*International Journal of Architecture and Urbanism Vol. 03, No. 01, 2019 | 95 - 110*

# Architectural Typology of the Malay Chinatown Facade (Case: Perniagaan Street of Malay Chinese Village Bagansiapiapi, Rokan Hilir, Riau)

***Gladies Imanda Utami Rangkuty*[1], *Dyah Titisari Widyastuti* [1]**

[1]*Departement of Architecture, Faculty of Architectural Engineering and Planning, Universitas Gadjah Mada*

**Abstract.** Chinatown architecture in Bagansiapiapi is a major component of the Chinatown area as an identity with various facades influenced by local Malay culture. The growth and development of cities with economic orientation is often not in line with the understanding to maintain the image of the building, which has an impact on district transformation which can eliminate the existence of Chinatown architecture that currently exists or intersects with the city Commercial center. This can be seen in the changes in facade formation that took place on the Bagansiapiapi Perniagaan street. The typology of facade architecture of the Chinatown building was carried out with the aim of (i)Knowing the character of the facade shape of Chinatown facade, (ii)Getting the dominant formation in each of the facade forming element , so that Chinatown buildings can still be found. The method used is a qualitative method with a descriptive approach, which is directed at describing and interpreting existing conditions. The analysis used by classifying facades on elements of Malay Chinatown architecture includes types of building dimensions, ownership and function modules, which are formed by facade components (roofs, vents, doors, windows, walls, and stilt construction). The findings of this study are the facade of the Chinatown building in Bagansiapiapi on the facade of formation elements that have dominance: 1) Module composition of the core dimensions (a) 1 function of the house floor with wood 2) The shape of the gable, the formation of plain rectangular windows and two long ornaments downward, the formation of the window extends downward by placing a balanced composition right and left, setting a horizontal wall, using a stilt construction.

**Keyword:** architecture of chinatown, facade elements, malay architecture, typology

## 1. Introduction

The existence of Chinatown is part of the historical growth of the city while representing the image of the city. The architecture of Chinatown is the main component that strengthens the uniqueness of physical and visual character of an area with the functions of house and shophouses. Chinatown village as a settlement with the majority of its residents are of Chinese descent. In Indonesia, there are Chinatown areas that almost spread throughout the city, which

*Corresponding author at: Jalan Grafika No. 2, Kampus UGM, Yogyakarta 55284, Indonesia

E-mail address: gladiesimanda@gmail.com

has its own characteristics with local influences. One of them is the Chinatown Village in the Bagansiapiapi City, Rokan Hilir, Riau.

As a port city, Bagansiapiapi was known as one of the world famous fish-producing city. In relation to its potential, this city also became an ethnic Chinese destination for trade and eventually settled in 1860 [2]. At this time, the existence of Chinese citizens is still quite strong in Bagansiapiapi, which can be seen from the buildings with Chinese characteristics and temples. One of the characters that developed in Bagansiapiapi was seen in its famous cultural ritual, namely Bakar Tongkang which was closely related to the historical city, especially the beginning of the arrival of settled Chinese settlers as an initial form of formation of Chinese settlements in the city of Bagansiapiapi [2].

As a component of urban (district) Chinatown has many uniqueness with various potentials, both in terms of urban aspects, architecture and socio-cultural life. Chinatown growth is inseparable from the historical development of the city. In some parts of the region due to the growth of the city has an impact that can change the existence of an architecture. The influence of Malay culture as a local culture is often found in Chinatown architectural characters in Bagansiapiapi. One of the unique characteristics of the Chinatown architecture is the use of wood material which dominates the building and has a stilt construction (Figure 1).


**Figure 1**. Map of the region of Bagansiapiapi

The process of urban growth and development has an impact on the transformation process of the Chinatown district in general and the Chinatown architecture in particular. On the other hand, the urban development process oriented to economic interests is often not in line with the understanding to maintain the image of a building that is the identity of a city area and preserve important historical parts. This will endanger the existence of Chinatown which is currently located in or intersect with the commercial centers of the city. So that the Chinatown area

becomes a cultural heritage area, it is very important to be considered and maintained its existence in the future. The absence of a guideline as the identity of a Chinatown building will have a negative impact if the economic growth is more rapid and if a disaster occurs that can threaten the existence of the character of the building.

