

RUMOH ACEH AS REGIONAL IDENTITY IN OFFICE BUILDINGS IN BANDA ACEH

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ABSTRACT

The traditional architecture of Rumoh Aceh has developed over a long time and has become the identity of the people in Aceh. One way to keep the architecture of Rumoh Aceh alive in this era of global modernization is to transform it into an office building in the area, to a form of regional identity. This paper aims to examine efforts to apply the architectural identity of Rumoh Aceh to office buildings in the center of Banda Aceh City because ideally office buildings contribute as architecture that gives the image of a region. The four office samples were determined based on the maximum percentage of styles in Rumoh Aceh, from the initial studies that were conducted. The collected data were analyzed based on archetype theory. and evidence of acculturation of Traditional Architecture and Modern Architecture due to developments in technology and building materials. The application of the Rumoh Aceh style to offices tends to adopt a dominant and easily visible form (roof shape, pit shape, elevation of the center, entrance, carving), as a building identity and aesthetic function. The architectural appearance tends to be original from aspects related to shape, form and architectural style, because their applications have not been supported by adequate theory, methods and transformation techniques.

Keywords: Rumoh aceh, Regional identity, Office building, Banda Aceh



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INTRODUCTION

Architecture is part of the culture that shows the uniqueness of each ethnic group. The architectural culture that is reflected in the daily life of the supporting community is commonly referred to as traditional architecture. Traditional architecture is the cultural identity of an ethnic group because it contains all the details of the life of its people (Soeroto, 2002). The traditional architecture of Rumoh Aceh is a development of 'people's architecture', which has ecological, architectonic and contextual values; all of these elements refer to the climate, culture and community potential of the environment. Identity contains history and is a process that departs from the logic followed by its people.

The development of modernization and the rapid pace of architectural development has a great opportunity for foreign cultural values to enter, which will influence the development of the traditional architecture of Rumoh Aceh and shift regional values as a reference for regional architectural identity. This can be seen in the very diverse facial designs of offices in Banda Aceh. Although there are very few office buildings that appear with the face of local architecture, it is feared that this phenomenon will shift and fade the architectural values of Rumoh Aceh as a regional identity for the new generation.

The application of local elements to office buildings in Banda Aceh had been instructed by the local government in the 1980s to 1990s, but after the change of leadership it was no longer continued. Recently there has been another discussion initiated by the Aceh government regarding regulations on the application of Acehnese architecture to office buildings and public buildings.

Based on an initial study conducted, there were only four government office buildings in the central area of Banda Aceh City that applied local elements from the fourteen sampled office buildings. The four buildings scored above eighty-five percent, while the other buildings scored below fifty percent. The application of style is at least carried out on: three-part forms (legs, body, head); gable roof with tulak angen; the impression of a higher center floor; stage impression with a composition of round columns; and the impression of the entrance at the bottom of the floor (Zahriah et al, 2022). Ideally, office buildings contribute as an architecture that gives an image of an area. Office buildings that function to serve public administration must also be familiar with their users, through their recognizable characteristics and physical appearance. This paper aims to examine efforts to apply the architectural identity of Rumoh Aceh to office buildings in Banda Aceh to provide design recommendations for future designs.

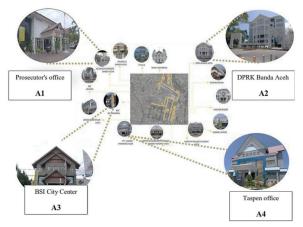


Figure 1. Location of Case Study

(Source: Author, 2022)

LITERATURE REVIEW

Regionalism Identity

Regionalism developed around 1960 as one of the schools of thought in the development of Modern Architecture which paid great attention to regional characteristics (Jenks, 1977). The flow that tends to grow in developing countries is closely related to the local culture, climate, and technology at the time (Ozkan, 1985).

