Home Garden Concept of Rumah Gadang based on Minangkabau Culture

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Abstract. Minangkabau culture is one of the oldest cultures in Indonesia. The embodiment of Minangkabau culture can be found through Rumah Gadang. Information and research results relating to Rumah Gadang are already numerous, but the garden of Rumah Gadang still need to be exploited through research in order to reveal the concept. This study aims to identify, analyze, and formulate the home garden concept of Rumah Gadang based on Minangkabau culture. The study was conducted by using a qualitative-descriptive approach through exploration of custom document, interviews, and field observation. Identification and analysis were carried out on elements of and its location on the garden to produce a home garden concept of the Rumah Gadang. The studied garden concept was taken from the famous Minangkabau proverb: *alam takambang jadi guru*. The proverb indicates the use of garden elements in the Rumah Gadang home garden. The garden elements are categorized into hardmaterials and softmaterials. The hardmaterials identified were to include rangkiang, tabek, lasuang, batu tapakan, cages, and separated kitchen. The softmaterials identified were to include hedges, medicinal plants, ornamental plants, fruit plants, and herbs. Some elements were layouted by Minangkabau custom with certain philosophies, such as *rangkiang*. The garden layout and circulation are comprehensively configure a semiformal design.

Keywords: design concepts, Minangkabau, rumah gadang, traditional, vernacular garden

1. Introduction
Minangkabau culture is one of the oldest cultural diversity in Indonesia. The Minangkabau culture was born from the Minangkabau people, which mostly came from West Sumatra and its surroundings. The current existences of the Minangkabau culture can still be observed both directly and indirectly. This culture is rooted in the custom and religion on deciding a customary law, as their custom phrase *adat basandi syarak, syarak basandi Kitabullah* which means 'custom depends on Islamic law and Islamic law depends on Kitabullah'. In some areas, the unique character of the Minangkabau cultural landscape can be observed in their settlement called 'Nagari' (village). *Nagari* has the distinctive characteristics of the constituent elements, namely: mosque, grave, arena and *medan nan bapaneh*, traditional hall, rice fields, fields, houses, nagari roads, and *tampian nagari* [1][2]. The life implementation in *nagari* upholds the philosophy, *alam takambang jadi guru* (nature becomes the teacher). The custom phrase and philosophy confirm that the Minangkabau society has a rule that covers various dimensions of life [3], which regulates the relationship of man with man, man and nature, and man to God.

The unique residential architecture reflects the unique culture of the Minangkabau and known as 'Rumah Gadang'. Rumah Gadang means 'Big House' where family gatherings,
meetings and various other functions are able to make this house a major part of Minang community life. There have been many studies on the architecture of Rumah Gadang [4][5], however, the outside (garden) of the Rumah Gadang has not been much studied. On the other hand, the home garden of Rumah Gadang has important functions in daily life Minangkabau society. Rumah Gadang home garden can be the embodiment of the Minangkabau culture through its elements with a function, character and philosophy that are important to preserve. The concept of the design of Rumah Gadang home garden is not yet widely known, moreover the concept is poured from Minangkabau cultural information in the traditional manuscript and/or traditional figures. For this reason, special study is needed in this regard.

This study aimed to formulate the concept of indigenous design of traditional Minangkabau culture-based residential homes through the existence of their elements and layout.

2. Methodology
The study was conducted in three traditional settlements (nagari) in West Sumatra Province, namely: Nagari Tuo Pariangan, Nagari Sijunjung, and Nagari Kinari. These traditional settlements were chosen by custom figures based on the existence of Rumah Gadang in the Nagari. The research was based on customary documents and information describing elements of home garden and their layout (which should be present). The information verified through field observation to find out whether the elements were available or not. So the field observation did not determine the design concept that will be produced, unless as an additional explanation from the customary documents and custom figures information. The study method was qualitative descriptive through three stages of activity; the search of customary documents, custum figures interviews, and field observation [6].