Through the study of typology, it is expected to be able to identify the existence of Chinatown architecture that still maintains its authenticity. So that it can become the basis of reference for the application of facade elements of Chinatown buildings in the Kampung Cina (Chinese Village) Bagansiapiapi area in general. This study also aims to study the facades of Chinatown buildings that get influence from Malay local culture with a variety of backgrounds in the context of urban development and history. In this case, the case of Bagansiapiapi Chinatown is seen as being able to represent the character. The focus on building facade elements is based on the consideration that facades are part of buildings that visually become the initial identity in understanding the character of the building. Many studies using the Chinatown locus have been carried out but research related to the character of facades of Malay Chinatown architecture in the Bagansiapiapi case has never been done.

## 2. Literature Review

Typology is defined as a method or concept that aims to classify object elements in buildings. Derived from the Greek word, typology is typos and type which has meaning in English, namely type or character while logy has the meaning of learning about something, so typology is a study of the image, shape, type or character of an object.

According to Moneo, typology comes from the word "type" which is defined as the concept of describing the characteristics of an object that has a formal structural equation [11]. The word typology is defined as a concept of describing an object based on the equation of nature which is the result of elaboration of architectural characteristics that have local and external cultural elements with functional, geometric, and style classification [1]. According to Colquhoun, typology is an instrument of a cultural memory and a condition of architectural meaning [3].

Typology is an approach that separates attributes from architectural coherence, and identifies them as a characteristic, in order to compare abstract attributes from other contexts, and to define similarities or differences [4].

Facade is the most important element for communicating functions in a building [6]. When a building is built, a facade can convey a cultural condition and can provide a creativity through ornaments and decorations, thus providing a picture of collective identity as a community [17].

The composition of a facade can be seen in its functional (roof, window, door, and sun shading), in creating harmonious unity in principle it can be done using composition and proportional,

material, color, decorative elements and vertical elements and structured horizontal [12]. The components that can affect the facade of a building are roof, wall, and floor [12]. Whereas supporting elements in building facade are roof, door, window, wall, and sun shading [1].

## 2.1 Architecture of Chinatown

Identity is interpreted as a character possessed by an individual found in certain community members or groups, so that identity becomes the basis of certain community characteristics that can differentiate from other communities [9]. Traditional Chinese architecture is unique in construction materials mainly using wood material [9]. Building types of Chinatown [15], namely:

1. Shophouse

   According to the Oxford English Dictionary, a shophouse is defined as "a shop opening on the pavement and also used as the owner's residence", which is defined as an open shop located on the sidewalk as well as being used as a residence by the owner (Figure 2).

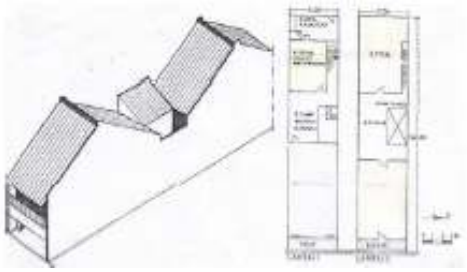

**Figure 2**. Shophouse Type
(Source: Sudarwani, 2012)

2. House

   - The Single Residential Type House basically consists of row houses of two to three floors with small and elongated buildings (Figure 3)

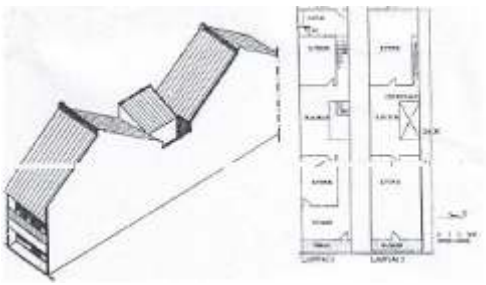

**Figure 3.** Redential Building Type
(Source: Sudarwani, 2012)

- The Double Residential Type House is a house block that is quite large, but in its development is divided based on the number of offspring and due to changes in ownership (Figure 4).

