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5 SYSTEM FOR SHARING GOOD ENVIRONMENT IN HIGH-DENSITY ISLAND

Case study on *Bale bale* in Lae Lae isle, Makassar, Indonesia

8 高密度の島において良い環境を共有するシステム
インドネシア—マカッサルのラエラエ島のバレバレに関するケーススタディ

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This paper analyzes an environment sharing system from a field survey of 225 *Bale bales* (Endai-like furniture) in Lae Lae isle, Makassar, Indonesia. *Bale bales* are owned by individuals and used by entire households. However, 1) *Bale bales* are sometimes moved to better environments not only by owners but also by neighbors.

2) Whether or not they have their own *Bale bales*, many islanders use the *Bale bales* of other families located in comfortable environments (for example, the seashore, a street corner, or a public square) far from their homes.

3) Not only relatives but also neighbors and visitors are permitted to use each *Bale bale* on the island.

By following these customs and rules, islanders can share a good environment on their high-density island.

Keywords: *Share, Commons, Bale bale, Makassar, Indonesia*

シェア, コモンズ, バレバレ, マカッサル, インドネシア

1. Introduction

Interest in the concept of “sharing” is increasing and substituting for that of “personal possession” in the fields of social and environmental design, architecture, and urban planning. For example, the so-called “share house” is becoming popular for the younger generation. Many people in various fields are trying to develop a new system for sharing. This study is a trial interpretation of the system for sharing the environment through the *Bale bale* in Indonesia.

The *Bale bale*⁽¹⁾ is a kind of bench, known as an “Endai”⁽²⁾ in Japan. There are many *Bale bales* in Lae Lae isle, a small island located in front of the city of Makassar, Indonesia. It has a high-density environment in which a 0.22 km² area is occupied by 1,563 people, 793 males and 770 females (current in 2010). The majority of the population is Makassarese or Buginese,⁽³⁾ and most are Muslim.

A *Bale bale* is usually made of wood or bamboo. It comes in a variety of sizes, from small to large, and two forms, a prototype

Bale bale and a hut-shaped version with a roof.

Initially, *Bale bales* are placed by their owners around the house, such as at the *siring*⁽⁴⁾ of a traditional *rumah panggung* (RP)⁽⁵⁾ house, terrace, yard, or in front of the house for easy access and use (see figure 1).

All generations in a family (e.g., babies, children, young men, and the elderly), both male and female, use the *Bale bale* as a social place. They gather and talk to each other on *Bale bales* all day. *Bale bales* are even used as places to sleep, nurse a baby, eat, and work on projects such as boat and fishing gear repair.

Moreover, not only family and relatives but also guests and neighbors can use the island's *Bale bales*. They host a variety of activities carried on by a variety of people in Lae Lae Island every day.

The purpose of this study is to examine the *Bale bale* sharing system by investigating 1) all the *Bale bales* in Lae Lae isle, 2) the ownership of the *Bale bales*, 3) their uses and related

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Fig. 1 A *Bale bale* in front of the owner's house

activities (through behavioral observation), 4) the characteristics and relationships of *Bale bale* users

Many studies have been done on the sharing of space.

Concerning common spaces in Indonesia, Funaoka et al. (2006) clarify the function and role of the spatial features of the "Moa," located in the traditional houses of fishing villages in Indonesia's eastern islands. The Moa is a space for both family and neighbors. Yamamoto et al. (1997) studied the future development of the urban housing model, based on an analysis of the utilization of common space in Surabaya, Indonesia. In their experiment, they found that Endai-like furniture was frequently used as common spaces by residents.

Kikuchi (2005) analyzes the restructuring of the "commons" by considering a recent project built as a "public-private" system. He discussed the Gangi system in Takada, Niigata prefecture, as a common space generated by a collection of private spaces and also examined several similar cases in Tokyo and England.

Yoshizumi et al. (2003) studied a common washing pool in a community in Shimabara city, Nagasaki prefecture. From behavioral observation, they inferred the pool use rules and the multilayered function of the space for not only washing but also communication and education.

10 2. Study Procedures

This study is based on field work conducted between November 2009 and October 2010 that used methods such as observing the way users behaved with 225 *Bale bales*, measuring the *Bale bales*, documenting users' activities by camera, and conducting in-depth interviews with the owners and users of *Bale bales*. Thirty-seven respondents were selected by randomly, which consisted of 22 male and 15 female with an average age of 18 to 70 years old. The observations of user activities were made on three days at three different times—from 10:00 to 12:00, from 13:00 to 15:00, and from 15:00 to 17:00.

An individually-centered map (ICM) and a place-centered map (PCM) were used in the field work. The ICM and PCM are techniques for the systematic recording of people's locations and

actions (Sommer, 2002). Six ICMs were conducted to find the *Bale bale* most often used, while fifteen PCMs were performed to find the people who used the *Bale bale* most often.