Interviews were conducted with custom figures/elders/leaders that have held customary control in certain custom areas. The interviewees that had been interviewed based on the above process can be seen in Table 1. The key custom figures were determined based on information from local customary elders and customary institutions. Furthermore, with the snowball sampling technique, custom figures are determined to be interviewed next, until the information is consistent [6].

| No | Interviewees | Occupation/Institution |
|----|--------------|------------------------|
| 1  | Amhar Dt. Bagindo Malano Nan Bangka | Custom figure, Chief of tribe |
| 2  | Ismed Dt Mangkuto | Teacher, cultural observer, administrator of LKAAM |
| 3  | Puti Reno Rhouda Thaib | Heirs of the Pagaruyung Palace. Lecturers, Author, General |
| 4  | Buya M. Letter | Chairperson of the Bundo Kandum West Sumatra |
| 5  | Zulfahmi | Cultural figures, community leaders, religious leaders |
| 6  | Adnan | Chief of KAN Kinari |
| 7  | Hendri | Chief of Jorong Pariangan |

3. Result and Discussions
3.1. General Description
The Minangkabau custom makes the Rumah Gadang and its home garden a proud cultural symbol. Therefore, the language metaphor was created which flatter the Rumah Gadang home garden as follows,

Meaning : ...Cibuak meriau has been finished, arranged by bamboo tube. The yard is sand stretched, the sand is loam like have been sieved. Hedged yard, gold croton as outside hedge, silver croton as inner hedge. Mock lime tree to tie the horse. The mortar is running stone, alu is rounded limpato, sweet lime as back rest. The girl is pounding and growing up, the chicken is
plowing down, chased away when its full, with fragments of sirantih dolai, the ends were given a crested silk. There is also a fish pond, the water is like a cat’s eyes, not even mossy muddy, flying sepat fish, benign crispy fish, gold-marked goldfish. The rangkiang is seven in line, in the middle si tinjau lauik, the merchant picks up, the observer enters, to the right si bayau-bayau, the barn to eat in the noon and morning, to the left si tanggung lapar, the place of the poor , the helper of the villager, in the hunger hearth, small granary interrupted, a place to store abuan rice[5].

This language metaphor was created based on the reality that exists in the life of the Minang society. According to the philosophy of alam takambang jadi guru, they live in harmonious and dynamic arrangement of nature [5].

Based on the literature and interview results, it can be observed that the ownership of Rumah Gadang home garden is belonging to the clan. In the original concept, the orientation of the Rumah Gadang is towards the mountain which is considered as a sacred mount, namely Mount Merapi. In addition there is another opinion that explains that the Rumah Gadang generally facing to east [7] [6]. The direction towards the sunrise, it is a form of understanding of the earlier elders that humans need sunlight and color, like humans need to eat and drink [8]. Along with the development of settlements, the construction of the highway by the government, the direction toward home and garden later became parallel with the road [5].

3.2 The Hardscape Elements
The function and layout of the hardscape elements of the Rumah Gadang garden according to the Minangkabau people are considered important, so that some of the hardscape elements are raised in their custom phrase. The following are the functions and layout of the hardscape elements of the Rumah Gadang home garden based on custom phrase and custom figure interview, presented in Table 2.