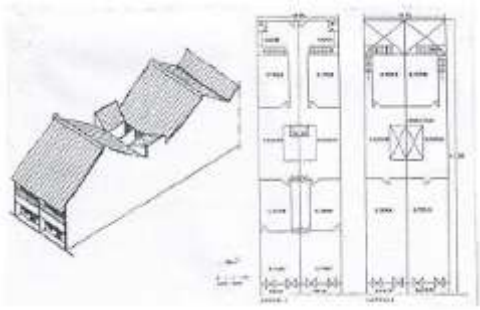

**Figure 4.** Double Residential Type
(Source: Sudarwani, 2012)

## 2.2 Malay Architecture

Aspects of local climate can affect the characteristics of Malay houses. The influence of climate is depicted in the form of a stilt house as well as stilt construction and high pillars [14]. The existence of many windows that almost the same height as the door, and the vent that aims to enter the air and enough light for the occupants are also a manifestation of the Malay house.

The typology of traditional Malay houses is generally rectangular and rarely square, the basic form is a stilt house but still adapts to the surrounding nature [5]. The shape of the roof in general is a straight mooring house in the middle of the top peak called *belah bubung* or Malay *bubung* (ridgepole), if the roof is very steep it is called lipat pandan and if it is flat or sloping it is called *lipat kajang*, if the roof is given an additional roof it is called a *labu* roof / layar roof / winged roof / *bertinggam* roof. The roof ravings that are parallel to the king's road are called long *perabung* houses. If it is not parallel it is also called a crossing *perabung* house [5]. The wall boards in Malay houses in perpendicular pairs even if they are tilted or crossed are only for variations. How to install a wall is generally sealed with a *lidah pian* or with a contoured arrangement called *tindih kasih*. The other way is to install transversely and overlap each other called *susun sirih* [8].

## 3. Methodology

This study uses a descriptive approach that is directed at describing and interpreting an existing condition. Rationalistic-qualitative method and exploratory technique are carried out in field data collection. In data collection also used primary and secondary data. Primary data is carried out by observation in the field. The number of samples in this study was carried out on the Bagansiapiapi City Perniagaan Street which character of the building still characterized its

original form, consisting of 29 Chinatown buildings with the distribution of locations and various building samples.

The analytical method used by classifying facades based on module typology dimension and ownership, building functions, classifying types and patterns of facade forming elements. Further analysis is carried out to obtain the relationship between facade typology and its constituent elements: (i) roof, (ii) ventilation, (iii) door, (iv) window, (v) wall, (vi) stilt construction. Then the visual data analysis is done in the form of images by giving verbal names, determining building samples according to research criteria, redrawing buildings, grouping and categorizing typical building facade elements to produce invention.

## 3.1 Research Location

The research is located in Bagansiapiapi, which is Rokan Hilir Regency in Riau Province. The Chinese settlement area that will be the location of this study is located along Perniagaan Street, Bagansiapiapi, Riau (Figure 5-6)

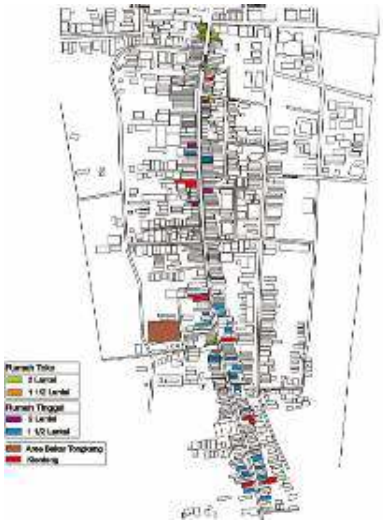

**Figure 5**. Scope of The Research Area

**Figure 6**. Chinatown Building in Bagansiapiapi

## 4. Result and Discussion

Data analysis of this research was carried out by identifying and classifying each building that was determined at the research location. This process is done by categorizing and analyzing the type and deciphering the facts of the data from the field results and observations. The naming of the building was provided to facilitate the identification process of the 29 buildings that were the research samples.

## 4.1 Typology of Dimensional Module Composition

The facade dimensions of the Chinatown building have a facade wide core module (a) which the composition divided into 3 parts as placement of the facade components. At the observation location there are various development proportions from the core module facade dimensions. The facade's high core modules are divided into stilt construction (feet), building body (core parts, where there are core components of the building), and roof (head) (Figure 7).

