The *Umah Pitu Ruang* concept: Environmental adaptation and the Covid-19 pandemic

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**Abstract.** This paper discusses how to adapt the concept of space from *Umah Pitu Ruang* in the past to modern Gayo houses today, especially to deal with the dynamics of the Covid-19 pandemic case. At the same time, it brings the environmental adaptation of the houses. This research uses descriptive qualitative method. Data collection is done by collecting literature, observation and interviews. The data collected through literature, observation, and interviews will then be analyzed and then described what is found in *Umah Pitu Ruang*, a modern house, and what the implications are for a healthy home. Although physically, *Umah Pitu Ruang* is difficult to re-apply nowadays, but some of the spatial concepts of *Umah Pitu Ruang* can still be adapted for today, including during the COVID-19 pandemic through a sharper perspective. The architecture of the past can provide lessons through local wisdom, one of which is culture. In this discussion we can conclude that the culture that exists in *Umah Pitu Ruang* can be adapted to the present with a contemporary approach.

1. **Introduction**

*Umah Pitu Ruang* is a traditional house located in Central Aceh, Aceh Province, Indonesia. *Umah Pitu Ruang* in Indonesian means a seven-room house because there are seven rooms in it. As time goes by and the needs of human life change, the shape of the houses mostly inhabited by the people of Central Aceh also changes. Based on the data collected by Arma, *Umah Pitu Ruang* which is currently only available in several places, that is: in KampungLinge (Linge sub-district), in Toweren Village (Lut Tawar sub-district), third in Kampong Kemili, (Bebesen sub-district) in Takengon, Central Aceh [1]. Besides, there are also in Taman Ratu Safiattudin in Banda Aceh and Taman Mini Indonesia Indah in Jakarta [1]. *Umah Pitu Ruang* is a traditional house in Central Aceh in the form of a stilt house whose shape extends from east to west and generally has a staircase in the middle of the east side of the building to access the room. Literally *Umah Pitu Ruang* has the meaning of a seven-room house, where umah means house, pitu means seven, and ruang is space. *Umah Pitu Ruang* in Linge Village (Linge District) is different from Toweren Village (Lut Tawar sub-district).

According to Gayo, *Umah Pitu Ruang* is a building that has 7 rooms consisting of 2 Lepo rooms and 5 Rinung rooms as shown in Figure 1 (a) [2]. When climbing the stairs, you will meet a room called Lepo. Lepo is a room like a terrace and is divided into Lepo Banan and Lepo Rawan. Literally Banan means woman and Rawan means man. Lepo serves as a place to rest and see the beauty of nature at
leisure, in addition to beautifying and strengthening the house building. On the inside of *Lepo* there is a *Serami* which is also divided into *Serami Banan* and *Serami Rawan*. According to Gayo, in the *Lepo Banan* section there is a section called *Anyong* [2]. *Anyong* is in front of *Lepo Banan* in the east. *Anyong* is a place for young and old women to warm up and cook. *Rinung* which means rooms have different functions, namely for sleeping, storing things, etc. *Rinung* has a higher floor elevation than *Lepo*. *Rinung* door is on the side of *Serami Banan* and there are stairs. Space limitations in *Umah Pitu Ruang* are closely related to gender. How *Umah Pitu Ruang* limits movement between men and women so that it can be seen clearly where is the room for women and where is the room for men.

![Umah Pitu Ruang Layout based on literature](image)

![Umah Pitu Ruang Layout in Toweren](image)

**Figure 1. Umah Pitu Ruang.** (a) Based on literature; (b) In Toweren.

In making *Umah Pitu Ruang* there are separate rules and environmental adaptations. The umpak foundation was chosen by the Gayo community as the foundation of *Umah Pitu Ruang* because it takes into account the burden of the building to the ground [3]. The Gayo community made *Umah Pitu Ruang* extend from east to west [1]. These rules are made so that it is easy to know the Qibla direction for Salat [1]. The rules of the building's position also cause openings to the north and south of the building. In the facade of *Umah Pitu Ruang* there are not many openings [3]. If there are openings the dimensions are not too large. The presence or absence of openings and the size of openings is considered by the Gayo community to adapt with environmental challenges such as to avoid the amount of wind entering the house. This is because the Gayo region is a highland that has low temperatures.

Then how are the houses of the Gayo people, Central Aceh today? According to Riza et al, currently the influence of *Umah Pitu Ruang* is no longer found in Gayo people's homes [4]. As for the need for communal space, modern Gayo society adapts the floor height to "*pepanteren*" which is in the living room or dining room and the kitchen for large family gatherings [4] One of the Gayo people's social culture is contrary to the current situation where one of the health protocols that apply is social distancing. Based on the Prevention and Control Guidelines Kementerian Kesehatan RI [5], things that need to be considered to reduce the risk of transmission are:

- a. Wash hands with soap under running water.
- b. Cover your mouth and nose when coughing and sneezing using a folded elbow or tissue.
- c. Using a mask
- d. Do not touch the face, eyes, nose and mouth.
- e. Maintain a physical distance of at least 1 meter, do not leave the house, do not gather.

