>Timber and brick</td>
</tr>
<tr>
<td>Sinapuran</td>
<td>G1</td>
<td>Op. Manson</td>
<td>c.1900</td>
<td>1965</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>G2</td>
<td>K.Silaholo</td>
<td>c.1900</td>
<td>1940,1975</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>G3</td>
<td>Jawasa Sagala</td>
<td>1938</td>
<td>c.1990</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td>Lbn Nabolon</td>
<td>H1</td>
<td>R.br Sitorus</td>
<td>c.1900</td>
<td>c.1990</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>F.H.Siapiar</td>
<td>c.1900</td>
<td>1987</td>
<td>Timber</td>
<td>Timber and brick</td>
</tr>
<tr>
<td>Hutagao</td>
<td>I1</td>
<td>M.Hutagao</td>
<td>1922</td>
<td>c.1970</td>
<td>Timber</td>
<td>Timber</td>
</tr>
<tr>
<td>Matio</td>
<td>J1</td>
<td>Op.Toba br.</td>
<td>c.1900</td>
<td>1959,1960</td>
<td>Timber</td>
<td>Timber and brick</td>
</tr>
<tr>
<td></td>
<td>J2</td>
<td>M.br Siagian</td>
<td>1954</td>
<td>unknown</td>
<td>Timber</td>
<td>Timber</td>
</tr>
</tbody>
</table>

Table. 2.7. Characteristics of the houses (2002)
Chapter 2 The Background of Study Area

2.2.4. Ownership status of house

For the Toba Batak, house is one of the heritages from their former descendants. Most of the present occupant in case study are descendants of the owner, whether son or daughter or his relatives. Therefore, the ownership of house in Toba Batak house is generally descended to sons of the owner. Since the men migrate to other city to find good income for their family so that the woman were the custodian of the house during his husband in pangarantaon (at the migration sites). In some cases, those men transferred their right to his sisters or his relatives who want to reside the house due to they prefer to live in another city for rest of their life. However, sometimes they come to see their house and stay temporarily particularly in important events such as wedding ceremony, funeral ceremony, gathering time during holiday in Christmas day and new year. In some cases, kinsmen or kinswomen who they asked for residing the house can modify the house with exception of selling it. In other case, the occupants were supposed to maintain the houses.

Therefore, the ownership status of the houses can be categorized in three parts: firstly the house belongs to the male descendant (son) and still inhabited up to present day in some cases, even though he already passed away so his widow and his children reside the house. His widow may reside the house as long as he has male descendant. Secondly, the houses are occupied the boru (female descendants) due to the male descendants preferred to live in other region, but the houses commonly still belongs to the male descendants. Thirdly, the house is resided by guest; here it means kinsmen or kinswomen whom have no blood relation to the real owner.

![Graph showing ownership status of houses](image)

**Fig. 2-24. The ownership status of case study, 2002)**
Chapter 3.

THE SPATIAL ARRANGEMENT OF BASIC TOBA BATAK DWELLING TYPE

3.1. A Rule System of Spatial Arrangement

Most of the adventurers, researchers and scholars had highlighted as to the several instruments of spatial divination of Toba Batak life. According to them, the two important instruments which guided their life especially at important events and activities: marriage, birth, death, opening of land, sowing of seed, harvest, building of houses and establishing new village, are ‘desa na ualu’ and ‘bindu matoga’, which will be discussed in the following part of this chapter.

In looking for the basic spatial arrangement of Toba Batak dwelling in this part rely on older sources which have investigated the Toba Batak architecture such as Marsden (1788), Tuuk (1861), Von brenner (1894), Boer (1920), Loeb (1935). In addition some researchers and scholars investigated the basic Toba Batak belief and culture such as Tobing (1958), Parkin (1978), and Niessen (1991) has been referred.

Based on the above literatures, the description on Toba Batak dwelling in this chapter only focus on the *ruma* type, and converted *sopo* type which was assumed as the basic building types of Toba Batak architecture.

3.1.1. The instruments

3.1.1.1. ‘Desa na ualu’

Amongst the scholars who discussed on this topic, Tobing (1956) and Parkin (1978) must undoubtedly named; they elucidated the *desa na ualu* as follows:

a. By the *na ualu* the eight points of the compass are meant. These are called purba (east), *agoni* (south-east), *dangsina* (south), *nariti* (south-west), *pastima* (west), *manabia* (north-west), *utarq* (north) and *irisanna* (north-east). It is symbolically represented by a little circle, from which eight lines are drawn. This compass-figure is the symbol of the middleworld.
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

b. This was the name given to the diagram of the eight points of compass. In Malay and Indonesian 'desa' is frequently used word meaning 'village' or 'rural location', but in Batak, it is never used in this general sense.

c. The Toba Batak originally only knew the main points of the compass in practice. Genuine Toba Batak names are only found for the main points of the compass: habinsaran (east), jae (south), hasundutan (west) and julu (north). This compass-figure and double square which are indefensible for religious celebrations such as the cock oracle, the great sacrificial celebration (bius) and the dance with the staff 'tunggal panaluan' has been used by datu, as the Batak called for an augur, a priest and physician.

d. 'Desa na ualu' was not only a direction-finding compass, nor merely an instrument to ascertain required information; it was rather, the magico religious re-enactment of space. In addition, it did not mark off the boundaries of a magical power, it re-establishes, in visible and local form, the primeval focal point of totality power. Salvation or success depends upon bringing the local event into harmony with that special spatial arrangement.

Fig.3-1. Desa na ualu, redrawn from Tobing (1963:p.171) and Parkin (1978:p.202)
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

3.1.1.2. 'Bindu Matoga'

'Bindu Matoga', is a Sanskrit derivative which means the authoritative point of power or powerful powerpoint developed from 'desa na ualu'. Sometimes it was called the 'double-square diagram' because of its format. It was used as sign for the 19th day of the month (boraspati ni holon), but its most important usage was that in the annual cosmic renewal festival called 'mangase taon' or mamele taon. At this festival, Bindu matoga was drawn on the ground outside the house of the person on whose behalf the rite was performed.

This cosmic spatial power is known as 'hala', the fabulous scorpion, or as 'Pane na Bolon'. The location of this scorpion, at any given time determines the auspicious or inauspicious qualities of all corners of space. As Tobing observed when he (Pane) was in the east the space between easts and west was a favorable one. Everybody coming from that direction brings the power and the blessing of Pane with him. On the other hand, misfortune awaits him, who goes in this direction. In addition he explained that when the people wish to build a house, they will first of all try to find out the point of the compass occupied by Pane. If he should be in the south, one had better to raise the west and east west walls and wait till 'better times' will come for the raising of the other walls.

According to raja Darius Sibarani, an informant of Niessen's investigation on Toba Batak text claimed the bindu matoga represented both the village and that vague spatial concept, the desa na ualu. Additionally, he labeled the four corners of the village was the same way as the four jabu within the house. In his perception, the village structure coincided with that of a house architect as shown at Fig. 3.5.
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

3.2. The form
3.2.1. Rectangular concept of space

The above discussion is summarized that originally the Batak, the most ‘primitive’ people, oriented himself with the rising of the sun. This direction called ‘habinsaran’ from binsar meaning to rise. The opposite direction is hasunduan from sundu meaning to set. North is known as julu which literally means upstream, its opposite is jae = downstream.
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

In looking for the basic form in late in the past, it traces back to older sources. Marsden description on Toba Batak house as follows:

(i) The houses were built by wooden frames, placed side by side resembling the shape of the ship, and roof covered with ijuk (palm fiber).
(ii) The entrance was a trap door located in front of the house. There was a large room in the middle of the house which could be entered by the trap door.

Edwin M. Loeb (1930:20-96), His descriptions the Toba Batak houses are as follows:

(i) The Toba Batak houses were built on piles three to six feet above the ground but their size was various.
(ii) The house of chiefs and wealthy people were usually made from wood and were roofed with sugar palm fiber (ijuk) or with wooden planks. The construction of the roof was especially involved with the decoration of the buffalo horns at its end point.
(iii) The roomy interior of the house was not separated into compartments by walls although it was commonly inhabited by several families. Mats, which were let down at night, formed a partial separation. There were from four to six open fireplaces in a large room.
(iv) Since there were no window or door entering the houses the houses were generally very dark inside and covered with soot. The dwelling of rajas was constructed from elaborately carved planks, which were painted with the figures.
(v) There were no any sketches or illustration was given by Loeb.

Boer’s description generally on the Toba Batak houses are summarized as follows:

i. The houses were rectangular and set above the ground of timber poles. It was twice as deep as broad with a gable roof of iju, supported on a ridge beam the length of the house and the side walls.
ii. The rectangle was 10 meters long and 5 meters wide, and the ridge beam at the front is 8.5 meters above the ground. The floor was usually 1.75 meters above the ground and constructed between the posts.
iii. The entrances to the houses were through a trap door in the center of the floor just behind the front wall.
iv. The space inside the house was not divided into rooms, although more than one family live in it. The house was however divided into four and sometime six sections at both side of stairs (not including the jambur or store). The spatial division was according to their kinship system.
v. A house usually filled with the smoke while two holes situated around one meter from the trapdoor functioned as a toilet (WC).
vi. A neutral space was left in the middle called the ‘telaga’, and this was functioned as a central of common area.

vii. Each family had its own cooking place, a shallow, square wooden box covered with lime (tating). Above this cooking place one usually was found a rack (salean), held in place by means of rattan, which served as the storage for firewood. Above this rack was another rack (buah para) on which pots and plates are stored.
viii. The roof seen in elevation showed the ridge beam bent downwards to form a saddle while the front and the back walls slope at different angles. The front slope out further than the back to give protection to the space in front of the house.

ix. The front wall and roof have also been sloped like this to protect the wood carving against sun and rain as well as to protect the balcony (bunggar) where coffins are sometimes placed or music played or where visitor sleep.

Accordingly, the spatial concept of Toba Batak house was derived from this cultural characteristic of the people. Despite of Marsden description on Batak dwelling without this information, however he implied that the Batak house was built with frames of wood, with the sides of boards, roof covered with iju. Furthermore, he explained the houses usually had a large room which entered by a trap door in the middle and the interiors were not being separated by any partition or distinction of apartments. Even though, the houses were inhabited by several families, so that the real owner (father) found it necessary to allot each of them their fire-places and cooking utensils. Due to lack of further information on the houses in late 18th century, that it can be compared to other older sources such as the illustrations drawn by Boer (1920). From the comparison between Marsden’s, Loeb’s and Boer’s descriptions, it can be identified that it was almost the same.

The descriptions from older sources is summarized that formerly, the spatial concept of the ruma type was rectangular form which signed and ended by four posts at each corners. The number of posts used to support a house depends upon on the size of the latter. Thus, there are 4 main posts often corresponding with the four corners of the structure.

Fig. 3.6 Division of interior of Toba Batak dwelling, Niessen 1987:216
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

The internal division of the house reveals the same principles of ordering as were used in the erection of the house posts. In horizontal plane, there were two main axes; horizontal and vertical axes. These axes was divided the house space into four main spaces, as known with the quadripartite principal. This division was a conceptual convention into four main parts called *jahu* with named as *jahu bona*, *jahu sitampar piring*, *jahu suhat* and *jahu soding*. The spatial hierarchy, as applied on its occupants, follows the order as shown at figure 3.15. On the other hand, the dwelling in vertically represented the three planes of the universe, which indicated by various symbols.

The source that describes the spatial arrangement of *sopo* is rare found. Loeb described that the appearance of *sopo* is not different from the houses of the common people. He described further that they was classified in structural system for instance all four wall of *sopo* are open which on both of sides of the entrance. The approach to enter the *sopo* is from the ladder fitted in the front board. It can be imagined the *sopo*-s spatial arrangement in the past by looking some photographs given by von Brenner and Tuuk (Fig 3.14. and 3.15). Further, Boer has given explanation on the structure of *sopo* which will be explained in the foregoing pages.

In three dimensional forms, the form of Toba Batak houses have been influenced by other factors such as climate, availability of materials, economy, social customs, and other conditions. These were not determining factors but must be considered as influencing factors which help to shape the form and usage of houses. In term of climate, the most direct influence can be seen in the fenestration designs, eaves overhang, roof pitch and pile built construction. Although there were no windows, there was constant ventilation from the air that moves the open space underneath the house, entering through the slatted flooring, circulating the house, and exciting through an open space beneath the rafters and the slatted gable wall.