Traditionalism arises as a reaction due to the lack of continuity between the old and the new. Regionalism is a fusion/unification between the old and the new (Curtis, 1985), while Post-modern tries to present the old in a universal form (Jenks, 1977). Traditional Architecture has a regional scope

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while Modern Architecture has a universal scope. The main characteristic of Regionalism is the unification of Traditional Architecture and Modern Architecture. According to Wondoamiseno (1991), the linkage possibilities between Traditional Architecture (TA) and Modern Architecture (MA) are (1) Attachment of elements (TA) to (MA), (2) Physical elements (TA) merge into (MA), (3) Physical elements (TA) are not clearly visible in (MA), (4) Being (TA) dominates (MA), and (5) Expressions of form (TA) merge in (MA).

According to Wondoamiseno (1991) traditional Indonesian architecture is generally characterized by using wood materials, having pressure on the roof as the crown of the building, showing four main pillars connected by beams, the character of light and knockdown walls, using a dismantling system. Indonesian architecture was heavily influenced by architecture from outside Indonesia such as Hindu, Buddhist, Islamic and Colonial architecture (Hasbi, 2012). As aptly put by Nasution et al. (2020), Rumoh Aceh was influenced by Austronesian in the form of boxes on high pillars and Malay culture during the time of Islam influence in internal spatial planning.

The modern regionalism approach is important because it can contribute in creating architecture that uphold the local context, as well as fostering unity and integration among communities (Ismail & Siraj, 2021). In addition, it can also produce a built environment that can be easily recognized in describing the values of progress and achievements of the nation's civilization. The nation's civilization are in line with the needs of society and a sustainable environment. Besides, contextual architecture emphasizes adjusting the structure or design of the surrounding buildings through an adjustment process, which can revive old buildings with new or current functions according to field conditions in their environment. Contextual architecture has three interrelated things, namely activity, environment and visual effects (Indira et al., 2018).

Architecture of Rumoh Aceh

Rumoh Aceh is a mixture of Austronesian architectural traditions and building styles with Malay community building styles and traditions (in spatial planning). The outer form of the house is of an Austronesian house, namely an upright structure of wooden pillars placed on the ground with stone foundations, a raised middle floor as a sleeping area, and a high tapered gable roof (Tjahjono, 1998).

Rumoh Aceh is made of wood, with an emphasis on the shape of the gable roof which is the largest proportion compared to the body and legs. The building of Rumah Aceh is oriented towards the direction of North-South, the walls act as insulation that have light properties with a knockdown system. In addition, the Rumah Aceh has ornaments that function as aesthetic elements and ventilation (especially in tulak angen/gable), and include an odd number of steps (Husin et al., 2003).

Architectural Archetype

Archetypes include elements, shapes, basic structures that underlie human work, and can be used to study culture including architecture (Arinto, 2018). Archetype is a term that comes from Carl Jung, a psychologist, which means the image of the most basic type obtained from the collective consciousness of humans. According to Thiis-Evensen (1987), the emphasis on archetype studies on the physical aspects of architectural elements that make up space such as floors, walls and roofs is studied through four levels, namely the main form, construction system, surface finish and openings in the main form. Kahn, whose works are renowned for creating links with the built heritage, has adopted the notion of the archetype into his personal design philosophy (Pieczara, 2019).

Ching (2000) asserted that there are several visual characteristics that indicate architectural form, namely colour (the most striking attribute that distinguishes a form from its environment, thereby affecting the visual weight of the form); orientation (the position of a shape relative to the ground plane, the direction of the compass or to the view of someone who sees it; proportion (giving the impression of balance to the shape of the building, both from an aesthetic and architectural point of view); and material (affecting the surface texture of a plane).

The physical elements form a visual character that is closely related to the elements of the building facade. Krier (2001) describes the building facade elements include: (1) The roof that acts as a crown, visually, the roof is the end of the facade and the end point of the building, (2) The entrance Malaysian Journal of Sustainable Environment

is a component that has an important role, to allow access and show a sign of transition from the public area (exterior) to the private part (interior). (3) Windows are openings located in the walls of a building that function as air and light circulate in a room or building. As one of the components of the facade, the window figure provides its own articulation as a character or image of a building, (4) The wall is one of the building facade elements that strengthens the characteristics and character of a building. The surface of a wall can strengthen the character of a building through material, texture and colour. (5) Ornaments are often also referred to as decorative designs. Ornaments function to add to the aesthetic value of a building which will ultimately add to the financial value of the building. Besides, ornaments also show the architectural style contained in the building design.