Table 2 Hardscape Elements based on Custom Phrase and Custom Figures Interview

| No | Element                     | Existences based on Interviewees | Function and Philosophy                                                                 | Layout                              |
|----|------------------------------|----------------------------------|----------------------------------------------------------------------------------------|-------------------------------------|
| 1  | Rangkiang                    | √                                | • As a place to store crops such as rice                                               | Has a certain arrangement           |
|    |                              |                                  | • In general there are two rangkiang for one Rumah Gadang                             | It is located on the front side and separated from the house |
|    |                              |                                  | • Can be functioned as a gazebo                                                       |                                     |
|    |                              | √                                | • Has a certain arrangement                                                           |                                     |
|    |                              | √                                | • It is located on the front side and separated from the house                       |                                     |
|    |                              | √                                | • Has a certain arrangement                                                           |                                     |
|    | Lasuang and alu              | √                                | • Crop processing equipment                                                           | At the side yard                    |
|    |                              | √                                | • In general there is more than one lasuang and alu for one Rumah Gadang house         |                                     |
|    | Cage                         | √                                | • Livestock breeding grounds                                                          | under the house or separated at backyard |
|    | Tabek (pond)                 | √                                | • As a place for raising fish, lavatory and waste treatment                           | Back yard/ front yard               |
|    | Cibuak and Batu Tapakan      | √                                | • Implement for washing feet before entering the house                                | Front yard, close to the ladder     |
| 6  | Latrines                     | √                                | • Lavatory purposes                                                                  | Back yard, close to the tabek       |
| 7  | Separated kitchen            | -                                | • A place to cook and cooking study for Minang girls                                  | Separated behind                   |
Based on the results of interviews and literature studies, it can be observed that the elements of *hardscape* that are always in the yard of the gadang house garden are rangkiang, *tabek* (pond), cages, *lasuang-alu*, and *cibuak-batu tapakan*. These elements are considered by the interviewees as elements that characterize the concept of a gadang home garden. Other elements such as latrines, separate kitchens are considered optional according to the wishes and abilities of the householder.

### 3.3 The Softscape Elements

The life philosophy of the Minangkabau people who learn from nature makes many custom phrase that describe plants, both those that grow wild in the forest or those planted around the house. Based on the results of interviews and literature studies, the plants that are characteristic of the home garden can be observed in Table 3.

| No | Traditional Name | Local Name | Scientific name | Function and Layout |
|----|------------------|------------|-----------------|---------------------|
| **Hedge** | | | | |
| 1 | Pudiang amoeh | Gold croton | *Codiaeum variegatum* | Inner layer (front yard) |
| 2 | Pudiang perak | Silver croton | *Codiaeum variegatum* | Outer layer (the front yard) |
| 3 | Sugi-sugi | Black Sugi | *Dracena sp* | Middle layer (the front yard) |
| **Ornamental and Aromatic Plants** | | | | |
| 4 | Cimpago lunggo | White champaca | *Michelia alba* | Rare and aromatic (front yard) |
| 5 | Teratai | Lotus | *Nymphaea sp* | Ornamental plant in the pond (tabek) |
| 6 | Bungo rayo | Hibiscus | *Hibiscus rosa-sinensis* | Ornamental plant on the path to Rumah Gadang |
| 7 | Kemuniang | Mock lime | *Murraya paniculata* | Formerly it functioned as a tree to tie horses because it has strong roots and located in every corner of the home garden. |
| 8 | Melur | Jasmine | *Jasminum officinale* | Aromatic plant, planted under the window |
| 9 | Rumpuik paik | Carpet grass | *Axonopus compressus* | As a lawn |
| **Medicinal plants** | | | | |
| 10 | Si tawa | Crepe ginger | *Costus speciosa* | Including the *tawa nan ampek* plants. Medicine to fever remedies, it is planted under the *rangkiang* |
| 11 | Si dingin | cathedral bells | *Kalanchoe pinnata* | |
| 12 | Inai | Henna | *Lawsonia inermis* | Can treat wounds, planted below the ladder |
| 13 | Jariangau | Holy basil | *Ocimum tenuiflorum* | Stomach and lymph medicine, it can absorb toxins in the waste so it grows in the backyard |
| **Fruit Plants** | | | | |
| 14 | Pisang | Banana | *Musa paradisiaca* | Planted in the backyard, near the kitchen, the trunk functions as a fire extinguisher in case of fire damage. |
| 15 | Pauah | Mango | *Mangifera indica* | Including the *sagalo ciek* fruit plants. For consumption of householder. It is located on the side and behind the house |
| 16 | Lansek | Langsat | *Langsium domesticum* | |
Hedge in the Rumah Gadang home garden consists of three layers of plants, namely; Gold croton, Black Sugi, Silver croton. The purpose of such a layout symbolically explains the importance of being humble and not arrogant. Brightly colored plants are planted on the inside and simple ones on the outside.