The form was consisted of three basic components which enclosed the space—the wall, the floor, and the roof. This means that Toba Batak house as other traditional house in South East Asia are categorized as tripartite houseform. As Tobing (1956) argued that the tripartite characteristic of the *Batak* social organization structure was basic to their system classification such that the three colors are associated with the three levels of the universe and the three kinship groupings. Since the tripartite house form was not only based on the
function but also symbolized the cosmological order, in which roof space was designated for sacred entities such as gods and ancestral spirits, the floor space for mortal beings, and the underfloor space for animals, ghost, and evil spirit as discussed in the chapter 2.

3.3. The Structural System

As other primitive houses in insular South East Asia, the structure of Toba Batak house is categorized as pile built and timber framework structural system where slim timber posts or columns are connected by interlocking layers of tie beam. Instead of the being firmly fixed to the ground, each of the house posts rests freely and directly on the ground level, usually on a small plinth of stone or concrete.

3.3.1. Ruma Type

Based on Boer’s description, Toba Batak dwelling is categorized basically into 3 parts: lower structure, wall structure (middle structure) and upper structure (roof structure).

a. The lower structure (basic structure) is chronically determined as follow:

(i) Erection of the four posts which started from the right back corner (A), followed by O, and then post G and H. (see Fig.)

(ii) The remaining posts on the right and left side must be erected, being lined up from a position at front of the house.

(iii) Then they were joined in the longitudinal direction by 2 or 4 beams (tus-tus) which pass through holes prepared in the posts and were wedged in place.

(iv) After this, the next four lines of posts were erected in the cross direction, firstly, the two at the back, then the two at the front and there are joined to each other and side posts by the above method of beams (tus-tus) and wedges.

(v) The top of the posts were carved to form a pin over the tohang was fitted. The tohangs again join the four rows of posts in the cross direction.

(vi) The two platforms at each end of the house was constructed, firstly, with beams (ungal-ungal) which also fit over the pins on top of the posts (each end of the two posts in the middle); secondly, the floor (pangumbari).
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

(vii) Then, the two longitudinal beams (buaton or sumba) were fitted over the pins on the posts in the long direction on each side of the house. These were usually circular in cross section and end of the base structure of the house.

(viii) Afterwards, the inner posts which were just support the raised floor are erected. They were also joined to the tall posts by beams and wedges. After that the pator rest on the tus-tus and the planks run in longitudinal direction. But these were only exist in rich man’s house, where dancing, which is a challenge to the house construction often takes place.

(ix) Finally, after the basic structure had been built each post was lifted and a river stone (batu pu) is placed underneath in order that the structure will not be too rigid, thus wedges (hansing-hansing) were usually knocked into place after the structure had been lifted on the stones.

Accordingly the lower (basic) structure can illustrated as shown in the next figure.

Fig.3.7. The basic structure plan, Boer 1920
b. The middle structure

After erection of the basic structure, the following parts of the walls are constructed directly. The wall structure was divided into some parts as follows:

(i) The pandindingan (the two sides boards) and parhongkom (the front and back boards)

(ii) The tomboman adop-adop (the front walls, adop-adop = front) and pudi-pudi (the back walls, pudi-pudi=back)

(iii) The halangan gordang (part of the front wall fitted after tomboman adop-adop or tomboman pudi-pudi)

(iv) The sitindangi (the gable frame)

(v) The tomboman na godang (the lower longitudinal beam), which hanging at buaton (the upper longitudinal ring balk)
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

Fig. 3.9. The structure of the wall, Boer 1920
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![Diagram of some parts of the front wall structure, Boer 1920](image)

**c. The roof structure**

Accordingly, the roof structure was divided into two parts, first was the roof frame as shown in the figure 3.11. It was followed by the secondary frame, which’s purpose was to support *ijuk* as the roof cover. Second is the roofing. The *iJu* roofing was connected to the inside of the rafters and battened by two longitudinal and cross battens. Over the ridge is an extra *ijuk* layer connected by rotan rope sewn in a longitudinal direction and fastened on the inside. This ridge layer (*bubung*) is covered with *bongkar* for durability. Then, the steep pitch roof has allowed the quick dispersion of rainwater of heavy rainfall which annually occurred in this region.

It is summarized that Toba Batak dwellings, structurally according to the diagrammatic cross section of a house, seem to be appear an equilateral triangle sitting trapezium. The outwards sloping side walls consist of two thick cross boards reaching from the front to back and forming an angle with the interior floor as to $120^\circ$. Likewise the cross section, the diagrammatic longitudinal section shows the raised floor as a trapezium lying on its shortest side with the front and back walls sloping outwards as well (Fig.3.12). There are thus three horizontal planes symbolized of the three worlds.
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

Fig. 3-11. Basic Roof Structure, Boer 1920

Fig. 3-12. The Toba Batak house shape: longitudinal and cross section, Boer 1920

3.3.2. The Sopo

According to Boer, the structure of sopo resembles a house. Furthermore, he described on sopo as follows:

(i) There were two floors; raised floor and attic
(ii) There was only one row of the front posts, no trapdoor, and the entrance to both floors are by ladders placed outside (balatuk tunggal)
(iii) The lower level was encircling by the parhongkom and pandindingan, whereas the space between the floors and the roof was left open. This open lower level of the
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sopo serves as a conference and justice-hall, where foreigners are received, and the musicians stand, etc.

(iv) The space under the roof is enclosed by the second floor, placed on the posts, and having a triangular front and back façade. The front façade of this space consists of two triangular front parts and supported by duplication of the parhongkom and pandindingan of the lower level. The lower parts of the sopo usually have the same form as a house. Sometimes, they are painted just like the tomboman adop-adop, with animal figures and a scalloped, ornamented edge. The upper parhongkom, also ornamented with lion heads, resting on the triangular frame and roof supporting structure, just like the second and third front parts of a house, combined. The upper space is entered through a trapdoor in the floor (hosa-hosa) is used to store rice as well as for house visitors.

(v) In order to discourage mice all the posts of a sopo are provide with round discs (galapang) at the top. The carving and paintings on the front and side edges are similar to those of house.

(vi) The distance between floor plank up to the sumba or buaton (the longitudinal beam) of the sopo is higher than a house. However, the distance between the sumba and bungkulan is shorter in sapos than in houses.

(vii) The sopo’s posts are heavier than those of a house since they have to carry the load of the rice stored in upstairs.

However, there were no any sketches given by Boer. The first sketch of the sopo has been given by Tuuk (1861), then, followed by the photographs given von Brenner in late 19 century.
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Toba Batak Rice Barn
(from Van der Tunck 1881, pl.11)

\begin{figure}
\centering
\includegraphics[width=0.8\textwidth]{toba_batak_rice_barn}
\caption{Rice barn, 1861 sketched by Van der Tunck}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=0.8\textwidth]{sopo_in_silindung}
\caption{The sopo in Silindung, Von Brenner 1894}
\end{figure}
3.3.3. Construction Process

The owner and villagers built the house altogether, after the founder discovered the preferred site to set up a village. Referring to hierarchy of the posts (fig.3.6), the construction process has influenced by the spatial concept started with laying down a stone at a point which named jabu bona point (1). Afterwards, a post was erected upon the stone. This followed by erection the post at jabu suhat (2), the jabu tampar piring (3) and the jabu soding (4). The construction initiated from taking the material from the near forest until the owners resided their houses as to more than one year. During the construction process, there were initially some ritual ceremony was conducted. However, there was no further information given by Boer related to the construction rite except before felling the tree. Accordingly, before felling the trees, the spirit of the wood must be appeased with the offerings of sago (rice) cakes. This ritual used to be carried out by the datu. According to the carpenters, who were interviewed in the field work (2002), there were some dialog between the datu and the spirit. Next Boer explained after finishing the basic structure, the feast was given to the workers. This description was strengthen by the carpenters in the fieldwork, they asserted that before erection of the first post, there were a ceremony which the owner gave the feast to workers and the people who related to their genealogy. Additionally, the above ceremony was held when erection of sitindangi (the gable frame), and before occupying the house. The last construction rite was when the datu returned a piece of wood to the forest. This ceremony was meant to ask for the protection during occupying the house.

3.4. Spatial Arrangement

According to the primitive viewpoint space is neither a vacuum, nor merely the abode of spirits, paranormal powers, and/or supernatural powers.26

3.4.1. Inner space

In general, the Toba Batak house had limited numbers of windows. Accordingly, there was only one small window at the back side of the house. It had only one entryway located in front raised floor so that the people entered the house from the underneath of house.

It was a large room without a partition even though there were several families lived together in it. The large room was commonly divided into four spaces or six spaces depending
Chapter 3 The spatial arrangement of basic Toba Batak dwelling type

upon the size of the house. The chief house (jabu bolon) was being the largest house in huta. In the center, there was a fireplace used by each family, so that it was being the central space. Afterwards, the partial roof space (para-para) can be accessed from this room by the movable ladder. There were two holes functioned as toilet located between the entrance and fireplace. This toilet was supposed to be use only at night. Thus, originally Toba Batak house had two stories for living: the first raised floor and roof floor, while the crawl space functioned as the raising cattle space.

The inner spatial pattern has been applied by the radial system which every space oriented the central space; the fireplace. In spite of the fireplace as the central space, the most honorable space according to Boer’s description was the master of house space (jabu bona) located in right back corner. At the attic, there were partial roof spaces at the front and back called para-para. Since it was only accessible from the fire place, where the para-para oriented to the centre as well.

The spatial division of the inner space for male and female were on opposite sides. Noteworthy here is the horu, the women of the household head’s descendants never have place to seat in the jabu bona. It is obvious appear from the spatial division and seating arrangement during the important events.

According to Tobing, the spirit of the ancestors, the grandmother, and the grandfather symbolized by raga-raga, was suspended at the third longitudinal rafter (pamoltok). With a ceremony that was meant to sacrifice the bad spirit in order to get away from them for example when the members of resident are unhappy, when the crops are bad, when again and again they are loosing their children or when their wives are barren, the raga-raga filled with meal such as fish, meat and eggs placed on a plate then it was suspended at the third longitudinal rafter. At this ceremony, the entire family member related to their genealogy was invited participating to the ceremony.

In addition, the Toba batak house was quite barren of furniture. Boer explained on top of the each fireplace, there was scaffolding (para) which have three levels; one for ground rice, another higher up for cooking pots and utensils and on top the firewood is kept. While the living space for each of family bordered by the mat had been multipurpose space for daily activities such as eating, sleeping, and sitting.
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Note:
The spatial division within house as folows:
*Jabu Bona* was occupied by the house master with his wife and small children.
The *jabu soding* is given to married daughter.
The *jabu suhat* is for the oldest sons and his family.
The *jabu tampar piring* is designed for visitor.

Fig. 3-15 The spatial division within the Toba Batak house, Boer 1920
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Fig. 3-16. The basic spatial arrangement of the Toba Batak house in early 20th century
Source: Redrawn and developed by the author from Boer's illustration, 1920

Note:
- Circulation path
- Border of space that each space belongs to one family

Fig. 3-17. The raga-raga, Tobing (1963p.78)
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3.4.2. Between the internal space and the external space

From the sketch given by von Bronner, it was very obvious there was a central space which separated the buildings (ruma and sopo). This central space became the orientation of buildings, which are positioned in two rows. As Boer mentioned, the Toba Batak gave the most attention to carve their front façade rather than the side or at the back side of house. In any way, at the back side there have no decorations. The distance from back of house to the earthen wall was too narrow; usually it used to function as small back garden.

The spatial division in hamlet has been influenced by their kinship as Boer’s description on Batak hamlet as follows:

Formerly, no matter how large a marga was, its members live in fortified village (huta) or village complex. Such a Toba village consisted of 1. the people of the marga (Dongan·Sabuha), 2. those who married in from other marga’s (hula-hula), 3. strangers (dagang), and 4. debtors, mostly slaves (hatoban)

Niessen also asserted that the spatial arrangement of the village reflected the spatial and order regulating the interior of home.
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Likewise the inner space, in term of orientation of houses, the radial pattern has been applied for the village spatial arrangement as well. The central space (alaman), functioned as the space to carry out ritual ceremony, and the important events such wedding ceremony and funeral ceremony. It was ended by earthen high wall surrounding the village. The gate to
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enter the village was located at one side of the wall. According to Ypes sketch, this gate connected the village space to pathway (road) or the surrounding environment spaces.