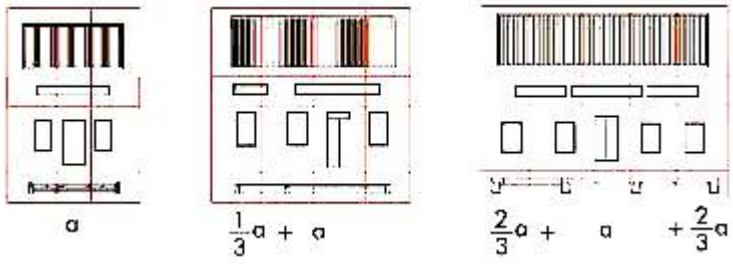


**Figure 7**. Dimension Composition Module

In its various buildings, the facade of the building in the dimensions of the 1-storey core module (a) has a variety of developments in horizontal I (1 floor) one side (a + 1 / 3a) and horizontal proportion II (1 floor) two-sided (2 / 3a + a + 2 / 3a), and the range of development in vertical proportions 2 floors (a) / (a) and vertical proportions 2 floors (a + 1 / 3a) / (a + 1 / 3a) (Figure 8).

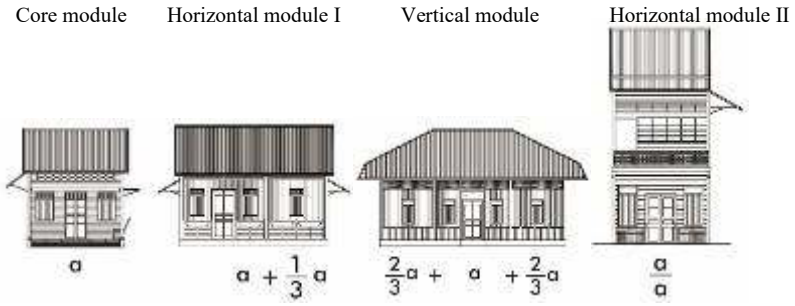


**Figure 8.** Dimension Module Typology

Module typology Dimensions which found are based on the results of observing buildings in the Chinatown area as follows:

1. 13 samples of Core Module Typologies
2. 8 samples of Vertical Module Typologies
3. 3 samples of Horizontal Typology I in the Chinatown area,
4. 5 samples of Horizontal Typology II in the Chinatown area.

Domination of dimension modules found 13 samples. The core module with proportions is divided into 3 parts, the left part has a window component, the middle part has a door component, and the right part has a window similar to the left part. So if it looked at the dominant typology found, it is possible for the core module typology to be the dominant house

typology to form facades in Chinatown buildings in Bagansiapiapi before the development and renovation takes place.

## 4.2 Ownership Typology and Function of the Building

On the other hand, in a variety of buildings based on the number of ownership units in one building, the facade of the buildin is formed by repetition of the same module (a), consisting of 1 unit (a), 2 units (a + a), 3 units (a + a + a), 4 units (a + a + a + a) which are 1-story buildings, and 2-story buildings consist of 1 unit (a / a), 2 units (a + a) / (a + a), 3 units (a + a + a) / (a + a + a), 4 units (a + a + a + a) / (a + a + a + a) (Figure 9).

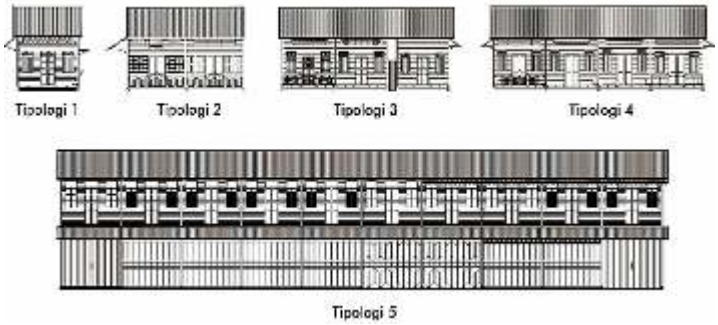


**Figure 9.** Typology of Building Ownership

Typology 1, consists of 1 unit with 1 ownership. Typology 2, consists of 2 units with 2 ownership in one roof construction. Typology 3, consists of 3 housing units with 3 ownership in one roof construction. Typology 4, consists of 4 housing units with 4 ownership in one roof construction. As well as Typology 5, consists of 5 or more housing units with five or more ownership in one roof construction (Table 1).