Aromatic plants are planted near the front door or ladder and under the window so that at night the scent of plants will spread in the house. Apart from aromatic plants, there is a well-known medicinal plant in Minangkabau namely, *tawa nan ampek* which means four medicines. This plant consists of: *si tawa, si dingin, cikumpai* and *cikarau*. *Tawa nan ampek* planted in the front yard, so that people who pass by and need medicine can see and ask the householder for the plant.

There are rules regarding fruit plants in the Gadang Rumah garden called *sagalo ciek* plants. The *sagalo ciek* plant is a fruit plant that is intentionally planted by one tree to each species for sustainability reason. In addition to the needs of spices, herbs in the yard of Rumah Gadang also has other functions, such as the Sundai lime which is useful for the place of finches and other wild birds nest. This is explained in the meaning of custom phrase:

*Sundai lime beside the mortar backrest, the place of the sparrow nested.*

### 3.4. Field Observation

In general, the observation of Rumah Gadang home garden in observation site can be compared based on ownership, boundary, size, orientation, and circulation. The ownership in three sites are owned by each clan. The boundary Nagari Pariangan and Sijunjung were obvious, but in Nagari Kinari were not too obvious, because the settlement is firmly dense. Some orientation in Nagari Pariangan and Nagari Sijunjung were toward the road, and some were perpendicular to the road. In Nagari Kinari the orientation were not too obvious, because the settlement is firmly dense.

The existence of the hardscape elements in Rumah Gadang home garden is highly influenced by the needs of the residents of the house. At the three observation site, the existence of these *hardscape* elements is quite varied, as shown in Table 4.
Table 4 The Existence of Hardscape Elements of a Rumah Gadang Home Garden in Observation Sites

| No | Elements               | Observation Site          |
|----|------------------------|---------------------------|
|    |                        | Nagari Pariangan | Nagari Sijunjung | Nagari Kinari |
| 1  | Rangkiang              | √                       | -               | √             |
| 2  | Tabek (pond)           | √                       | √               | √             |
| 3  | Cages/Cattles          | √                       | √               | √             |
| 4  | Batu Tapakan (Tread stone) | -               | -               | -             |
| 5  | Lasuang and alu        | √                       | √               | √             |
| 6  | Latrines               | √                       | √               | √             |
| 7  | Separated kitchen      | -                       | √               | -             |

The softscape elements on the sites were very diverse. The hedges consisting of gold croton and silver croton were easy to find in the garden of Rumah Gadang at Nagari Sijunjung. These plants were planted in line with a height of less than one meter, however there were not layered according to the description of custom phrase and interviewees explanation. In Nagari Kinari and Nagari Pariangan, the croton plants were rarely found as hedges, but as accents in the front yard with other ornamental plants.

3.5. The concept of Rumah Gadang Home Garden

The concept of the Rumah Gadang home garden is closely related to the nature, in accordance with the custom phrase and philosophy of life of the Minangkabau people, namely *Alam takambang jadi guru* (Nature becomes the teacher). Nature is a part of people's lives so there are many custom phrase and philosophies of life based on nature, including expressions about the Rumah Gadang home garden. This concept can be illustrated through the illustration in Figure 1.

![Figure 1 The proses of philosophy alam takambang jadi guru becomes concept](image)

The linkages of home garden and philosophy *alam takambang jadi guru* explains the sustainability concept through the following base concepts:

1. In the Rumah Gadang home garden there must be plants and animals. This is strengthened by the custom phrase: *tanam nan bapucuak, paliharo nan baangok*, which means: plant the sprout, raising the living.
2. To preserve the plant species, there must be planted *sagalo ciek* plants. One plant seed representing one plant species sustainability.
3. *Rangkiang* are placed separately from the house for food security. Inside the *rangkiang*, seeds of rice are stored which are always set aside for the next planting
period, so that the preservation of the superior nature of rice is always maintained for the posterity.

4. The Rumah Gadang home garden must be able to accommodate the needs of householders, both from the garden and the livestock.