According to layout of building and circulation path, the linear type was used whereby one has to pass another house to reach the next.

3.5. Seating Arrangement during the important events

Boer and Loeb describe the spatial division within house is similar to the seating arrangement during the important ceremonies i.e. funeral, wedding ceremony. Furthermore, Nissen investigated the seating arrangement during the wedding ceremony in the hamlet which will be discussed in the following pages. Accordingly, the seating arrangement in interior of house was related to kinship system, ‘dalihan na tolu’. Ritual seating arrangement is always carefully regulated as it must link the parts of the house interior to the relative kinship positions of the participants and accurately display the social hierarchy.

3.5.1. Wedding Ceremony

Marriage is another of the important ceremonial events. Among the Bataks, a wedding is merely an event in the life of two people. It involves the participation of broad kin groups of the bride and groom. It is their activity which predominates at the ceremony, and the bride and groom seem like mere accessories.

From the beginning to end, the series of rituals during the wedding ceremony was interpreted as occasions for the meaningful exchange of jambar or shares between, the first instance, the bride’s and the groom’s groups of origin, laying on the groundwork for all the future relations between the two. The rituals comprising the wedding may be likened to tremendous ceremonies of introduction with everything from the gifts exchanged to the seating arrangement publicly displaying the respective status of the members of the newly-allied groups.

At the wedding ceremony, the master or household head men and his lineage were seated in jaban bona, the bride groom is seated here as well. Then, the highest guest occupied jaban suhat which in daily was occupied by son and his family. Hula-hula (the wife givers) was usually was the highest guest at this ceremony. The jaban tampar piring was for dongan sabutuha (the wife takers). The lowest position was at the left back of house which was for

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the *boru* (the married daughter and her families). This arrangement has been shown at the figure 3.22.

*A* = *hula-hula* (the wife-givers)
*B* = *dongan sabutuhu* (companions of the same womb)
*C* = *anak boru* (the wife-takers)

**Fig. 3.21.** The seating arrangements of the participants at the wedding ritual in village
Source: redrawn from Niessen, 1975:92

**Fig. 3.22.** Seating arrangement at the wedding ceremony in house
Source: redrawn from Boer's illustration, 1920
3.5.2. The funeral ceremony

The most complex funeral ceremony should have been held if a Batak attaining a ripe old age and having plenty of descendants. At this ceremony, the people related to the kinship system exchange or share the three important thing for their life such as *ulos* (the traditional or ritual cloth), rice and reciprocal gift (*ulos* and keepsakes). Likewise the wedding ceremony, the seating arrangement of the funeral ceremony as shown in figure 3.23 is according to the *dalihan na tolu*.

![Diagram](image)

Fig.3.23. Seating arrangement of participants at the funeral ritual in Toba Batak society, redrawn and developed from Boer’s illustration, 1920
Chapter 4. Analysis of the present spatial arrangement and its changes

Chapter 4.
ANALYSIS OF THE PRESENT SPATIAL ARRANGEMENT AND ITS CHANGES

This chapter aims to analyze the spatial arrangement of present houses and its changes tracing back to past condition. It essentially comprises of two parts; the present spatial arrangement and the change spatial analysis.

The case study deals with four dwelling type—ruma type in in Samosir, the ruma type in Balige-Porsea, the closed sopo type and the angkola type which has been mentioned in the chapter 2.

4.1. The Present Spatial Arrangement

4.1.1. Form

Formerly, the Toba Batak house was single rectangular form, since the Dutch government and missionaries has introduced the European construction technique and lifestyle, the houses have been extended to the back side of house, where is used as kitchen and toilet. Nowadays, due to the need of more space, the back house has been functioned as living room as well that will be mentioned in the following pages.

The forms of present Toba Batak houses are apparently rectangular form either single or with combination. In horizontal plane view, the forms which comprises of two zones, are positioned at the front side and the back side, the so called, the front house and the back house. Generally, the front form has two axes in vertical and horizontal plane.
Chapter 4. Analysis of the present spatial arrangement and its changes

These axes have divided the rectangular form into parts symmetrically. The front form has the size ranging from 6-13.7 meter in length and 4.4-7.2 meter in breadth, which its scale factor ranges from 0.5-0.8 as shown in Fig. 4-3.

![Fig. 4-2. The rectangular forms](image)

Due to the distance between the houses in the hamlet is narrow, as to 3 - 7 meter, the houses generally have extended to the back side. The wealthy owners have developed their house until the hamlet border as signed by the thicket bamboo wall so the house is apparently a railway coach. However, nowadays, in some cases, the people have expanded their house to the right or left side of house. For instance, case study H3 and H1 have been extended to the right side as having ample space which indicates the former site of other house. (Fig.4-4.).

As illustrated in figure 4-2, the back houses formed with combination of rectangular form layout in asymmetrical arrangement. When the back houses comprise of single rectangular form, it tends to continue the vertical axis of the front rectangular form. In some cases, it forms new axes layout overlapping each other. Furthermore, the size and number of the back rectangular forms depend on either the natural environment of village or the house hold economic status.
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The roof forms of the front house have the steep angles of about $60^\circ-75^\circ$ with upward curve ridged, resulting in strong visual impact on the rural skyline (see fig.2.21). It resembles to a boat hull, as their afterlife belief that the souls of their dead will be ferried away by a soul boat to an afterlife in the mythical ancestral homeland. The back’s roof pitch is shallower than the front roof pitch though. It has no upwards curved ridged, and rather than straight ridged roof form. It is more rectilinear in appearance, and has
significantly shallower roof pitches. Hence, it is in alternative roof forms emulated from the European colonial houses that introduced initially by the Dutch government.

In three dimensional forms, the pile built house type of timber structure with tripartite roof-wall-floor spatial differentiation is the most preferred house form of Toba Batak dwelling. This form that is distinguished by the construction system—lower, middle and upper construction has vertically three spaces. The function of each spaces was influenced by the worldview as mentioned in chapter 2. Other opinions of some researchers who investigated the traditional houses as mentioned in chapter 1, asserted that besides the worldview, other reasons which has influenced to apply this form is natural environment and technology in construction system that has been developing at the time.

In most cases, the extension houses of case study is still maintained as the distinct tripartite spatial form, but according to data of the changes of case study in the last two decades, it fairly have been seen the extension no longer apply the tripartite spatial form as shown in the next figures. The people prefer to build the extended house as as the land based house type of brick structure as case study A1, A2, H3, I2, and J2.
4.1.2. The Structural System

4.1.2.1. The four house types

The front house is hypothesized similar to the Toba Batak dwelling as Boer’s description. Therefore the basic structural system is the same which can be categorized basically into 3 parts: lower structure, wall structure (middle structure) and upper structure (roof structure). From the observation, several dwelling types was found, which also can be differentiated from their structural system. Overall, it is categorized as the tripartite houseform.

In addition, the differences have influenced the spatial arrangement within house. The *ruma* type in Balige and Samosir are different in that the positions of the posts consequently have supported the attic space. In Balige, there are eight posts positioning each the front side and the back side of house whereby reach the roof structure. These posts support the beams, which bear the load of the attic space.
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*para-para pudi* and back attic space=*para-para jolo*). In comparison to the *ruma* type in Samosir, it only has eight posts at the front side of house that supports the load of *para-para pudi*, so that the common *ruma* type in Samosir has no the *para-para jolo* space.

The converted or closed *sopo* type as discussed previously in chapter 2 is basically similar to the open *sopo* structural system. The previously mentioned *sopos* have fallen into disrepair as their functions have faded into history. The formal council meeting is no longer significant due to the change in leadership authority from *huta* into *kampung* and region. Similar meeting today would be held in a house of leader or in church. Nowadays, due to conversion into house, the wall structure has been added to enclose the space. The interior is narrower due to the span of the column is shorter than *ruma* type, since the attic space has to bear the large amount of harvest. Then, from the cross section, it appears the cantilever beam, as to 70 cm, whereby these beam is ended by the wall board either at the right or the left side. Along both side of the cantilever beams, there is narrow space, which is usually filled up by the residents with some furniture such as small cupboard, table and so on.

The *angkola* type is simpler form than *ruma* type in term of construction technique. The lower structure and middle structure are similar to Malays traditional house, but the roof structure is similar to Toba Batak roof structure with exception of the roof space and balcony. According to the owner of case study A2, formerly the house had been constructed as *ruma* type, however, the original house had rotten either caused by the fire or naturally decay. Rebuilding the same house type would be very costly, therefore the people preferred to built simpler house type. The new type has differences either in lower or middle structure influenced by the change of roof structure. It seems that has no certain rule for the layout of the posts. It has no balcony as the place for the musical instrument during the ceremonies. The most similarity to the *ruma* type is that of roof style, as illustrated in figure 4-9. Afterwards, the forth house type can be distinguished in term of the spatial conception. The differences of spatial conception of the four house type are illustrated in figure 4-10.
Chapter 4. Analysis of the present spatial arrangement and its changes

4.1.2.2 Construction Process related to spatial concept

According to the carpenters in Samosir, the construction process the front house, is influenced by the hierarchy of spatial conception of house. As mentioned before, *jabu bona* is the most honorable space within Toba Batak house, which is located at the right
back corner of front house. Therefore the construction process is supposed to be started from this point. Then it is followed by the posts at left front corner which is diagonal side of the jabu bona. The roof construction is also started from the back side, so firstly, the back gable frame is erected, then following by the front gable frame. The timber floor is set up from the back to the front as well. Therefore, in Samosir the back ridge point is higher than the front. In Balige-Porsea region, the front ridge point is conversely higher than the back. However, some people in this region did realize this fact before. As mentioned in the chapter 2, there are significant reasons rather than mere symbolical reason so that the front ridge point is higher than the back.

Furthermore, the carpenters described that during construction, there are some feast ceremonies that invite all the family members related to their genealogy and villagers (dongan sahuta). The first feast ceremony is held after laying a first stone as base ground of jabu bona post. Number of feast ceremonies depends upon the economic ability of owners. Commonly, there are three or four times feast ceremonies during construction up to occupying the houses. In addition, the carpenters admitted that recently the people have a little interest to construct the Toba Batak house style, because either construction material or feast ceremony cost is expensive. They preferred to construct the modern or brick structure house as often occurrence particularly in Balige-Porsea region.

![Fig.4-11. Construction process of Toba Batak house](image-url)
Chapter 4. Analysis of the present spatial arrangement and its changes

4.1.3. Inner Space

4.1.3.1. Size

Older sources informed that the chief hamlet's house (*Jabu bolon*) was commonly bigger than the villager's house. According to informants in each village, some houses of case study for instance A1, B1, C2, D2, E4, F3, and H2 are former chief village houses in each village. If it is compared to other samples in the same village, the *Jabu bolon* house size is seemingly bigger that others as shown in table 4.1., particularly the Sitio hamlet. According to the villagers, the *Jabu bolon* is F3, however, the first house in this village that was constructed is F4 meaning that the former chief hamlet house was F4; therefore, the size of F4 is slightly larger than F3.