Table 1**:** Typology of Building Ownership

| Unit | Typology of Building Ownership | | | | | Building Functions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | House | | Shophouse | |
| | 1 | 2 | 3 | 4 | 5 | Floor | | Floor | |
| | | | | | | 1 | 2 | 1 | 2 |
| 01 | ● | | | | | ● | | | |
| 02 | ● | | | | | ● | | | |
| 03 | ● | | | | | ● | | | |
| 04 | ● | | | | | ● | | | |
| 05 | ● | | | | | ● | | | |
| 06 | ● | | | | | ● | | | |
| 07 | ● | | | | | ● | | | |
| 08 | ● | | | | | | | ● | |
| 09 | ● | | | | | | | | ● |
| 10 | ● | | | | | | ● | | |
| 11 | ● | | | | | ● | | | |
| 12 | ● | | | | | ● | | | |
| 13 | ● | | | | | ● | | | |
| 14 | ● | | | | | | | | ● |
| 15 | ● | | | | | ● | | | |
| 16 | ● | | | | | ● | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17 | ● | | | | | ● | | | |
| 18 | ● | | | | | ● | | | |
| 19 | ● | | | | | ● | | | |
| 20 | | ● | | | | ● | | | |
| 21 | | ● | | | | | ● | | |
| 22 | | ● | | | | | ● | | |
| 23 | | ● | | | | ● | | | |
| 24 | | | ● | | | ● | | | |
| 25 | | | ● | | | | | | ● |
| 26 | | | | ● | | ● | | | |
| 27 | | | | ● | | ● | | | |
| 28 | | | ● | | | | | | ● |
| 29 | | | | | ● | | | | ● |
| Total | **19** | **4** | **3** | **2** | **1** | **20** | **3** | **1** | **5** |

(Source: Based on author's research)

The findings of ownership typology are based on the results of observations of Chinatown buildings as follows:

- Typology 1 as many as 19 samples
- Typology 2 as many as 4 samples
- Typology 3 as many as 3 samples
- Typology 4 as many as 2 samples
- Typology 5 as many as 1 sample

As well as the findings of building functions there is dominance, namely:

- 1 storey housesare 20 samples
- 2 storey houses are 3 samples
- 1 storey shophouse is 1 sample
- 2 storey shophouses are 5 samples

The dominant finding in the typology of ownership and function of buildings in Chinatown is in typology 1 which consists of one 1 storey housing unit with 1 ownership that is still occupied by native Chinese citizens. This type of building is included in the criteria of Chinatown architecture which is a residential house with a single type of house that is small and elongated. Changes in the function of Chinatown buildings in this area are also influenced by urban development factors which have many commercial buildings.

## 4.3 Facade Component Element

The facade dimensions of the Chinatown building have a facade wide core module (a) the composition divided into 3 parts as placement of the facade components. At the observation location there are various development proportions from the core module facade dimensions. The facade's high core modules are divided into stilt construction (feet), building bodies (core parts, where there are core components of the building), and roof (head).

## Roof Typology

The roof element is one of the elements forming the facade in Chinatown buildings. Each building has significance on each roof. In this Chinatown building, there are 5 types, namely (Figure 10).

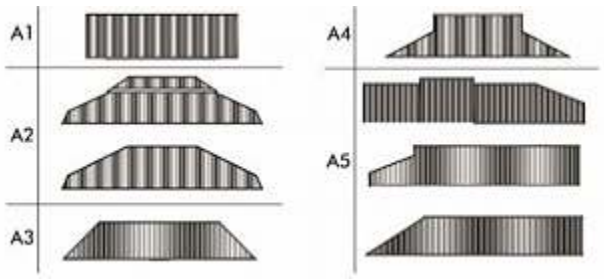


**Figure 10**. Roof Typology

- Type A1: Gable / *lipat kajang*
- Type A2: Gable/ cut off *lipat kajang*
- Type A3: Pyramid roof
- Type A4: Cracked pyramid roof
- Type A5: The shape of the renovated gable with a non-symmetrical shape and has been adjusted to the length of the building.

The dominant type of roof in Chinatown buildings in the research area are:

- Type A1 as many as 20 samples
- Type A2 as many as 2 samples
- Type A3 as many as 2 samples
- Type A4 as many as1 sample
- Type A5 as many as 4 samples

The dominant finding of the roof shape of Chinatown buildings is on the roof type A1 as many as 20 samples with gable roof formation which is the dominant feature in Chinese houses, and may be influenced by gable roofs or *lipat kajang* in Malay houses.