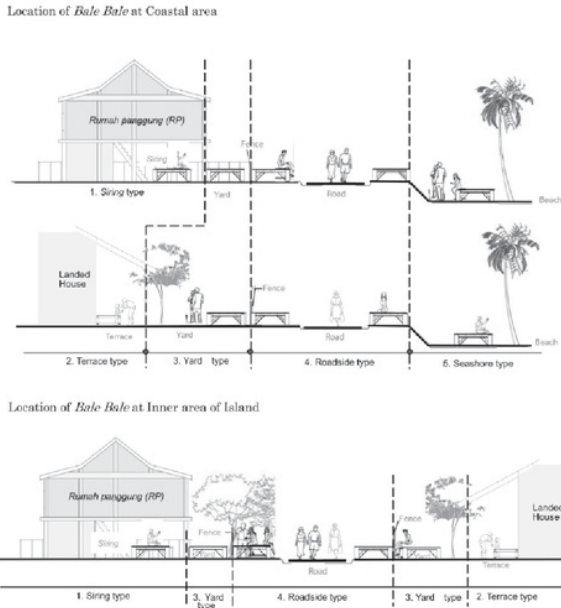


Fig. 2 Location of five types of *Bale bale*

3. Results

3.1 Ownership and Placement of the *Bale bale*

We found 225 *Bale bales* in this island, of which 124 were located in the coastal area and 121 inland. We divided the *Bale bales* into five types, according to their location in the house: *siring* (21 *Bale bales*), terrace (59), yard (33), roadside (76), and seashore (36), as shown in Figure 2. The *Siring*-type *Bale bale* is located near the 1st and 2nd column arrangements underneath the RP. There is only one public *Bale bale*, in the square near the public wells provided for the night-time security guards, but most of the *Bale bales* on this island are privately owned.

There are 331 houses in Lae Lae isle. About half do not have a *Bale bale*: 107 houses (32%) have one *Bale bale*; 38 (12%) have 2 *Bale bales*; and 8 houses have 3 *Bale bales* (see Figure 3).

Lae Lae islanders can put their *Bale bales* anywhere they like, but they are generally located around the owner's house. Even the roadside and seashore types are usually placed facing the owners' homes (see Figure 4). Islanders also put them under trees to protect them from the sunshine.

People use *Bale bales* as places to perform many activities, such as family gatherings, eating, sleeping, taking a rest, working, and, sometimes, receiving family visitors. In a sense, the *Bale bale* is an extension of the home.

Bale bale along breakwaters are specially designed by owner for rented to visitors looking for recreation in Lae Lae isle. They face to sunset, and have Makassar city behind them.

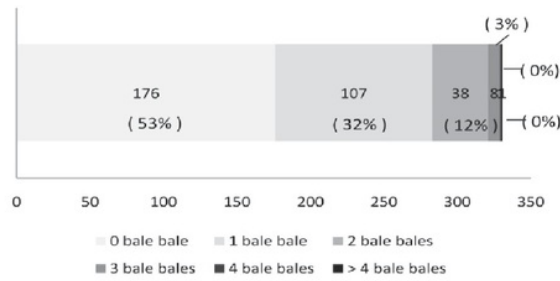


Fig. 3 Number of *Bale bale* Ownership

3.2 Displacement of the *Bale bales*

Bale bales can be moved by the owner, the family, and others without permission (see Figure 5). The owner of *Bale bale* No.10 has put it under an RP. This *Bale bale* is a *siring* type, meant for highly private use. The owners can use it easily and feel comfortable under the shadow of the RP. This *Bale bale* was moved 3 times by a neighbor when the owner was away from the island. The first displacement was to the square, where many palm trees grow. There, users felt comfortably protected from the

sunlight while watching the activity in the square, such as football games and children playing. In addition, they could watch people coming onto the island via the pier. The next day, neighbors moved the *Bale bale* to the ring road. Again, users felt comfortable because they were shielded from the sunshine by trees and could watch people come from the west island. Finally, the *Bale bale* was returned to the owner's house.

Bale bale number 39, a seashore type (150 x 202 cm), was initially placed on the beach, surrounded by trees and boats. It was displaced four times, once onto the ring road in front of the owner's house (location 3). The others locations were around the beach (locations 2, 4, and 5). In these locations, the owner, family, and neighbors gathered on the *Bale bale* felt comfortable because they were protected by the shade of the surrounding trees. The users could also see in all directions, as nothing obstructed their view.

3.3 The Usage of *Bale bale*

Bale bales are used by all generations, including children, young men, and the elderly, all day long. *Bale bales* are not used with equal frequency, however.