The chief hamlet (*tungga ni huta*) had a big opportunity to reach high economic status in the hamlet. At the present day, it has just being a memory due to the change of the leadership system in the village (Indonesia government system), therefore, *tungga ni huta* has no longer power and chance to reach the highest economic has decreased. Nowadays, even though the front houses which assumed are *Jabu bolon*, it no longer means that its houses are the largest in the hamlet. As mentioned before, most of the Toba Batak has extended their house to the back which its size has been influenced by the household economic status of the present owners or residents. Even though, it is difficult to prove this correlation due to sometimes the house is not belongs to personal or the oldest son. It used to belong to whole male descendants, thus, despite of the resident at the present is merely a farmer but their male descendants who live in other cities have succeeded to increase their economic status for instance case study A2. One of the descendants is former Regent of North Tapanuli (Toba Samosir regency is came apart of this regency). The house now is the biggest in Huta urat hamlet in Sianjur Mula-mula. Such this case, also seemingly occurs for other case study; however, to know deeply the correlation, is has to gather the family member data such as the male descendant data. Since there is no enough data for this study to show the strong correlation between the household economic statuses of the owners or residents and the house size particularly the backhouse size except the data below.
Chapter 4. Analysis of the present spatial arrangement and its changes

Table 4.1. The economic activity data and number floor area (2002)

<table>
<thead>
<tr>
<th>Hamlet</th>
<th>Sample Number</th>
<th>Number of household</th>
<th>Economic Activity</th>
<th>Floor area (m²)</th>
<th>Fronthouse</th>
<th>Backhouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sianjur Mul'a-Mula</td>
<td>A1</td>
<td>3</td>
<td>Farmer</td>
<td>39.90</td>
<td>32.54</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A2</td>
<td>4</td>
<td>Farmer</td>
<td>34.99</td>
<td>123.45 (2 stories)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A3</td>
<td>2</td>
<td>Farmer</td>
<td>36.76</td>
<td>21.07</td>
<td></td>
</tr>
<tr>
<td>Lumban Sakaian</td>
<td>B1</td>
<td>4</td>
<td>Farmer and weaver</td>
<td>43.24</td>
<td>14.30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B2</td>
<td>3</td>
<td>Farmer and weaver</td>
<td>36.95</td>
<td>37.55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B3</td>
<td>2</td>
<td>Farmer and Weaver</td>
<td>33.16</td>
<td>10.61</td>
<td></td>
</tr>
<tr>
<td>Sialanguan</td>
<td>C1</td>
<td>8</td>
<td>Farmer and Merchant</td>
<td>36.04</td>
<td>18.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C2</td>
<td>6</td>
<td>Farmer</td>
<td>44.81</td>
<td>25.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>5</td>
<td>Farmer</td>
<td>35.88</td>
<td>11.21</td>
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</tr>
<tr>
<td>Sidolon-dolon</td>
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<td>2</td>
<td>Farmer</td>
<td>32.76</td>
<td>36.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td>2</td>
<td>Farmer</td>
<td>39.00</td>
<td>18.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td>2</td>
<td>Farmer</td>
<td>31.94</td>
<td>17.29</td>
<td></td>
</tr>
<tr>
<td>Lumban Sihaloho</td>
<td>E1</td>
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<td>Farmer</td>
<td>29.98</td>
<td>14.60</td>
<td></td>
</tr>
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<td></td>
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<td>37.26</td>
<td>29.21</td>
<td></td>
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<td>15.65</td>
<td></td>
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<tr>
<td>Sitio</td>
<td>F1</td>
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</tr>
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<td>Farmer</td>
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<td>38.57</td>
<td></td>
</tr>
<tr>
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<td>Farmer</td>
<td>34.56</td>
<td>17.31</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F4</td>
<td>4</td>
<td>Farmer</td>
<td>35.85</td>
<td>28.73</td>
<td></td>
</tr>
<tr>
<td>Sinapuran</td>
<td>G1</td>
<td>8</td>
<td>Farmer</td>
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<td>32.25</td>
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<td></td>
<td>G2</td>
<td>3</td>
<td>Farmer</td>
<td>34.40</td>
<td>30.66</td>
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<tr>
<td></td>
<td>G3</td>
<td>5</td>
<td>Farmer</td>
<td>35.33</td>
<td>41.36</td>
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<tr>
<td>Lumban Nabolon</td>
<td>H1</td>
<td>4</td>
<td>Farmer</td>
<td>44.62</td>
<td>7.20</td>
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<tr>
<td></td>
<td>H2</td>
<td>5</td>
<td>Farmer</td>
<td>105.57</td>
<td>60.87</td>
<td></td>
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<tr>
<td></td>
<td>H3</td>
<td>3</td>
<td>Teacher (assignment)</td>
<td>57.49</td>
<td>74.57</td>
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</tr>
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<td>Hutagaol</td>
<td>J1</td>
<td>4</td>
<td>Farmer</td>
<td>47.5</td>
<td>23.63</td>
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<td>J2</td>
<td>10</td>
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<td>43.34</td>
<td>98.26</td>
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<td>Matio</td>
<td>J1</td>
<td>3</td>
<td>Farmer</td>
<td>26.44</td>
<td>27.32</td>
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<td>J2</td>
<td>1</td>
<td>Farmer</td>
<td>26.30</td>
<td>36.55</td>
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</table>

Fig. 4-12. The total floor area of houses

The total floor area of houses (m²)

- 50m²-75m²: 67%
- 75m²-100m²: 7%
- up to 50m²: 13%
- over 100 m²: 13%
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4.1.3.2. Doors, Windows and Circulation path

Mostly, the houses have some entryways at the front and the back; even so in some cases it has more than three entryways. The side or back doors are preferred to use by the residents after returning from field or church. The front door is opened when the residents in relax and welcome to the guest or neighbors visit their houses particularly on Sunday after returning from church.

Windows are in either the side wall or the front wall of houses with intention that through it the sunshine lights the house. It slightly has changed the image of the Toba Batak house in past time with its dark and stuffy as illustrated in figure 4-13.

The side doors of back houses are mostly located in left side of houses (for resident’s point of view is right side) which may have been reasoned by either spatial rule arrangement or cosmological order. Based on the interviewing of the inhabitants, the owners, and the old people, the Toba Batak people still belief that the right side is more sacred than the left side so that the human space should have been entered from this side. On the contrary of this order, the entrance for animal space (under floor space) is also located at the left side (Fig. 4-14). The reason for positioning the side door of extended house at the left side seems not to be caused by cosmological order, but rather to the spatial rule arrangement which the residents still believed that jabu bona as the most honorable space. During the ceremonies such as wedding and funeral, the seating
Chapter 4. Analysis of the present spatial arrangement and its changes

arrangement as mentioned in chapter 3 is still maintained by making adjustment with the interior condition. Hence, the preferred door connecting the front house to the extended houses located at jabu soding (left back side) or at space between jabu bona and jabu soding located the in the middle of back wall of the front.

![Image showing spatial arrangement of Toba Batak dwelling](image)

Fig. 4-14. The entryways of the front houses

Nevertheless, the back house doorway mostly is positioned at the right side and the circulation path from front house still pass through the jabu soding or space between jabu soding and jabu bona, as shown in figure 4-14 and 4-15. In fact, all side doors of samples in Samosir are located in either the left side or back side of house.
The circulation path and doorway of case study can be summarized that the present Toba Batak dwelling have some entryways grouped according to its number starting from two entryways, three entryways and more than three entryways.

The connection door between front house and back house is often by demolishing the back wall structure of the front house. There are no longer houses that only have single doorway like the previous. The variation of each group is illustrated in the next illustration.
b. Based on the roof space of the front houses

Referring to figure 4.20., the pattern of roof floor space is essentially differentiated into five types as follows:

a. Partial roof floor (para-para, r1 and r2) located at the front and the back side and balcony (bonggar, b). This type commonly appears in the ruma type in Balige - Porsea area

b. A large rooms and has no balcony so that there is no access view to the central open space to the village. This type appears in the closed sopo type

c. The front floor (para-para pudi) and balcony. This type commonly appears in ruma type in Samosir.

d. Narrow front roof floor (para-para pudi) located at the front without balcony. Likewise the sopo type, there is no access view to the central open space of the village. The narrow space merely functions as the storage space where the valued thing is kept. This type particularly appears at the angkola type.
4.2.5. The change of entryway

At the present day, the trap door is rarely found at the present houses. Even though, three house, which remained in Lumban Nabolon hamlet, two of them still used trap door (H1, H2). Most of the present house has changed the trap door into the plain door fitted at the new wall just behind the front wall. The entryway is still from underneath of the houses. Recently, the entryway of the houses have changed; firstly from the underneath into from the front wall, as the result, the house floor plan is larger than previously as shown in figure 4-41.

Fig. 4-39. The trap door, case study H1 and H2
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Fig. 4-40. The front door fitted at the new wall just behind the front wall
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D1, The ladder has moved to the front wall, which enlarged the total floor area of front house

Fig. 4-41. The ladder positioned at the front wall of the house
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4.2.7. Spatial and Structure relationship between the front house and the back house

There are various ways to join between the front house and the back house. Some people preferred to demolish some parts of back wall structure by making a narrow space at the back wall structure between backboard (parhongkom jolo) and upper backboard (tombonan jolo) as shown in figure 4-42a. Other people preferred to demolish the back wall structure of the front house completely and then construct a new wall structure or leave it opened as illustrated in figure 4-43 b and c.

Fig. 4-42. The various spatial and structure relationship between the back house and the front house
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4.3. The Spatial Change Summary

According to analysis mentioned previously, the change spatial arrangement analysis is caused by some factors such as the leadership authority from huta into kampung. The western education and life style has influences the original custom which initially introduced by the missionaries and Dutch during occupying Indonesia. The shifted leadership that had combined some hutas into one leadership authority influenced the natural environment of the huta, gradually the huta is more openness than the previous. Moreover, new building technology is developed specifically concrete structure as occurring in other part of Indonesia. The infrastructure such as road and sanitary environment has been improved so that the adoption of new material is affordable. The over exploitation of forest has causes the vegetative material such as timber, rattan, palm fiber is no longer enough available so that nowadays, the price is more expensive than the manufactured material such as brick, iron corrugated sheet, and plywood. Besides, the durability of the vegetative material less than the manufactured material, therefore the family who has increase the economic ability prefer to built the brick house. It also seems that the household economic status has corresponding with the size and development of the house, however it needs the complete data of the male descendants to examine it.

Thus, the spatial change of the case study from the past condition up to present is summarized as follows:

4.3.1. The ruma type (in Samosir and Balige)

(i) The fireplace (kitchen) has been moved to the back house (case study H2,C1,D3, which still maintain the pile built house type of timber structure and vegetative material but the structural system is simpler than the front). Other case study, the fireplace set up altogether since the first house construction.

(ii) The window has been fitted either at the side or front wall (case study H1,H2), the trap door has been changed into plain door which was fitted in the new wall (behind the front wall) and roof material into earthen tile or iron corrugated sheet (mid 20th century, case study B1-B3,C1-C3,D1-D3, E1-E4,F1-F4,G1-G3, H3, I1, I2).
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(iii) The partition has been added either in the front house or the back house; temporary partition and permanent partition (mid 20th century, case study A1,B1-B3,C1-C3, D1-D3,E1-E4,F1-F4,G1-G3,H1-H3,I1,I2).

(iv) The ceiling has been added throughout the front house (case study A1, D1, D3, E2). The houses have been color-painted by the owner. (late 20th century, case study A2,D1,G2)

(v) The approach to the house has been changed from the underneath into the front wall (late 20th century, case study D1).

(vi) The back house of timber structure has been replaced by land based house type of timber structure (late 20th century, case study A1,H2,H3). Other case has changed into the land based house type of brick structure (one or two storey). In addition, the back houses functions as real house with some private rooms, kitchen and bathroom, so the back house is no longer merely as service room of the front house (late 20th century, case study I2)

4.3.2. The converted or closed sopo type

(i) The wall structure has been added altogether with construction the kitchen, a private room at the back house (mid 20th century, case study J2)

(ii) The back house of timber structure has been replaced by land based house type of brick structure altogether with setting up some private rooms, kitchen and bathroom (early 21st century, case study J1).

4.3.3. The angkola type

(i) Previously, the houses were ruma type. In mid 20th the ruma type had been demolished. Since, to construct the same type will take a high cost, therefore, the people had constructed their house likewise the angkola type. This type was constructed by the pile built house type of timber structure, with fitting windows in, set up the kitchen at the back side, however it still maintains the pile built of timber structure (case study A3).

(ii) Replacing timber ladders by concrete plinth, adding the partitions where create some private rooms, and then coloring the houses (late 20th century, case study A2, A3)
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(iii) The back house of timber structure has been replaced by land based house type of brick structure whether one story or two stories. In this case there are two stories, with some private rooms, bathroom and kitchen (early 21 century, case study A2).