Ventilation Typology


**Figure 11**.Ventilation Typology

- Type V1 : This type of ventilation has a formation of lattices with wood material functioning as the entry and exit of air into the building.

- Type V2 : Ventilation in this type has a shape with a variety of ornamental materials with wood and different iron material in each building.

The findings of the ventilation elements in Chinatown buildings are type V1 as many as 11 samples and type V2 as many as 10 samples with various ornaments that characterize Chinese ethnic culture, the rest there are no ventilation elements due to developments in building functions that start from home to commercial functions (Figure 11).

Door Typology

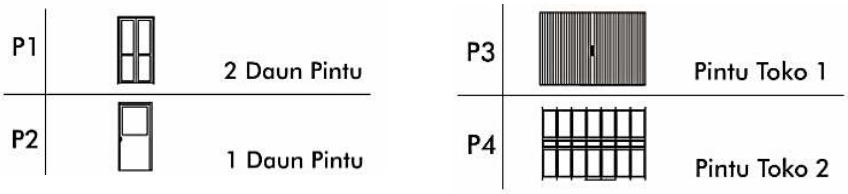


**Figure 12**.Door Typology

- Type P1: Door 1 in the middle (two doors)
- Type P2: Plain door (one door)
- Type P3: Modern door using folding door.
- Type P4: Continuous folding door

**Table 2**. Door Typology

| Unit | Door Element | | | |
|---|---|---|---|---|
| | P1 | P2 | P3 | P4 |
| 01 | ● | | | |
| 02 | ● | | | |
| 03 | ● | | | |
| 04 | ● | | | |
| 05 | ● | | | |
| 06 | ● | | | |
| 07 | ● | | | |
| 08 | ● | | | ● |
| 09 | ● | | | ● |
| 10 | ● | ● | | |
| 11 | ● | | | |
| 12 | ● | | | |
| 13 | ● | | | |
| 14 | ● | | | ● |
| 15 | ● | | | |
| 16 | ● | | | |
| 17 | ● | | | |
| 18 | ● | | | |
| 19 | ● | | | |
| 20 | ● | | | |
| 21 | ● | | | |
| 22 | ● | | | |
| 23 | ● | | | |
| 24 | ● | | | |
| 25 | ● | | | |
| 26 | ● | | | |
| 27 | ● | | | |

| | | | | |
|---|---|---|---|---|
| 28 | ● | ● | ● | |
| 29 | ● | | ● | ● |
| Total | **29** | **2** | **2** | **4** |

(Source: Based on author's research)

The dominant door type findings are based on the results of observations, namely (Figure 12) :

- Type P1 as many as 29 samples
- Type P2 as many as 2 samples
- Type P3 as many as 2 samples
- Type P4 as many as 4 samples

Based on the results of the data, it can be concluded that the dominant form of door type P1 is the formation of two rectangular leaf doors extending beneath wood material, if you see from the type of door that dominates the sample it is possible for the door type to form facades in Chinatown buildings in Bagansiapiapi before renovated and development (Table 2)

Window Typology

Window elements are one of the elements forming the facade in Chinatown buildings. Each building has its own characteristics in each window. In this Chinatown building, there are 5 types, namely (Figure 13).

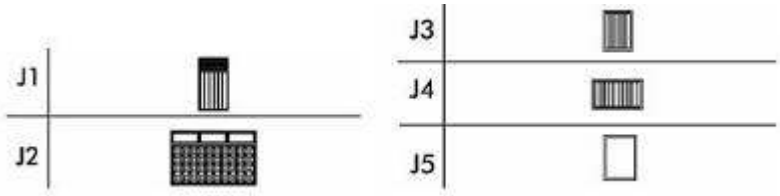


**Figure 13.** Window Typology

- Type J1: Composition boxes left and right
  Window with grid formation and has a balanced composition placement in the building.
- Type J2: Width Length
  A window with a widening and stand-alone formation.
- Type J3: Square Box
  Boxed and unbalanced windows form a renovated window.
- Type J4: Rectangular Box
  Boxed and unbalanced windows form a renovated window.
- Type J5: New or Modern
  This window is a renovated window with a minimalist shape with glass material.