METHODOLOGY

This qualitative research aims to find an ideal way to apply the Rumoh Aceh architectural style to office buildings. This was done by comparing the architectural design aspects of Rumoh Aceh which are the most dominant with the appearance of office buildings. The study was carried out on the elements of the foot of the building, the body of the building, and the head of the office building, which generally use reinforced concrete structures and construction. The analysis of characteristics and logical argumentation of its application used archetypes theory. According to Evensen (1987), there are three main things that influence architecture in general, namely weight, substance and motion which are essentially related to the physical.

The data collection process were carried out by direct observation to the field. The samples are four office buildings in downtown Banda Aceh (A1-A4), which display the Acehnese style in their shapes and facades.

Samples	Parameters	Application	Percentage
A1	 •consists of 3 parts •gable roof with tulak angen •the middle floor is higher •there is a pit composed of round pillars •windows on the front and side •the door is under (floor) •ornaments in the form of flora, fauna, nature, dan islamic elements •use wood 	there is there is there is there is there is there is there is	87,5
A2	•consists of 3 parts •gable roof with tulak angen •the middle floor is higher •there is a pit composed of round pillars •windows on the front and side •the door is under (floor) •ornaments in the form of flora, fauna, nature, dan islamic elements •use wood	there is there is there is there is there is there is there is not	87,5
A3	•consists of 3 parts •gable roof with tulak angen •the middle floor is higher •there is a pit composed of round pillars •windows on the front and side •the door is under (floor) •ornaments in the form of flora, fauna, nature, dan islamic elements •use wood	there is there is there is there is there is there is there is not	87,5
A4	•consists of 3 parts •gable roof with tulak angen •the middle floor is higher •there is a pit composed of round pillars •windows on the front and side •the door is under (floor) •ornaments in the form of flora, fauna, nature, dan islamic elements •use wood	there is there is there is there is there is there is not	87,5

(Source: Author, 2022)

RESULTS AND DISCUSSIONS

There are four office buildings that produce a figure of 87.5 percent so it is worth comparing to examine how Aceh's identity was applied to the four buildings. All the sample buildings are constructed by reinforced concrete.

The Concept of Site

The orientation of office buildings generally faces the road, so that the orientation of the building can be in various directions. Thus, the orientation of office buildings is different from the provisions of Rumoh Aceh which are longitudinal in the East-West direction. The use and interaction of the outer and inner spaces of the building is a reflection of Rumoh Aceh, which is built with modern reflection expressions in formal symmetrical forms, that support its function as an office activity.

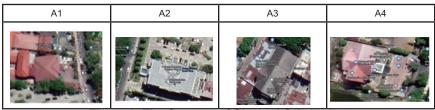


Figure 2. The Concept of Site and Orientation (Source: Author, 2022)

The Concept of Building Form

Office buildings as the objects of this research are generally rectangular in shape and in symmetrical. This was evidenced in the Rumoh Aceh shape. A square shape produces regularity as well as visual clarity (Ching, 2007). The regular shape is also emphasized by the symmetrical shape of the facade and building layout. This composition gives the impression of being neat and formal, in accordance with the function of the building as a government office. The proportion between massive and transparent walls (in the form of windows and doors) is visually balanced in an office building.

The concept of the shape of an office building in Banda Aceh takes a lot from the shape of the Rumoh Aceh, which consists of the legs/underneath, body/stage, and head/roof. The shape of the building expresses local culture which is embodied in a new, more modern form and displayed an appreciation of the spirit of the times which is reflected in every building element based on the shape. The most important part of Rumoh Aceh is in the middle, which is made about 50 cm higher than the floor of the foyer.