Fig. 4-43. The structural system of the present Toba Batak houses
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According to Fig. 4-43, there are various structural systems of the present Toba Batak house as well as the front house and the back house apparently showing the tendency of the change. Case study H1 still maintain the basic structure, however, most of case study has been developed to the back side as the pile built house type of timber structure. The case study J2 and J3, which the back house as the land based house type made of brick structure, is the structural system occurring in late 20th century. Recently, due to need on more space and limitation of land site in hamlet, the people has developed their house into two stories as appeared in case study A2.
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4.2.1. Replacing of the position of toilet and fireplace

Case study C1 and I2 have provided evidence where formerly the toilet was positioned close to the fireplace. This change seems initially happening since the western contact period in 1833. During the era of Dutch domination, colonial administrators demolished many traditional dwellings in Mangarai, Minagkabau, and Karo Batak because of concerns about unhealthy conditions (Waterson 1990 36-8). Gradually, it affected the concept of space from the Toba Batak themselves. Afterwards, the Indonesia government has established the housing policy for example in 1970’s, the public toilet had been provided nearby the hamlet. It can be seen in Sianjur Mula-mula (A), Sialanguan (C), and Lumban Nabolon (H). At the present time, most of the people particularly for the wealthy family prefer to provide the fire place and toilet located at the back house,

![Fig. 4-34. The former toilet](image)

Nowadays, the remaining of toilet, which is indicated by hole, is unused and often functions as the hole to trash the rubbish to the ground. Other cases which built in the mid of 20th century, have placed toilet and fireplace at the back house since the beginning of house construction.

4.2.2. The change of the roof material

With unknown date, nowadays all houses chosen as case study has used iron corrugated sheet to roof their house. As Boer (1920) explained the roof material of the houses formerly used palm fiber (ijuk), additionally he mentioned that the less wealthy people have roofed their house by rice palm (durame) or grass (ri). The change was occurring in his investigation particularly for the houses located nearby the big road.
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In Samosir island, there was small industry producing the earthen tile as to 1970's. Therefore, some houses has used earthen tile as roof material that is still remained up to the present (case study D2, E1, and G1). Nowadays, the roof material is made of grass or rice palm, however is hardly found. The people prefer to use iron corrugated sheet than earthen tile. Due to the change of the roof cover material, it affected slightly change in roof shape, for instance from the frontage, the slope of roof shape is not curve but has fold at the eaves. This is particularly happening in Samosir and Sinajur Mula-mula, however in Balige-Porsea area, the roof shape is still maintained like the previous, event though it has used the iron corrugated sheet.

Fig. 4-35. The iron corrugated sheet as the roof material of present Toba Batak house

Fig. 4-36. Earthen tile as the roof material of houses in Samosir as to 1970's

4.2.3. The inclusion of partitions

According to Cunningham (1958:p.), the partition has been established during his investigation. Due to the need for the private rooms increased, as modern life style, some kind of partitions as mentioned previously have been fitted to enclose the spaces in order to make the private room. More over, the Dutch government had introduced the European construction technique. The partition part is tied by the nail Later the technology in housing construction has been developed by the Indonesia Government. In the mid 20th century, manufactured materials are affordable i.e. plywood so that mostly the permanent partition has used plywood. Nowadays, most of the houses have some private rooms as bed rooms separated by the partition.
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4.2.4. The inclusion of ceiling

According to interview with the owners, there are two main reasons for inclusion of ceiling in interior. The first reason is to have a big storage room to keep their crop. Due to the sopó in hamlet was disappeared, so that the place to keep the cultivation crop was moved into house. However, there was no precisely information when the sopó was disappeared. The second reason is to gain more private room, the interior of houses more gorgeous likewise the modern houses style and to make the room warmer when the rain season comes.
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Fig. 4-38. House with inclusion of the ceiling
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e. A large room and balcony. This type particularly appears in the ruma type in Samosir and Sianjur Mula-Mula where has added ceiling above the raised floor space as high as the front roof floor (para-para pudi).

Type d and e are assumed as the new roof floor type.

![Diagram showing spatial arrangements](image)

Fig.4.26. The spatial pattern based on roof floor

c. Based on the back house

Some private rooms have been arranged at the back house included kitchen, dining and toilet. Case study has partially provided the toilet at the back house, others use the public toilet nearby the village. The people in Samosir island used to go to the lake for cleaning or washing.

Based on the figure 4-27, it seems that the fireplace (tungku, signing as the red color in the figure) is on the left side positioning in the diagonal side of jabu bona meaning that furthest distance from the jabu bona.
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Fig. 4-27 The pattern of the back house

The pattern of both front house and back house as illustrated in figure 4-28, in general, the linear type has been applied for spatial pattern of present Toba Batak dwelling. This pattern represents houses with narrow frontages whereby the entrance of the houses located at the shortest side of rectangular form. As a result, one has to pass one room to reach the next. On the other hand, based on the orientation, it has been applied the radial type.
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On the other hand, based on the orientation, it has been applied the radial type, where represents rooms or spaces that are accessed from space designated as distribution points, for instance the multi purposed room.

Fig. 4.28. Spatial Pattern Analysis

○ Room
● Passage
⊕ External space
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4.3.2. **Spatial Arrangement in hamlet**

All building of villages (A-J) orients to the central open space, as the public space in the village. Case study D has two layers houses on the left side of the hamlet separated by the narrow space. This hamlet comprises of the 24 house as the largest number of houses in a hamlet in the field work.
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Fig. 4-29. The spatial arrangement of hamlets (A-J)
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Size of the central open space is depending on authority of the hamlet in the past, case study D is the largest central open in the field work which it was as the mother huta. But the central open space in this hamlet has been functioned as road to access other hamlet. Likewise D, the central open space of case study J has also changed into road.

As shown in figure 4.29, the orientations of the houses are slightly to either to the west or the east. The hamlets gates are located in northern and southern part of the hamlet. But the present day, the earthen wall which overgrown by the bamboo thicket has almost disappeared, as the result, the border and the gate of the hamlet is obscure. The hamlet can be accessed from each direction. Only case study E is still maintained the earthen wall which has only one gate.

Based on the interview results, the houses face to the Pusuk Buhit, the holy mountain for the Toba Batak situated in the western part of the Toba Batak region. In fact, the orientation of the village chief house of case study, except A, D and J, face to west where the holy mountain is situated. While, others face to east where has no point out to the certain direction or place. Therefore, it is concluded that there is no specific direction of the present Toba Batak houses.

Referring to circulation analysis, the present houses have more than one entryway. The back houses have entryway which is located either at the side of the back side of the house. The narrow spaces between the houses become the circulation path. Due to the back houses have been developed up to the hamlet border, most of the hamlets have no kitchen garden at the back. The cattle rise is no longer placed at the under floor space, it has been moved either to the behind or side of the house which close to the hamlet border.

4.1.4 Seating Arrangement during the important events
4.1.4.1. Wedding ceremony

As the questionnaire result, there is various seating arrangement during the wedding ceremony. The present wedding ceremonies are held by combination of their new religion, Christian and their original custom. The ceremonies firstly is held in church to get blessing from the God, then followed by the party in the village.

The seating arrangement depends on the present spatial arrangement of the houses, as shown in the next figure.
Fig. 4-30. The various seating arrangement of the participants during the wedding ceremony

Basically, the owners have adjusted the seating arrangement of participants during the wedding ceremony. Usually the position of the groom and bride is on the right side the house, precisely between master of the house or dongan sabutuhu of bride and dongan sabutuhu of bride and dongan sabutuhu of groom as illustrated as the next figure.
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Fig.4-31. Seating arrangement of participants during the wedding ceremony in the present house

4.1.6.2. Funeral

The coffin of the Batak who just died no longer put in the songkor (back loft), is directly buried after the funeral ceremony. It seems that has changed since the people converted into Christian. According the interview with the inhabitants, usually after the funeral in house, the coffin brings to the Church before it buried. Likewise the wedding ceremony, the owners has adjusted the seating arrangement of participants during funeral due to the change of interior of their house. The participants seat at the multi purpose room as shown in figure 4-32.
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Fig. 4-32. The various seating arrangement of participants during funeral

The seating arrangement of participants during the funeral of the present houses is depending on the changes in interior, nevertheless, the coffin is usually placed on the right side of houses between either the widower or male descendant and either the boru or the dongan sabutuha as shown in figure 4-33.
4.2. The Spatial Change Analysis

As the table 2.7., most of the samples have been renovated by the owner or family members. The further detail on renovation which gathered by interviewing the owner, residents and villagers is obtained in the next table. There are some difficulties to find the past condition of the houses as a result of the former residents or the owners have moved to the other cities. Sometimes, the neighbors helped to inform the situation of the house in the past.
Table 4.2. The information on renovation of houses

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Year of Renovation</th>
<th>Renovated parts</th>
<th>Number of descendants has been occupying the house</th>
<th>Addition information</th>
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<td>A1</td>
<td>1970</td>
<td>Roof cover material (iron corrugated sheet), the timber floor, the kitchen at the back</td>
<td>4 generations</td>
<td>Only one the ruma type remain in this hamlet</td>
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<tr>
<td>1980</td>
<td>The pile built timber structure of back house → land based timber structure, Partitions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>Ceilings, color and bathroom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>1945</td>
<td><em>ruma</em> type → <em>angkola</em> type</td>
<td>4 generations</td>
<td>the backhouse firstly as the pile built timber structure</td>
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<tr>
<td>1970</td>
<td>Timber ladder → concrete plinth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>Coloring the house Backhouse → two storey brick house structure</td>
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<tr>
<td>A3</td>
<td>Unknown date</td>
<td>Timber ladder → concrete plinth Coloring the house</td>
<td>3 generations</td>
<td>Re-construction of the <em>ruma</em> type</td>
</tr>
<tr>
<td>B1</td>
<td>1965</td>
<td>Roof cover material (iron corrugated sheet) Partitions</td>
<td>4 generations</td>
<td>the back house built altogether with the front house</td>
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<tr>
<td>1998</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>B2</td>
<td>1962</td>
<td>Rebuilt, after burning Some private rooms at the back house and partitions at the front house</td>
<td>3 generations</td>
<td>the back house built altogether with the front house</td>
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<td>c. 1990</td>
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<tr>
<td>B3</td>
<td>c. 1970</td>
<td>Kitchen at the back houses, roof cover material (iron corrugated sheet), partitions Coloring the interior and exterior (partly)</td>
<td>3 generations</td>
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<td>1998</td>
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<td>C1</td>
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<td>Toilet and fireplace at the back Roof cover material (iron corrugated sheet) Addition the partition (permanently)</td>
<td>4 generations</td>
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<td>C3</td>
<td>Unknown date</td>
<td>Roof cover material (iron corrugated sheet), Partition</td>
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</tr>
<tr>
<td>1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>c. 1970</td>
<td>Roof cover material (iron corrugated sheet), partitions at the back house Ceiling, the position of the ladder and coloring the house</td>
<td>4 generations</td>
<td>the back house built altogether with the front house</td>
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<td>1998</td>
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</tr>
<tr>
<td>D2</td>
<td>1956</td>
<td>Roof cover material (iron corrugated sheet), partitions at the front house Coloring interior of the house</td>
<td>4 generations</td>
<td>the back house built altogether with the front house</td>
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<td>Unknown date</td>
<td></td>
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<tr>
<td>D3</td>
<td>1953</td>
<td>Bask house Roof cover material (earthen tile), partitions at the front house Roof cover material (iron corrugated sheet), ceiling</td>
<td>4 generations</td>
<td>-</td>
</tr>
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<td>Unknown date</td>
<td></td>
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<td></td>
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</tr>
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<td>1980's</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>1972</td>
<td>back house, roof cover material (earthen tile)</td>
<td>3 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td>1990</td>
<td>Roof cover material (iron corrugated sheet), and partitions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td>1954</td>
<td>Back house, roof cover material (iron corrugated sheet)</td>
<td>2 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
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### Chapter 4. Analysis of the present spatial arrangement and its changes