**Table 3**. Window Typology

| Unit | Window Element | | | | |
|---|---|---|---|---|---|
| | J1 | J2 | J3 | J4 | J5 |
| 01 | ● | | | | |
| 02 | ● | | | | |
| 03 | ● | | | | |
| 04 | ● | | | | |
| 05 | | | | | |
| 06 | | ● | | | |
| 07 | ● | | | | |
| 08 | ● | | | | |
| 09 | ● | | | | |
| 10 | ● | ● | | | |
| 11 | ● | | | | |
| 12 | ● | | | | |
| 13 | ● | ● | | | |
| 14 | ● | | | | |
| 15 | ● | | | | |
| 16 | ● | | | | |
| 17 | ● | | | | |
| 18 | ● | | | | |
| 19 | ● | | | | |
| 20 | | ● | ● | ● | |
| 21 | ● | | | | |
| 22 | ● | | | | |
| 23 | ● | | | | |
| 24 | ● | | | | |
| 25 | ● | | ● | ● | ● |
| 26 | ● | ● | | | |
| 27 | ● | | | | |
| 28 | ● | ● | | | |
| 29 | ● | | | | |
| Total | 26 | 2 | 2 | 1 | 4 |

(Source: Based on author's research)

The dominant window type is based on the findings as follows:

- Type J1 as many as 26 samples
- Type J2 as many as 2 samples
- Type J3 as many as 2 samples
- Type J4 as many as 1 sample
- Type J5 as many as 4 samples

Of the 5 types of window formations show that the most dominant form is a J1 type window of 26 samples contained in the building. The window type J1 is a window with a square shape of two shutters with a grid. This window type has a composition that is balanced right and left or additional to the development of the building (Table 3).

Wall Typology

Wooden plank walls are a type of material used in Malay Chinatown buildings in the Bagansiapiapi area. There are 3 types of variations in the composition of the use of wooden boards in the application of building walls (Figure 14).

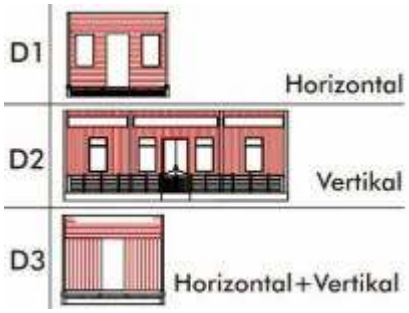


**Figure 14.** Wall Typology

- Type D1: Walls of wooden boards with horizontal arrangement are called stacking betel.
- Type D2: Wooden walls with vertical arrangement are called overlapping walls of love, generally coupled with tongues adopted from Malay culture, tongue walls which are usually used by people with more economies.
- Type D3: Combination wall which is a combination of horizontal and vertical wall arrangement.

The findings on the wall type have a dominant namely:

- Type D1 as many as 26 samples
- Type D2 as many as 1 sample
- D3 type as many as 4 samples

From the data above, it can be concluded that the arrangement of the walls that became dominant was by compiling 26 horizontal walls as betel vines influenced by Malay culture.

Stilt Construction

The stage component is used as a structure in Chinatown buildings, with building elements that have local Malay cultural influences. The findings of the stage structure have 17 buildings that still have these components, ownership typology 1 with 12 samples, ownership typology 2 with 2 samples, typology 3 with 1 sample , typology 4 with 2 samples. Dominant which still has a stage component, namely typology of ownership 1.

## 5. Conclusion

Typology classification will provide knowledge about the character forming facades that are present and developing towards the environment and who still maintain the identity of the area through the Chinatown building as follows.

1. Based on dimensional module typology, the Chinatown building has a variety of developments in its composition with the dominance of the core module 1-dimensional core typology (a) with one ownership that functions as a residence. Looking further at the dominant Chinatown building material in the Bagansi area, but still using wood.

2. Components forming facades in the Chinatown Bagansiapiapi building are elements as characteristics of Malay building Chinatown. Based on 5 roof typologies, the Chinatown Bagansiapiapi building has 5 types of roofs with gable dominance in type A1 (Figure 10).