Based on the results of literature studies, interviews, and field observation, it can be identified the existence of hardscape elements that exist in the Rumah Gadang home garden through Table 5.

Table 5 The identification of hardscape elements in Rumah Gadang home garden

| No | Hardscape element       | Data collection technique | Concept                                                                 |
|----|-------------------------|---------------------------|-------------------------------------------------------------------------|
|    |                         | Literature study | Interview | Field Observation |                                                      |
| 1  | Rangkiang               | √                      | √         | √                   | The main element. The amount is adjusted to the needs of the household. |
| 2  | Tabek (pond)            | √                      | √         | √                   | The main element, but it is adapted to the user needs and biophysical conditions, such as irrigation. |
| 3  | Cages                   | √                      | √         | √                   | The main element, but it is adapted to the user needs and biophysical conditions. |
| 4  | Batu Tapakan and cibua  | √                      | √         |                      | The main element in ancient times. |
| 5  | Lasuang and alu         | √                      | √         | √                   | The main element in ancient times. The amount is more than one. |
| 6  | Latrines                | √                      | √         | √                   | The conditional element, it is adapted to the user needs. |
| 7  | Separated kitchen       | -                      | √         | √                   | The conditional element for a particular event and its location is adjusted |

Based on the results of literature studies, interviews, and field observation, it can be identified the existence of softscape elements that exist in the Rumah Gadang home garden through Table 6. From Table 6, it can be analyzed that the main softscape elements in Rumah Gadang home garden are hedges, ornamental plants, aromatic plants, medicinal plants, fruit plants, and spices.

In general, the layout of the elements of the Rumah Gadang home garden uses a formal pattern with an orderly arrangement. The pattern can be reflected geometrically by straight lines, planting and construction elements of a balanced look at both sides of the main axis [9]. This is reflected in the elements location on the front and side of the home garden. Overall, the concept of elements and layout of the gadang house garden can be specified as in Figure 2.
Table 6 The identification of softscape elements in Rumah Gadang home garden

| No | Softscape Element | Data collection technique | Concept and Layout | Plant Species |
|----|------------------|----------------------------|--------------------|--------------|
|    |                  | Literature study | Interview | Field Observation |                      |                      |
| 1  | Hedges           | √              | √         | √                | Layers of plants with certain planting rules. It's on the front, close to the road | Codiaeum variegatum, Dracaena sp |
| 2  | Ornamental and aromatic plants | √              | √         | √                | Ornamental plants on the front, while aromatic plants under the windows and ladder. | Nymphaea sp, Hibiscus rosasinensis, Murraya paniculata, Jasminum officinale, Axonopus compressus |
| 3  | Medicinal plants | √              | √         | √                | Tawa nan ampek plants that can live in the gadang home garden and planted under the rangkiang. | Costus speciosa, Kalanchoe pinnata, Lawsonia inermis, Ocimum tenuiflorum |
| 4  | Fruit plants     | √              | √         | √                | Consists of sagalo ciek plants, planted in the side yard. One tree for one species. | Musa paradisiaca, Mangifera indica, Langsium domesticum, Garcinia mangostana, Cocos nucifera, Durio zibethinus, Nehelium lappaceum |
| 5  | Spices           | √              | √         | √                | Planted in the back yard close to the kitchen and can be planted in the front. | Capsicum sp, Amomum zinziber, Curcuma longa, Cytrus hystrix |

Figure 2 The element concept of Rumah Gadang home garden
Conclusions
The basic concept of the Rumah Gadang home garden is based on nature, in accordance with the life philosophy of Minangkabau people, namely Alam takambang jadi guru. With this concept, the elements in the Rumah Gadang garden are organized based on life experiences gained from the nature and explained in various custom phrases. Hardscape elements found in the Rumah Gadang garden are rangkiang, tabek, lasuang, batu tapakan, cages, and separate kitchen. Softscape elements found in the Rumah Gadang home garden consist of hedges, medicinal plants, ornamental plants, fruit plants, and spices.

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