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<th>Description</th>
<th>Generations</th>
<th>Notes</th>
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<tr>
<td>E3</td>
<td>1965</td>
<td>Developed back house, partitions and painting the house</td>
<td>3 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td>E4</td>
<td>1940</td>
<td>Back house, roof cover material (iron corrugated sheet)</td>
<td>4 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1962</td>
<td>partitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1975</td>
<td>bath room, partitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1</td>
<td>Unknown date</td>
<td>Back house, roof material (iron corrugated sheet)</td>
<td>2 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td></td>
<td>1997</td>
<td>Bath room, partitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2</td>
<td>c. 1990</td>
<td>Back house with some private rooms</td>
<td>2 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td>F3</td>
<td>c. 1990</td>
<td>Back house with private bath room and coloring the house</td>
<td>3 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td>F4</td>
<td>c. 1950</td>
<td>Back house, roof material (iron corrugated sheet)</td>
<td>4 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>Paritions and coloring the house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G1</td>
<td>1965</td>
<td>Back house, roof material (earthen tile)</td>
<td>4 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown date</td>
<td>roof cover (iron corrugated sheet)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G2</td>
<td>1940</td>
<td>Back house, roof cover (iron corrugated sheet)</td>
<td>4 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1975</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G3</td>
<td>Unknown date</td>
<td>roof material (iron corrugated sheet)</td>
<td>3 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td></td>
<td>c. 1990</td>
<td>Back house with private room and partitions at the front house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>Unknown date</td>
<td>Back house, roof cover (iron corrugated sheet)</td>
<td>5 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. 1990</td>
<td>partitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td>Unknown date</td>
<td>Back house, roof material (iron corrugated sheet)</td>
<td>5 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1987</td>
<td>Back house; Land based timber structure and partitions at the front house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td>Unknown date</td>
<td>Back house, roof material (iron corrugated sheet)</td>
<td>4 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. 1970</td>
<td>Develop the back into land based timber building for the back house and partitions at the front house</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1990’s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I1</td>
<td>c. 1970</td>
<td>roof material (iron corrugated sheet)</td>
<td>3 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td>I2</td>
<td>Unknown date</td>
<td>Toilet and fireplace to the back house, roof material (iron corrugated sheet)</td>
<td>3 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td></td>
<td>c. 1970</td>
<td>back house: brick structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1998</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J1</td>
<td>Unknown date</td>
<td>Wall structure</td>
<td>4 generations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1959</td>
<td>Back house, roof material (iron corrugated sheet),Develop the back house</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J2</td>
<td>Unknown date</td>
<td>Wall structure</td>
<td>2 generations</td>
<td>the back house built altogether with the front house</td>
</tr>
<tr>
<td></td>
<td>Unknown date</td>
<td>Back house with some private room</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the table above, the back house has become part of the Toba Batak house style since as to 1940’s. At the time, most of the Batak house does no longer comprise of the single rectangular form. Then, the changes are categorized as follows:
Chapter 5. Comparative Analysis

Chapter 5

COMPARATIVE ANALYSIS

The comparative analysis on spatial arrangement of Toba Batak dwelling from the late 18 century, based on the concept of space as mentioned in the earlier chapter, is that of the physic or the concrete of space as well as in two and three dimensional form, horizontal and vertical, proportion and direction and the way we experience the space that give us on the idea and perception of space developed as functional and purposive intention. In other words, the points to compare the spatial arrangement of Toba Batak dwelling in this study are categorized as follows:

- Firstly, the physical appearance in two or three dimensional form.
- Secondly, the functional or purposive intention.
- Thirdly, the perception of space as we experience it as well as internal space and external space, then relationship between them.

5.1. The physical appearance

According to the literature study on the spatial arrangement of Toba Batak dwelling obtained in chapter 3, the physical appearance of spatial arrangement in late 18 century is summarized as follows:

- Single rectangular form enclosed by four main posts. There was hierarchy for the four posts where the right back corner post is the most honorable posts or point. This rectangular form in horizontal plane having two main axes, which is divided the rectangular form into four parts symmetrically. These four parts is resided by the family member related the kinship system, called Dalihan Natolu (Fig.3-6).
- In vertical plane or three dimensional spatial form, the house spatial form was divided into three parts: lower, middle and upper spatial form. The middle spatial form has the shaped of a bowl shaped like a cut four sided pyramid set on its heads. Overall the middle and the upper spatial seemingly appear as an equilateral triangle sitting trapezium. The lower spatial form essentially applied the rectangular form. Overall, it is combination of rectangular spatial form and triangular form.
The present house form is summarized as follows:

- The forms are apparently dominated by rectangular form either single or with combination particularly at the back. In horizontal plane view, the spatial form is basically rectangular form which comprises of two zones, positioned at the front and the back, the so called, the front and the back spatial form. The front spatial form is assumed as the basic spatial form of Toba Batak dwelling. When the back spatial form comprise of single rectangular form, it tends to continue the vertical axes of the front spatial form. In some cases, when the back rectangular forms comprise of with combined rectangular forms, it layouts overlapping each other and forms new axes.
Chapter 5. Comparative Analysis

- In vertical plane or three dimensional form views, the front form, which is similar to the former, is divided into three parts as well. Some houses is still maintain the tripartite form at the back house, while others have neglected it as the family economic status arisen (Fig. 4-8 and 4-9)

- According to data analysis, the front forms in that of its sizes are bigger than the back form at the beginning. The back house size is gradually being similar and bigger than the front house by the area of the house. Overall the front house are still predominant in that of its position and its form (Fig. 4-42)

The comparative changes of physical appearance of Toba Batak dwelling from late 18th century up to present are summarized as follows:

a. Two dimensional form

---

The two axes of the front spatial form

0.5 a

Continuing axes of the front spatial form

0.5 - 0.8 a

New axes of the back spatial form

0.5 - 0.8 a

Boer, 1920

Fieldwork 2002-2003

Fig. 5-2. Comparative analysis of two dimensional spatial forms from Boer up to present

---
Chapter 5. Comparative Analysis

b. Three dimensional form

Fig. 5.3. Comparative analysis of three dimensional forms from Boer up to the present

5.2. The function or the purposive intention

Toba Batak house was basically aimed to multi family who has relationship in kinship system. One who is the owner as well as the leader occupied the most honorable space, jabu bona. Other members occupied other parts ordering by the rule in their spatial arrangement as mentioned before. This division was merely bordered by mat lying down on the raised floor. Each family conducted their daily activities at their space, this is place for living, sitting, eating, and sleeping, in other words, it was the multi purposed space. All spaces oriented to the fireplace which was being the central place and the public space. Not far from that place, there were two holes functioned as toilet, however it was supposed to use at night.

In vertical plane, the house was divided into three plane, the under floor, the raised floor and attic which having particular purposed. The under floor is purposed for the animal or cattle raising and the raised space is for the human being. Then, the attic is purposed for storing the heritages thing or valued things. The harvest and cultivation crop were kept in other building located opposite to the house.
Additionally, the house was functioned as fortress as well. Prior to freeing the slaves era, the Toba Batak used to involve in war. Therefore, this house was arranged by the limited window, trap door and tint wall (wall having slope).

Nowadays, due to the change in built environment, politic, and penetration modern life style, all of the Toba batak house is categorized as single house where occupied by single or one nuclear family. Regarding to the data which collected from 30 houses as case study, trap doors have changed into plain door, commonly fitted at the new wall constructed just behind the front wall. Windows have added at the front and the side wall. At the back side has developed as extended house, functioned as kitchen place. Toilet has been moved to the back side. Roof material has changed into iron corrugated sheet. The connection to the extended house is often by deconstruction of the back wall structure of the front house.

The further changes has recently occurred that is addition the partitions where enclose the new space as private spaces. The ceiling and color has added. Moreover, the back house has developed into new brick structure building so that the spatial division in vertical plane no longer applied. The comparative changes are summarized as shown in the next figures.

**a. spatial pattern**

![Spatial pattern diagram](image)

Multi family

Marsden(1788),
Boer(1920),
Loeb(1035)

Single or one nuclear family

Fieldwork 2002-2003

Fig. 5-4. Spatial pattern from late 18th century up to the present
Chapter 5. Comparative Analysis

b. The usage in vertical plane

Fig. 5.5. The spatial usage of the house in vertical plane.
Sketch on this spatial usage initially given by Yoshida, but older sources such as Marsden, Boer, and Loeb explained this in their reports.

Fig. 5.6. Spatial usage of the present houses in vertical plane
Chapter 5. Comparative Analysis

c. The Circulation path

Fig. 5.7. The circulation path of houses from the description of Marsden, Boer, and Loeb

Fig. 5-8. The circulation type of the present houses
Chapter 5. Comparative Analysis

d. Seating arrangement during the important ceremonies

![Diagram of seating arrangement]

Fig. 5.9. Seating arrangement at wedding and funeral ceremony in house from Boer’s explanation

![Diagram of seating arrangement for wedding and funeral]

Fig. 5.10. Seating arrangement during the important ceremonies in the present house
Chapter 5. Comparative Analysis

5.3. The visual perception of space

The appearance of the internal and external space can be summarized by looking some picture in the following pages.

Interior:

Loeb describe the perception of the Toba Batak house from the foreigner’s sight as follows:

'No matter what the Batak building one sees one obtains a feeling of repugnance. The houses are all equally unclean. Soot covers the wall ceiling, the corners are full of cobwebs, the walls are smeared with chalk, and the floor is covered with sirih chews and chicken excrement. The house is like caves into which the openings in the walls scarcely admit a ray of light. When the house filled with the smoke one asks oneself how human beings can live in them, It is almost impossible for human being to spend a night in one of them, for centipedes and scorpions wander about freely, ants built their runways and make their way across the natives, crock aches fly around unmolested, and lice lurk over all. One really cannot sleep in such a house. The Batak themselves are accustomed to their environment.

Based on the above description and observation of the open air Simanindo Museum in Samosir Island, the ambience of interior at the time is illustrated in the next figures.
Chapter 5. Comparative Analysis

Fig. 5-11 Ambience of interior of houses in the past
(Simanindo Open Air Museum, Samosir)

Nowadays by looking the next figures, it obviously appears the ambience of interior has changed from the darkness into brightness and from the closeness into openness.
Fig. 5-12. The ambience of interior at the present houses (sample E2)
Fig. 5-13. The ambience of the exterior and interior of present houses (Sample D1)
CONCLUSIONS

This study started with the question of what is the spatial arrangement of the present Toba Batak dwelling and its likely changes from the late 18th century. From the older sources and observation, the change spatial arrangement analysis is caused by some factors such as the leadership authority from *huta* into *kampung*. The western education and life style has influences the original custom which initially introduced by the missionaries and Dutch during sovereignty Indonesia. The shifted leadership that had combined some *huta*-s into one leadership authority had influenced the natural environment of the *huta*. Since the inter-conflict significantly decreased due to the shifting of leadership in region, nowadays, the huta can be set up in any location and gradually more open. Afterwards, new building technology is developed specifically concrete structure as occurring in other part of Indonesia. The infrastructure such as road and sanitary environment has been improved so that the adoption of new material is affordable. The over exploitation of forest has causes the vegetative material such as timber, rattan, palm fiber is no longer enough available so that nowadays, the price is more expensive than the manufactured material such as brick, iron corrugated sheet, and plywood. Besides, the durability of the vegetative material less than the manufactured material, therefore the wealthy families prefers to build the brick house. Overall, it affected the changes in physical of house such as roof structure, wall structure, entryways, addition of partitions and ceiling, thus those appear some changes on the perception of space from the Tobaanse themselves, which is the most important changes during as to two hundred years. In primitive culture where the inter-ethnic conflicts throughout history, for example, contributed to increasingly defensive measures relating to either built form of village or dwelling. Therefore, the Toba Batak house is approached by the trap door, the tint wall (wall which having slope), and lack of windows. Because, the house is not only functioned as shelter, but also as the protection from the enemy who will attack the village. Nowadays, the trap door has almost been vanished. The house has no longer single entryways. Most of the Toba batak house at the present day has more than two entryways. The tint wall particularly at
the back wall has been demolished replacing with the wall without having slope. The present house has been fitted by the window. Overall, the house is more open and bright.

The initial observation of the houses, it has been found the changes. Then, the further observation on 32 houses of ten’s hamlets is profound two tendencies in term of function or usage that are apparently arising. Firstly, the front house is maintained as main house with some changes in spatial arrangement. For instance, formerly, the Toba Batak dwelling consisted of single rectangular form by means that the single large room. It had been purposed for the multi family, who has relationship with their kinship system. The present houses, categorized as single house for one nuclear family. The front and the back house have several private rooms and service rooms. However, the front houses have constantly a large room as public room where are used for family meeting, working area, and ceremonies. Secondly, the front house is still maintained as the previous with some small changes, but the extended house has been further developed so that earlier functioned merely as service area, nowadays have gradually changed as main house where the daily activities conducted. Due to this change, the front house tends having meaningless as a house; it was merely as serving the guests, gathering when ceremonies held and to gain the prestige from other people in their society.