	The foot of Rumoh Aceh	The body of Rumoh Aceh	The head of Rumoh Aceh		
Office building form					
A1 A2 A2 A3 A3 A4 A4	The shape of the entrance to each office in the downtown area of Banda Aceh is a type of entrance adopted from the shape of the Rumoh Aceh attached to the main building behind it. Even though the type is only a patch, this part is able to show the identity of Rumoh Aceh which is a local feature. The roof on the entrance resembles the roof of Rumoh Aceh.	The style of the arrangement of the Rumoh Aceh wall boards assembled vertically is displayed as an ornament on the walls of several office buildings in between the placement of windows, but with neutral colours and concrete materials. The repetition of window shapes found in office buildings forms a unity that creates a harmonious form. Some offices also apply ornaments to other parts of the wall, but not as much as the ornaments applied to the walls of Rumoh Aceh.	The shape of the Rumoh A ceh roof with its distinctive tulak angen is the basic form that is most strongly applied to every office building. Some offices repeat the shape of the basic roof so that there are aesthetic variations. On the triangular side of the roof, the tulak angen/ wind repel field is raised as a strong characteristic of the Rumoh Aceh architecture. Not all of these tulak angen are carved and their function as an area for wind flow has been lost. The ornament is only a patch as an identifier.		

Table 2. The Architectural form of Rumoh Aceh that Inspires Office Architecture

(Source: Author, 2022)

The most widely used architectural elements of Rumoh Aceh are the styles on the body, while the least used are the styles on the roof. The application of the Rumoh Aceh body style is the usage of openings. For instance, as doors and windows and the usage of rhoek and thoi (connection systems on pillars and floor beams), then followed by the application of plank construction forms along with several applications of Acehnese ornaments on office walls. The usage of the style found on the roof of the Rumoh Aceh is the least used. Even though it seems to apply the roof of Rumoh Aceh, several parameter points such as the function of tulak angen and the distance between the tulak angen are the parameters that are the least applied to buildings. This is also inseparable from the function of the two points, which are no longer used in modern buildings as it uses technology to cool available rooms.

The dominance of the Rumoh Aceh gable roof is also one of the characteristics of local architecture that responds to the tropical climate. The gable roof is useful as a channel for rainwater and provides ebb from excess sunlight. The wide eaves of the roof also act as a shelter that helps with thermal comfort inside the building, thereby saving energy use for mechanical ventilation in office buildings. There are several offices that adjust the angle of the roof by using the roof angle of Rumoh Aceh, which is 36-39 degrees. However, some offices do not apply the roof angle of Rumoh Aceh, instead it applied a standard roof slope of 30 degrees.

In general, the proportion of the entrance used in office buildings in Banda Aceh is almost the same as that of Rumoh Aceh. On the front of Rumoh Aceh, the building is supported by 4 pillars. The number of columns at the entrance to the office varies between 2 (two) to 6 (six) columns, they are not the same as the number of pillars at the entrance of Rumoh Aceh. In terms of size, the difference can also be seen, namely the distance between the pillars in the office building is 3 meters with a larger diameter of the poles than the poles of Rumoh Aceh. In Rumoh Aceh the distance between the poles varies with a pole diameter of 20 to 25 centimeters.

The Concept of Space

The lobby or reception of Rumoh Aceh is located after the drop off and entrance. This part of the building does not have any space other than the lobby and reception. It has the same function as seuramoe keu in Rumoh Aceh, which is a place to receive guests and is located at the front of the building. In zoning, office design implements space groupings are based on each space's characteristics. The lobby zone is identical to the space under the Rumoh Aceh which is for public. On the second floor and above there are work spaces that are semi-public, identical to seuramoe keu and seuramoe likot in Rumoh Aceh. Next, the office of the head of an agency or official is in a more private zone, identical to seuramoe teungoh in Rumoh Aceh.

The Concept of Structural

Office buildings are generally built during the development of modern architecture which use reinforced concrete structures. This is contrast with the Rumoh Aceh. The Rumoh Aceh structural system was built using traditional wood technology employing pen and hole connections. Buildings that function as offices accommodate many people, in contrast to Rumoh Aceh, its function mainly as residences which is to only accommodate a few people as a family.

Office buildings have a total of three or four floors with a rigid frame construction system and concrete and glass walls, and the building construction takes into account the earthquake load on the building. The construction system is different from the one-story, wooden-walled of Rumoh Aceh. Office building foundations are built underground and the buildings are permanent; they cannot be disassembled like Rumoh Aceh. For instance, with a reinforced concrete structure, the round shape of the Rumoh Aceh pillars is still easily implemented.