Abdulgani said that as of the 2nd week of June 2021, Central Aceh became a red zone, a zone classification with a high risk of increasing Covid-19 cases after surviving as a yellow zone or orange
zone [6]. Abdulgani also stated that the change in the status of the zone was influenced by the dynamics of the development of handling the Covid-19 pandemic in an area [6]. The application of a healthy home is one way from a spatial perspective to deal with these dynamics. A healthy home is a necessity for everyone during this pandemic. A healthy house is a house that allows its residents to develop and foster physical, mental and social family. According to Undang-undang No. 1 tahun 2011 tentang Perumahan dan Permukiman, a house is a building that functions as a suitable place to live, a means of fostering a family, a reflection of the dignity and worth of its inhabitants, as well as an asset for its owner. The general principle of a healthy home is to meet health requirements such as having floors and walls that are not damp and easy to clean, and have adequate ventilation and lighting. In addition, a healthy home must also be able to fulfill a sense of comfort because the arrangement of the rooms in the house is in accordance with their needs and functions.

2. Methodology
This research uses descriptive qualitative method. Data collection is done by collecting literature, observation and interviews. The literature collected is about Umah Pitu Ruang and healthy homes. Then field observations were carried out at Umah Pitu Ruang located in Toweren Village (Lut Tawar sub-district) and at 15 respondent’s houses who were interviewed regarding Umah Pitu Ruang. Interviews with respondents emphasized the respondent's memory of Umah Pitu Ruang. Memories will create a collective understanding of what has been experienced [7]. Prager argues that collective memory is a sociological concept complemented by psychological opinions [8]. In addition, the community will affect the individual's memory so that there will be the possibility of respondents having different thoughts according to their respective perceptions [9]. Moreover, politics/power will play a role in influencing collective memory of events and circumstances in a community [10]. The data collected through literature, observation, and interviews will then be analyzed and then described what is found in Umah Pitu Ruang, a modern house, and what the implications are for a healthy home.

3. Results and discussion

Our observations of Umah Pitu Ruang in Toweren Village (Lut Tawar sub-district) are shown in Figure 1 (b). To be able to access this building, there is a staircase in the middle of Lepo (terrace) which is fenced in. The entrance to the inside is on either side of Lepo (terrace) and there are 2 windows in the
middle (Figure 2). The space inside consists of 3 Rinung arranged extending backwards and in the middle so as to form Serami along the sides of Rinung. In both Serami there is an exit at the back of the house. According to Gayo [2], there are differences in the number of Rinung and rooms. According to Nurdin [11], Umah Pitu Ruang in Linge Village (Linge sub-district) has 6 rooms in the form of Rinung and the seventh room in the form of an uninsulated room which is a room for Reje Linge's audience with assistants or his people. which is actually from Umah Pitu Ruang. Gayo [2] could have gone through the process so that he came to a conclusion as in his presentation about Umah Pitu Ruang. This is one form of conclusion from stable collective memory and will lead to memory agreement [12]. Moreover, Umah Pitu Ruang is a form of expression of the Gayo people's ideas. Umah Pitu Ruang is a local art in the Gayo area which is a symbol of the unity of the Gayo community [13].

As time goes by and the population increases, people no longer use Umah Pitu Ruang and begin to switch to modern homes as they are today. As in Figure 3. Which is one of the houses of the 15 respondents observed, we see that many Umah Pitu Ruang concepts have been abandoned. The placement of Rinung/room is no longer in the middle but is already on one side. However, if we examine further, we will find some similarities. We found similarities in the shape of Umah Pitu Ruang with today's houses in Gayo. Almost all modern houses in Gayo have a shape extending backwards like Umah Pitu Ruang as seen in Figure 1 & Figure 3.

Figure 3. Gayonese modern house.

Umah Pitu Ruang which tends to extend from east to west and is spacious without a partition also gives the impression of a spacious room and smooth ventilation. However, when viewed from the air circulation, Umah Pitu Ruang and Gayo modern houses are still not good enough to handle the dynamics of the Covid-19 pandemic. The location of Central Aceh which is in the highlands and has low temperatures has made it a habit for the people to make small openings with dimensions that are not too large since the time of Umah Pitu Ruang. This will hold the air inside longer and there is no good air exchange. It also causes less sunlight to enter. In fact, air circulation and sunlight are very helpful to create a healthy space, especially with the Covid-19 pandemic.