The concept of space of this study are categorized, firstly, the physical appearance in two or three dimensional form. Secondly, the functional or purposive intention. Thirdly, the perception of space as we experience it as well as internal space and external space, then relationship between them. Thus, the comparative analysis of spatial arrangement based on these three items can be summarized as follows:
## Conclusions

<table>
<thead>
<tr>
<th>Concept of space</th>
<th>In late 18 century</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Multi family</td>
<td>One nuclear (single) family</td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td>Single rectangular form</td>
<td>Mainly two rectangular forms</td>
</tr>
<tr>
<td><strong>House form</strong></td>
<td>Tripartite house form, attic floor is on the ground floor, father's house type made of timber</td>
<td>Father-in-law house is on the ground floor, father's house type of brick material</td>
</tr>
<tr>
<td><strong>Pattern and Usage</strong></td>
<td>Single large room where the daily activities conducted, with partial attic floor functioned as storage and human being. The under floor was used for cattle raising</td>
<td>Several rooms with the private rooms. Attic is merely as storage room (in Samosir) Attic floor is used for human being and keeping the valued thing storage (in Balige). The under floor is used for the various purposed.</td>
</tr>
<tr>
<td><strong>Circulation path</strong></td>
<td>The approach is from the underneath by the trap door. One entryway with single circulation path categorized as loop type</td>
<td>The approach of the front house is still underneath by the plain door. The back house is approached from the wall. Two or more entryways with linear or radial circulation path</td>
</tr>
<tr>
<td><strong>Size/Dimension</strong></td>
<td>Vary, the village chief house was the biggest house in hamlet</td>
<td>Vary, the back house size represents the household economic.</td>
</tr>
<tr>
<td><strong>The changes in:</strong></td>
<td>Due the approach was from underneath, there was void for ladder</td>
<td>Yard for ladder omitted, the ladder move to the front wall house (larger) The raised floor with ceiling, so that its scale become shorter</td>
</tr>
<tr>
<td><strong>Ambience</strong></td>
<td>Darkness, closeness, fortress, and unhygienic</td>
<td>More hygienic, bright, and open</td>
</tr>
<tr>
<td></td>
<td>Natural, rich ornamentation, symbolic and magic</td>
<td>Less ornamentation, color painted, and eclectic</td>
</tr>
</tbody>
</table>

Isnen Fitri: A Study on Spatial Arrangement of Toba Batak Dwelling and It's Changes, 2004. USU e-Repository © 2008
Conclusions

The decline of Toba Batak traditional dwelling has occurred within the context of many-faced process of socio cultural and economic change settlements, communities and families. At the most general level, changes in housing form emerged as a consequence of the rise of the market economy. This accompanied by concomitants changes in communication (particularly the advent of roads), new specializations in the functions of the building, the introduction of new material and techniques as well as transformation in work patterns and everyday life at the family and community level. Inevitably, in accordance to this process the Toba Batak house style has been replaced by the new house type.

In general, the pace of such change has been slow particularly in Samosir Island. In modern times, initially started when the western visit this region in 18 century, the displacement of house style with introduced form may occur quite rapidly. This is particularly true in urban areas (Balige and vicinity) or in places that are heavily influenced by government development projects, migration, resettlement schemes, or road networks. Moreover, only some people in Toba Batak region may cling tenaciously to the old designs because they serve both symbolic and functional purpose. While another tent to follow the modern life style with identified with modern house which they built. New houses are the pre-eminent status symbol in rural villages, reflecting conspicuously the rise of competition for the new cultural capital of modernity among the rural households. Although varying in size depending on the incomes of the owners, these houses have common features, they are constructed of brick, with no supporting wooden skeleton, and they are set on the concrete foundations, which serve as the main ground floor. Some private room as bedroom was inserted to acquire the modern life style.

Nowadays, the seating arrangement of participants during the important ceremonies has been adjusted according to the interior of the present houses. However, with some modification, the rule of seating arrangement is still maintained by the people.

Noteworthy that is able to persist Toba Batak traditional dwelling from extinction is the tradition to gather particularly in Christmas day, New Year and important events such as wedding and funeral. In addition, the Toba Batak prefer to bury their body in their homeland.


Conclusions

Even though, they have moved away from the village. During the gathering time, every family member needs a house to stay. It would be a prestige for the Toba Batak people if they have ‘ruma’ which is in good condition, such this ruma is called ‘Pasaktian’, literally means inherited house. Therefore, recently many families which get success in ‘pangarantoan’ built such this ruma, even though it will be resided once in a year, otherwise they would like to ask for their relatives to maintain or reside the house.
Notes

NOTES

Chapter 1
There are some researchers made list of hamlets that left by the inhabitants: Cunningham (1958), Mijil and Tampubolon (1991), and Purba, OHS and Purba Elvis (1997).

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Hamlet</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cunningham (1958)</td>
<td>Sibaringbing, Meat</td>
<td>Balige</td>
</tr>
<tr>
<td>Mijil and Tampubolon</td>
<td>Hutunamora, Lumbanatio</td>
<td>Balige, Sipahutar (North Tapanuli Regency)</td>
</tr>
<tr>
<td></td>
<td>Huta Gurgur</td>
<td></td>
</tr>
</tbody>
</table>

A complete number of ghost huta in Simanindo was given by Purba, see table 2.3.

One of the region in southwest of Sumatra which was initially occupied by British.

A British who traveler to Sumatra, and wrote a paper titled 'An Account of the Island of Sumatra, &c, Philosopical Transactions, LXVIII, 1778, 160-79. In his paper as informed by Marsden as pioneer paper on the Batak of Sumatra.


Name of the first port city located western side of Sumatra which considered as part of Batakland.

The Silindung was formerly as part of Toba Batak land, located in Southwestern side of Toba Lake, nowadays this region is in North Tapanuli Regency.

The House in Southeast Asia, edited by Sparkes Steven et, Nordic Institute of Asia Studies, London.

Alsayyaf, Nezar and Bourdier, Dwelling, Settlements and Tradition, 1989, p.5


Name of ethnic in Java Island, Indonesia

Chapter 2
Loeb, op.cited. p.8
From The Sarasin brothers expound their theory in their books 'Die Weddas von Ceylon und die ungebeden Volkerschaften, Wiesbaden, 1892, cited by Parkin (1978:p.11)
J Keuning, September 1952 issued of the Dutch scholarly journal Indonesia translated by Claire Holt, issue of South Asia Program, Department of Far Eastern Studies, Cornell University, 1958)
A kind of certain soil in Samosir Island (The Toba Samosir Statistic Bureau, 2001)
The corner of ramparts as illustrated in figure.3.20. sketched by Boer, 1918.
Hasibuan 1985 op.cit.23.
The ceremony of manjae is attended with a meal, to which fellow-villagers and relatives from other villages are invited. After the ceremony the married couple form an autonomous family.
A loft above the jaba bona and jaba soding placed on the two row of back posts, in precisely the same manner as 'para-para' (=loft) in front.
Tano sulam is pure earth, which is the symbol of the handfuls of the earth brought to Sideang Parujar to be shape to Middle word.
Notes

20 Sideang Parajar is generally accepted as the daughter of Batara Guru who descended to form the Middle world.
21 a type of ruma which the entrance is from underneath of house and the door located at the second layer wall just behind the front wall.
22 a type of ruma which the entrance at the front wall as the plain house type.
23 a type of ruma which the entrance through the underneath of house precisely located in the middle of the floor just behind the front wall.
24 The brick structure means the land based structural system.

Chapter 3
25 Tobing concluded the meaning of Tunggal Panaluan is the tree of life in a concrete form. A normal staff is about 1.70 metres along, 5 to 6 centimetres thick. From its upper part downward, there is a number of figures representing men and animals, at the top figure usually exceeds the other figures in size, while the lower part, there is a serpent, biting a lizard’s tail.
26 Parkin, 1978, op.cit. p.207
27 By Tichelman’s version, the bindu matoga was used in the mandudu ceremony, which wards off the danger and grings happiness and blessing.
28 Hasibuan (1982: p.189) described the old traditional has wooden stair-case having 5 or 7 steps, 5 steps for the commoner and 7 steps for the nobles and raja’s only.
Reference

REFERENCE

Reference


Reference


53. W.F. W.H. Bijdrage tot de kennis van de stamverwantschap, de inheemse rechtsgemeenschappen en het grondenrecht der Toba- en Dairibataks, uitgegeven door de Adatrechtstichting te Leiden. -- 1932

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2. Regional Development Planning Board of Toba Samosir Regency and The Central Board of Statistics of Tapanuli Utara Regency, *Toba Samosir in Figures* 2001, 2002
QUESTIONNAIRES
LUMBNABOLON
DATA KAMPUNG

(Lingkari jawaban yang sesuai)

A. TOPOGRAPHICAL DATA

1. Jika ada sub huta atau anak kampung dari huta ini silahkan isi form dibawah ini:
   Jumlah sub huta: 9
   Induk huta adalah Lumban Nabolon.

Semua sub-huta berada di sekeliling lumban nabolon.

2. Jika huta ini merupakan sub huta dari huta yang lain silahkan isi form dibawah ini:
   Nama induk huta: Sinapuran
   Lokasi: (buat keterangan lokasi yang rinci)

3. Lingkungan fisik huta:
   - Didalam huta: ada, berupa pagar bamboo disepanjang jalan masuk dari jalan keluar dari kampong.
   - Apakah bangunan yang saling berhadapan berada dalam satu as? Ya.
   Buat sketsa garisnya di siteplan.
   Ukur jarak antar rumah yang saling berhadapan (lebar halaman ditengah huta)
   Check kembali arah/direction dari rumah dengan kompas, ambil salah satu kolom sebagai patok

4. Apabila ada lahan kosong di dalam site kampong, untuk apa gunanya, dan dulu digunakan untuk apa?
   Tidak ada.

5. Beberapa rumah baru yang tidak menggunakan style rumah Batak Toba (rumah tembok), isi data dibawah ini: 5
   Nama Pemilik rumah:  
   - Rumah A (marga Sitorus)
   - Rumah C (marga Sitorus)
   - Rumah D (marga Sitorus)
   - Rumah E (tidak dihuni lagi)
   - Rumah I (marga Siaqian)

   Kapan rumah tembok (baru) ini dibangun: ?

6. Jelaskan posisi pemilik rumah lain yang ada di huta (baik fungsinya di huta juga hubungan kekerabatannya dengan pendiri kampung):
      - Rumah A dihuni dongoan tubu bermarga Sitorus
      - Rumah B Sopo tidak ditempati.
      - Rumah C dihuni dongoan tubu bermarga Sitorus
      - Rumah D, dihuni dongoan tubu bermarga Sitorus
      - Rumah E tidak dihuni
      - Rumah F tidak dihuni
      - Rumah G dihuni hela/menantu (boru) bermarga Sianipar berasal dari Lumban Sianipar, Silac
      - Rumah H dihuni bere(boru) bermarga Manurung dari Lumban Julu
      - Rumah I dihuni hula-hula(tulang) bermarga Siaqian dari Janji Maria, Silac
7. Apakah yang menjadi center atau Pusat huta atau kampung, maksudnya pusat dalam orientasi dan aktivitas.
   Semua aktivitas dan orientasi mengarah ke pusat ini:
   - Halaman dan rumah bolon.

8. Pintu gerbang huta:
   - Sebutkan elemen fisik sebagai penanda gerbang: Bambu

9. Arah atau orientasi huta:
   - Matahari, halaman searah dengan Timur---Barat

B. CULTURAL
1. Kelahiran. (Jika tidak ada skip pertanyaan ini)
   - Jika ada melahirkan, apakah yang dilakukan? Apakah ada upacara?
     Jika ya, apa namanya upacaranya? Melek-melek/mangkaroani

   - Apa yang dilakukan pada saat upacara? Makan dan memberi nama bayi.
   - Siapa saja yang berpartisipasi dalam upacara tersebut?
   - Yang berperan serta dalam acara ini adalah Dalhan natalu dan dongang sahuta.

   - Dimana upacara berlangsung?
     - Di rumah, perihatkan denah rumah sample dan jelaskan dimana posisi keluarga, pengunjung dan bayi saat
     - upacara berlangsung (Sketsa di dalam form denah sampel atau form tambahan).