The Concept of Material

Building materials in office buildings generally use concrete wall materials, metal tiles or shingles for roof covering materials, as well as glass windows, which are dominated by modern and fabricated materials. It is very different from the building materials used in the architecture of Rumoh Aceh which uses materials found in nature such as wood and bamboo. The wood and bamboo are used to build walls, undersides and roofs of buildings. It was observed that building materials used in Aceh's traditional architecture were not adopted due to ease of maintenance and safety of fabricated materials for office buildings.



Figure 3. Application of Material Use

(Source: Author, 2022)

The Concept of Ornament

The application of ornaments to the architecture of Rumoh Aceh is found in most of the building elements, such as the tulak angen, stairs, walls, windows, doors, and also pillars. The application of ornaments to office architecture in Banda Aceh is dominated by the triangular roof which adopts the tulak angen elements of the Acehnese Rumohs which are carved. Meanwhile, the application of carving on other elements varies among the offices, as seen on the walls, windows, and ring beams. As many as 33 forms of Aceh ornaments have been identified with various positions that have aesthetic, symbolic, and technical functions (Irwansyah et al., 2022). This can be used to reconstruct and develop for public buildings and offices as a step to preserve the beauty and richness of decorative values of Rumoh Aceh architecture.

Based on the analysis on the influence of Rumoh Aceh architecture on the form and physical elements of office buildings in Banda Aceh, it can be concluded that there has been a mix of cultures/acculturation in the architecture of office buildings in the downtown area of Banda Aceh.

Observation units	Rumoh Aceh	Offices	Acculturation in offices
Building proportions	Roof domination	Body dominance	Modern architectural influences
Building entrances	Stilted form: supported by 4 pillars with a diameter of 30 cm, the distance between the pillars is not the same, the stairs are on the left or right side with an odd number of steps	Forming a pit: The number of poles varies, the diameter of the piles is large, the spacing of the poles is the same, the steps are in the middle, the number of steps is odd	The influence of Rumoh Aceh architecture
Building orientation	Longitudinal East-West	Orientation towards the road	Modern architectural influences
Building color	Black, yellow, white, red and green	Shades of cream or white	Modern architectural influences
Building materials	Wood, woven leaves, and other natural materials	Reinforced concrete, glass	Modern architectural influences
Building roof	Pelana with inclined ends	Repetition of leaning end pelana	The influence of Rumoh Aceh architecture

Table 3. Effects of Acculturation Elements in Offices

Rumoh Aceh as Regional Identity in Office Buildings in Banda Aceh

Building wall	Arrangement of vertical boards, lined with windows	Rows of glass windows, ornaments imitating the arrangement of boards on Rumoh Aceh	The influence of Rumoh Aceh architecture
Building ornament	on the tulak angen,	on triangular roofs,	The influence
	stair, wall, window,	walls, windows, ring	of Rumoh Aceh
	door, pillar	beams	architecture

(Source: Author, 2022)

CONCLUSION

The application of the Rumoh Aceh architectural style to office buildings in the center area of Banda Aceh tends to adopt a dominant and easy-to-see form, including the shape of the roof, and the shape under Rumoh Aceh such as for entrance, ornament or carving, as a building identity and aesthetic function. However, the application of translucent ornaments or carvings on wind resistance as active ventilation is rarely applied because the building only relies on a mechanical ventilation system inside the building.

Besides, the way to present the Rumoh Aceh architectural style in office design has not yet undergo a dynamic transformation. The architectural appearance tends to be original from aspects related to shape, form and architectural style, because their applications have not been supported by adequate theory, methods and transformation techniques.

It can be deduced that there has been a mix of culture/acculturation in the architecture of office buildings in the downtown area of Banda Aceh. Acculturation occurs between local and modern architecture due to developments in technology and building material.

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AUTHOR CONTRIBUTIONS

All authors contributed to the design of the research, the analysis, and the write-up. The survey, data identification and tabulation were undertaken by researcher. All authors have read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declared there is no conflict of interest.

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