In the form of dominant ventilation is a form of ventilation type V1, namely rectangular ventilation with plain grille. Looking further, it is estimated that type V1 is a form of ventilation that has been renovated, and sees the dominance of other types of V2 vents, namely ventilation with rectangular form having ornaments (Figure 11). It is possible that these 2 types of ventilation are the dominant type of ventilation that forms the facade of the Chinatown Bagansiapiapi building. Regarding the data on the dominant door shape of a rectangular door with two doors on the door type P1 (Figure 12) being the facade of the Chinatown facade before renovations and developments are carried out due to the change in function of residential buildings to commercial functions. The shape of the window, is dominated by the J1 type window with the shape extending downward with the grid. The dominant window placement is found to be balanced right and left in the composition of the building.

Data regarding typology of wall arrangement is dominant in the type of horizontal wall D1 (Figure 14) with the influence of Malay culture as the wall of betel stacking. Acculturation of Malay culture that influences one of the components forming the facade of the Malay Chinatown in Bagansiapiapi seen from the dominant use of stage structures. There are 17 samples that still maintain the use of the stage structure, generally the Chinatown building adopts the general shape of the surrounding native building, one of which is the stage structure adopted from the Malay house. amid developments in the region.

## Acknowledgment

In the research on the typology of facade elements, Chinatown Architecture in Bagansiapiapi is expected to be able to provide more knowledge and understanding to future readers or researchers. Various things that can be followed up from this research are : (1) The next researcher can examine the Architecture of Chinatown in another section of the observance of

the Bagansiapiapi Chinatown which still maintains originality and formations from the past to the present by having Chinese cultural characteristics and local culture ; (2) The need for in-depth classification of facade elements related to Chinatown architecture that has not been discussed ; (3) The potential for the government, can see and establish and maintain the existence of the identity of the architectural character of Malay Chinatown in the Chinese Village of Bagansiapiapi.

## REFERENCES

[1] Antariksa, *Teori dan Metode Pelestarian Kawasan Pecinan*, Yogyakarta: In C. A. Pusaka, 2016.

[2] S. Arfan, *Profil Daerah Kabupaten Rokan Hilir dan Bakar Tongkang*, Bagansiapiapi: Humas Sekretariat Daerah Kabupaten Rokan Hilir, 2016.

[3] A. Colquhoun, *Typology and Design Method*, New York: Princeton Architectural Press, 1967.

[4] Faisal, G. Wihardiyanto, D. Roychansyah, M. S., *Tipologi Pintu Rumah Tradisional Dusun Pucung, Situs Manusia Purba Sangiran*. Langkau Betang, Vol. 1 No. 2, 2014.

[5] Y. Firzal, *Tipologi Bangunan Tua. Local Wisdom, Vol. III No. 2*., Jurnal Ilmiah Online, 2011.

[6] T. Handayani, *Identifikasi Karakteristik Facade Bangunan untuk Pelestarian Kawasan Pustaka di Ketandan*, Vol. 9 No. 1., Yogyakarta: Jurnal Arsitektur KOMPOSISI, 2011.

[7] Jamil, O.K. Nizam, Saleh, Zulkifili. Effendy, Tenas. Sabrin, Amrin, *Arsitektur Tradisional Daerah Riau*, Riau: Departemen Pendidikan dan Kebudayaan, 1986.

[8] H. Khaliesh, *Arsitektur Tradisional Tionghoa: Tinjauan Terhadap Identitas, Karakter Budaya dan Eksistensinya*, Langkau Betang, 2014.

[9] R. Moneo, *Oppositions Summer On Typology. A Journal for Ideas and Critism in Architecture*, Massachusetts: The MIT Press, 1978.

[10] A. Ramadanta, *Kajian Tipologi dalam Pembentukan Karakter Visual dan Struktur*, SMARTek, 2010.

[11] Rumiawati, A. Prasetyo, Y. H., *Identifikasi Tipologi Arsitektur Rumah Tradisional Melayu di Kabupaten Langkat dan Perubahannya*, Jurnal Permukiman, 2013.

[12] Setiawan, D. Utami, T. B., *Tipologi Perubahan Elemen Fasad Bangunan Tuko pada Penggal Jalan Puri Indah*, Jakarta: Vitruvian Jurnal Arsitektur, Bangunan, dan Lingkungan, 2016.

[13] U. dkk, *Kajian Bentuk dan Fasad Hotel Gino Feruci*, Bandung: Jurnal Online Institut Teknologi Nasional, 2014.