2. Perkawinan
   - Jika ada upacara perkawinan, apa nama upacaranya dalam istilah lokal?
     - Istilah: Mangadati (pangoli anak untuk mengawinkan anak laki-laki, pamuli boru bagi anak perempuan.
     - Ada tiga tahapan untuk mencapai acara pacak yaitu:
       1. Marhupsip
       2. martumpol
       3. Mangadati (acara puncek) biasanya satu hari
          • Acara Mangadati ini biasanya berlangsung selama satu hari penuh, dan kronologisnya adalah sebagai berikut :
            ➢ Pagi harinya sebelum ke Gereja diadakan acara sarapan bersama (Marsibuhu-buhai), yaitu pihak
            suhut dan hula-hula
            ➢ Setelah acara sarapan bersama (Marsibuhu-buhai) siap kemudian kedua pengantin bersama
            keluarga, baik dari pihak laki-laki, pihak perempuan dan semua undangan (hula-hula, dongan tubu,
            boru, dan undangan lainnya) berangkat ke Gereja untuk mengikuti acara pemberkatan nikah (acara
            pemberkatan nikah di Gereja ini sepenuhnya di bawah / dipimpin oleh pengurus Gereja yaitu
            Pendeta dan penetua gereja).
            ➢ Kemudian dari gereja balik lagi ke kampung untuk melanjutkannya dengan acara adat,
            sesampainya dikumpung dilanjutkan dengan acara makan siang (memberikan ikan mas yang masak
            oleh pihak hula-hula kepada pengantin). Setelah acara makan siang bersama dilanjutkan dengan acara
            manumpak (menyumbang pihak pembuat pesta atau suhut), diteruskan dengan acara inti yaitu
            pembagian jumbar sesuai dengan posisi di adat, mangulosi kedua pengantin (memberi ulos
            adat). Setelah semua acara adat selesai, biasanya ditutup dengan doa dari pengurus Gereja.
- Siapa saja yang berpartisipasi dalam upacara tersebut? Mis. Dalihan Natolu, teman, orang ampong dll
  - Hula-hula, Dongan tubu, Boru, Ale-ale (teman dekat), dan waraga satu kampung.

- Dimana upacara berlangsung?
  - Di kampung. (Sketsa dalam form siteplan).

- Siapa yang memimpin upacara tersebut?
  - Protokol dari dongan tubu atau pengetua kampung

3. Kematian
- Apa yang dilakukan jika ada yang meninggal? Apakah ada upacara? Jika ya, apakah nama upacaranya? (istilah lokal): Namentoing, adatiga jenis:
  - Mate mangkar (apabila yang meninggal masih anak-anak atau remaja, orangtua yang belum ada anaknya yg berkeluarga) biasanya acaranya diadakan dalam satu hari.
  - Mate Saur Matua (jika semua anak sudah berkeluarga) acaranya diadakan ±1 minggu.
  - Mate Sari Matua (jika masih ada anak yang belum berkeluarga) acaranya diadakan ±1 minggu.

- Berapa lama, dan dimana dilakukan? Acara adat penuh dilakukan dalam satu hari.

Di rumah, (sketsa dalam form denah sample A2.1) Di kampung, (Sketsa di dalam form siteplan).

- Jelaskan kronologis upacara berlangsung hingga selesai.

Contoh acara kematian yang Saur Matua
-Martongo raja (membicarakana acara yang akan dibuat, spt mengadakan gondang atau musik) biasanya dilakukan 2-3 hari sebelum penguburan.
-Mengundang hula-hula, dongan tubu, boru, ale-ale dan dongan sabuta, 2 hari sebelum penguburan.
-Acara adat (pada pagi hari memberi ulos adat kepada suami atau istri yang ditinggalkanyang disebut dengan ulos tujing dan kepada yang meninggal ulos saput/sebagai penutup zenah) kegiatan ini berlangsung di rumah.

Ulos untuk keturunan diberikan di halaman rumah.

- Kapan diadakan upacara penggalian dan pengumpulan tulang dari keluarga yang sudah meninggal?

Istilah Ongkalon Holi, biasanya dilakukan Apabila dikubur ditanah minimal 5 tahun setelah meninggal

- Berapa lama upacara berlangsung? Biasanya berlangsung satu hari penuh


- Siapa yang saja yang berpartisipasi dalam upacara ini?

Dalihan natolu, teman dan orang sekampung.
- Dimana upacara ini dilakukan?
Di halaman dan di kuburan.

- Dimana lokasi kuburan dari pendiri dari pemula kampung?
± 50 meter dibelahang sopo (bangunan B)

4. Pendiri Kampung
- Sebutkan nama pendiri kampung: Raja Sitorus
- Rumah yang pertama kali dibangun dikampung: G=H2
  (sebutkan kode bangunan dan sketsa di siteplan)
- Sekarang siapa yang menempati rumah tersebut sekarang? (buat garisbawah untuk pilihan yang sesuai)
  - Keturunannya: sebutkan lebih spesifik, mis.
- Relatives atau masih ada hubungan family: sebutkan secara detail
  Menantu bermarga Sianipar(born) dari Lumban Sianipar, Silaen.
- Pendatang: sebutkan asal kampungnya

- Apakah pendiri kampung selalu menyebutnya rumahnya Jabu Bolon? Ya

- Apakah pendiri kampung dan keturunannya mempunyai peranan khusus dalam komunity kampung pada masa sekarang?. Sebagai pemimpin kampung dan pemimpin upacara ritual di kampung

5. Festival atau Upacara Ritual (Jika tidak ada skip pertanyaan ini) Ada
a. Palas Tangan, sehabis menanam padi setiap tahun, kira-kira bulan tiga.
b. Untuk Keamanan, seara ini berlangsung secara temporal


C. MATERIAL BUDAYA
1. Beberapa produksi local: (per kampung) Tidak Ada.

D. SACRED TOPOGRAPHY
- Apakah terdapat tempat atau ruang paling sakral di kampung ada disekitar kampung? Ada
Namanya Hutan Parambean, disana ada kuburan dan telaga.
Disebut sacral karena dianggap merupakan tempat tinggal habonaron ni huta atau penjaga kampung.
E. ECONOMY
Isi tabel 1, jika aktivitas ekonomi pemiliknya adalah petani, apakah sepanjang tahun dia bertani?
Jika tidak, kapan saja bertani kapan melakukan pekerjaan lain seperti menenun atau berdagang.
Lihat siteplan dan Sebutkan kode bangunannya. Tuliskan dibalik jika form ini atau form table tidak cukup.
-Mis. Bangunan A, bulan Maret s/d Juni bertani, bulan diluar itu menenun atau berdagang. Sebutkan juga spesifik hasil pertanian serta income yang diterima per bulan.
-Berikan padi sepanjang tahun

F. BANGUNAN DAN FASILITAS
1. Rumah
   a. Sebutkan rumah yang paling besar di kampung, dan jelaskan pekerjaan pemiliknya atau saudaranya.
      Rumah G=A2 ditempati marga Sianipar, Petani
   b. Sebutkan rumah yang paling kecil, dan jelaskan pekerjaan pemiliknya atau saudaranya.
      Rumah I, ditempati marga Siagian, Petani
   c. Sebutkan jenis bangunan yang ada di kampung:
      - Jabu, ada
      - Sopo, ada
      - Kandang, tidak ada
2. Fasilitas umum apakah yang terdapat di kampung atau sekitar; (buat garis bawah jawaban yang sesuai dan buat sketsa
letaknya di siteplan)
   - Kamar mandi umum, sekitar 50 meter dari kampung
   - Rumah Ibadah, tidak ada
   - Pasar, tidak ada
   - Kuburan tidak ada.
QUESTIONER SAMPEL BANGUNAN

1. Jelaskan secara rinci setiap fungsi ruang yang ada dan siapa penggunanya. Beberapa ruang mungkin ada yang multifungsi seperti ruang tengah, sebutkan fungsi untuk apa saja, misalnya sebagai ruang makan, ruang tidur, ruang tamu dan ruang pertemuan keluarga dll.


4. Bagian atau ruang manakah didalam rumah yang paling sakral (bernilai religius)?
   Jabu Bona.

5. Bagian atau ruang manakah didalam rumah yang paling profan (umum)?
   Jabu tonga (ruang tengah) karena dapat digunakan untuk fungsi yang beragam

6. Ruang mana yang digunakan untuk menyimpan barang-barang suci atau keramat?
   Songkor (balkon) bagian belakang.

7. Isi table 1, table 1 dan 2 ini sudah berisi beberapa data, tapi harap di re-check lagi kebenarannya. Terutama untuk tahun pembangunan, tahun renovasi. Circa berarti sekitar, jika didapatkan tahun yang tepat untuk pembangunan dan renovasi hapus kata CIRCA.
   Tentang kapan ruang dibangun dan direnovasi. Pada saat renovasi, elemen atau ruang apakah yang ditambah dan diganti? Sebutkan juga alasan penambahan dan penggantiannya.

8. Jika pemilik punya kemampuan dalam hal keuangan, bagian atau elemen apakah yang ingin ditambah, diganti atau dirubahkan dari rumah yang sekarang ini?
   Menambah kamar.
**Lumban Nabolon**  
(LBN)

**H1=F**

Isi tabel di bawah ini setelah semua kuesioner dilengkapi:

<table>
<thead>
<tr>
<th>Struktur Atap/Upper Structure</th>
<th>Material dan Ukuran</th>
<th>Nama kayu</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Penutup atap</td>
<td>Seng</td>
<td>-</td>
</tr>
<tr>
<td>- Usuk (urur)</td>
<td>Kayu (Ø 6, Ø7 cm)</td>
<td>Bintangur /</td>
</tr>
<tr>
<td>- Usuk longitudinal (tomboman)</td>
<td>Kayu (5/23 cm)</td>
<td>Bintangur /</td>
</tr>
<tr>
<td>- Rangka segitiga atap (Sitindangi)</td>
<td>Kayu (4/25 cm)</td>
<td>Modang / Piangin /</td>
</tr>
<tr>
<td>- Balok bubungan atap (bunkukan)</td>
<td>Kayu (Ø15 cm)</td>
<td>Bintangur /</td>
</tr>
<tr>
<td>- Batang diagonal (alo angin)</td>
<td>Kayu (Ø 6 cm)</td>
<td>Tataring : Sarung marneak /</td>
</tr>
<tr>
<td>- Listplank</td>
<td>Kayu depan, bawah (4/30), atas (4/15)</td>
<td>-</td>
</tr>
<tr>
<td>- Plafond (ceiling)</td>
<td>Tidak ada</td>
<td>-</td>
</tr>
<tr>
<td>- Sambungan antar usuk dan penutup atap</td>
<td>Paku</td>
<td>-</td>
</tr>
<tr>
<td>- Sambungan balok diagonal dengan balok dan segitiga rangka atap</td>
<td>Plat besi</td>
<td>-</td>
</tr>
</tbody>
</table>

**Struktur Dasar/Basic Structure**

<table>
<thead>
<tr>
<th>Basic Structure</th>
<th>Material</th>
<th>Nama kayu</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Tiang (basoha)</td>
<td>Kayu (Ø20cm)</td>
<td>Simartolu / Jior / Sampinur,</td>
</tr>
<tr>
<td>- Ringbalk (sumban)</td>
<td>Kayu (Ø18cm)</td>
<td>Antur mangun / Hau dolok.</td>
</tr>
<tr>
<td>- Longitudinal ringbalk (tohang)</td>
<td>Kayu (Ø)</td>
<td>Jior</td>
</tr>
<tr>
<td>- Balok dan papan balkon (bonggar)</td>
<td>Kayu balok (17/28), papan (5/30)</td>
<td>Sampinur</td>
</tr>
<tr>
<td>- Dinding depan dan belakang (hongkom)</td>
<td>Kayu (4/40cm)</td>
<td>Dinding : Bintatar</td>
</tr>
<tr>
<td>- Plank papan samping (sembaho)</td>
<td>Kayu (6/42cm)</td>
<td>Sampinur</td>
</tr>
<tr>
<td>- Dinding samping</td>
<td>Kayu (3/24 cm)</td>
<td>Bintatar</td>
</tr>
<tr>
<td>- Papan lantai</td>
<td>Kayu (5/7 cm x)</td>
<td>Bintatar</td>
</tr>
<tr>
<td>- Tangga (belatuk)</td>
<td>Kayu (4/17 cm)</td>
<td>Simartolu / Jior / Sampinur</td>
</tr>
<tr>
<td>- Balok Longitudinal (tus-tus/rassang)</td>
<td>Kayu pintu (95 x 110), jdt (45/75)</td>
<td>-</td>
</tr>
<tr>
<td>- Pintu dan Jendela</td>
<td>Batu kali</td>
<td>-</td>
</tr>
</tbody>
</table>
SKETCHES