The next similarity is that the spatial arrangement has a relationship with gender. At Umah Pitu Ruang, the movement of men and women is limited to their respective rooms. Likewise with the modern Gayo house, although not explicitly as in Umah Pitu Ruang. This is marked by the existence of large open spaces such as pepanteren which are side by side with other spaces. This is characterized by
spontaneous group separation. If the men sit in the living room or living room, then what will the women sit in the pepanteren? If the men sit in the pepanteren, then the men will sit in another area. As seen in Figure 4.

Another interesting thing that we can find is how Umah Pitu Ruang provides spatial knowledge not only on the inside of the building, but also on the outside of the building. As in Figure 1, there is a Lepo as a room that can be used to receive guests. In addition, there is also another imaginary space that does not have a partition. Umah Pitu Ruang provides a communal space implicitly. The application of Lepo as the first room to receive guests is one of the adaptations of the Umah Pitu Ruang concept against covid-19. This is one way to minimize the entry of the virus into the house. Not only Umah Pitu Ruang, but also most traditional houses in Indonesia also apply the use of an outdoor terrace as a living room, such as Betawi houses, Joglo houses, etc. As for the outside terrace, if we look at the concept, the modern house of the Gayo community has adapted it into a special room for receiving guests (guest room).

The culture of the Gayo community in socializing and the existence of communal spaces are habits that must be overcome by complying with health protocols, social distancing. The emergence of Covid-19 has changed many people's habits. Especially since the implementation of the new normal, one of which is reducing activities outside the home. As a result, many activities are finally carried out at home such as work and study. Although the air circulation and sunlight in Umah Pitu Ruang and Gayo modern houses are still not good enough to handle the dynamics of the COVID-19 pandemic, the author sees a concept that can be adapted from Umah Pitu Ruang. The author looks at the spatial design in activities, one of which is terms of the flow of family members when entering the house. This concept can be adapted to today's homes to minimize the spread of Covid-19. In Umah Pitu Ruang, the flow of family members in the house is "limited" in terms of gender, with the division of Banan and Rawan spaces. However, if we look at it in general, at Umah Pitu Ruang there are also restrictions on the movement of outsiders/guests in accessing the indoor area of the house, which is only limited to the Lepo area. The boundaries of lepo and other spaces are also limited by both physical and imaginary partitions (Figure 1). The concept of "restriction of movement" in this umah pitu ruang has also been indirectly adapted to the modern gayo house. It can be seen in Figure 3 that the Gayonese modern house space also limits the movement of outsiders/guests where there needs to be a flow of how when someone will visit. This needs to be developed because guests are objects that carry out a lot of movement outside the home which can bring the spread of Covid-19. So that through this spatial design, we can minimize guest contact with people in the house.

In Figure 3 we can see that the modernization process of Gayo people's houses adapts the "movement restrictions" of Umah Pitu Ruang although implicitly. It is reflected in the living room which is at the front of the building which indirectly limits the movement of guests to enter another room. Restrictions are also marked by the presence of a room divider in the form of walls or other partitions. The breadth of the living room which has an area of 2 bedrooms also gives the owner the opportunity to be able to adapt one of the health protocols, namely maintaining distance. Indirectly, we also see the similarity of the living room with Lepo which has a large area. The goal is the same, namely to accommodate social
activities in the community. However, during this pandemic, the size of the space that was previously expected to accommodate as many people as possible, will still be used as a space for social activities by implementing social distancing protocols minimum 1-2 meters. Although the consequences can not accommodate as much as usual.

![Figure 5. Komunal space in gayonese modern house. (a) Before pandemic; (b) After pandemic.](image)

4. Conclusions
Even though physically, *Umah Pitu Ruang* is difficult to re-apply nowadays, but some spatial concepts from *Umah Pitu Ruang* can still be adapted for today, including during the COVID-19 pandemic through spatial design. This is appropriate with Feriadi's opinion which suggests that learn from the architecture of the past through local wisdom, one of which is culture [14]. In the discussion we can conclude that the spatial culture that exists in *Umah Pitu Ruang* can be adapted to the present with an approach that is adapted to today's needs by implementing social distancing in the room. Although not all aspects can be adapted as shown in table 1, through Umah Pitu Ruang we can continue to update knowledge so that it can become lessons and suggestions for producing architectural objects that are more adaptive to Covid-19.

| Umah Pitu Ruang | ADAPTED (Space) | CANNOT BE ADAPTED (Circulation & Lighting) |
|-----------------|----------------|---------------------------------|
| Lepo            | ● Terrace      | ● Window                        |
| Serami          | ● Guest Room   | ● Ventilation                   |
| Riung           | ● Living Room  |                                 |
|                 | ● Pepanteren   |                                 |
| Anyong          | ● Bed Room     |                                 |
|                 | ● Kitchen      |                                 |
|                 | ● Pepanteren   |                                 |

**Tabel 1.** Conclusions.

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