Lae Lae islanders tend to use the *Bale bales* in the coastal areas, along the ring road, close to public facilities, and in the corners of the island and of streets (Figure 6). They use the *Bale bales* in the coastal areas and along the ring road because they

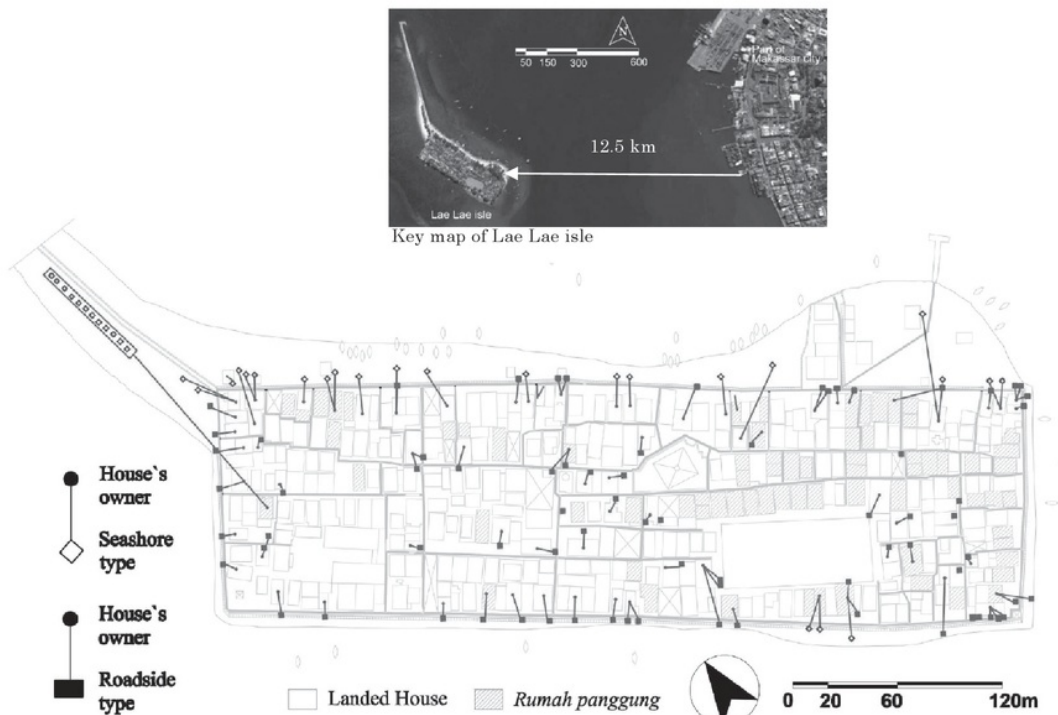


Fig. 4 Map of ownership of all *Bale bales*

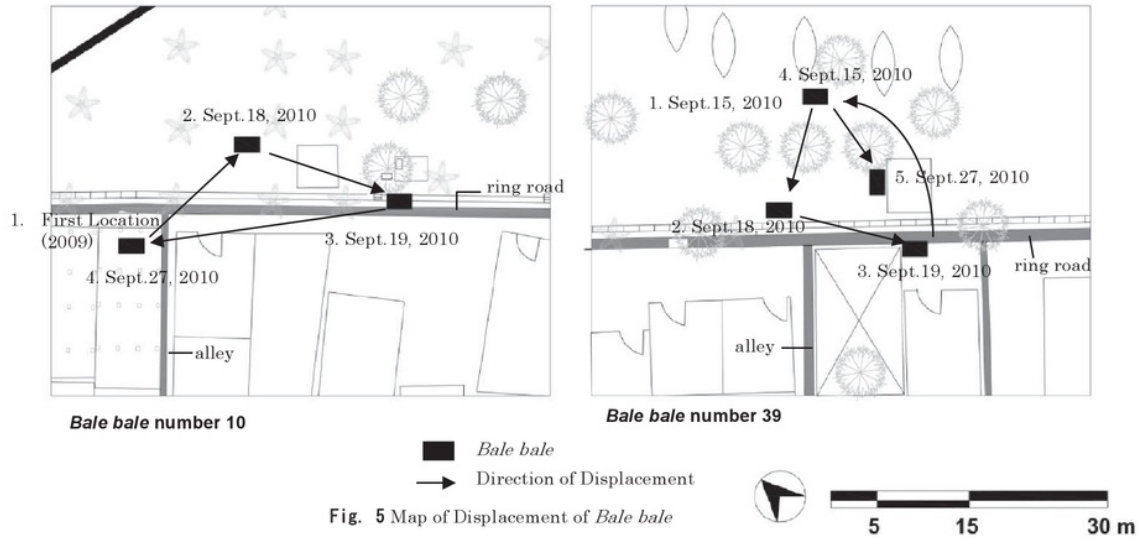


Fig. 5 Map of Displacement of *Bale bale*

are easy to reach, and they feel comfortable gathered under a tree while enjoying a good vista. They also tend to gather on the *Bale bales* located close to public wells and kiosks after taking a shower, washing at a public wells, or shopping.

Furthermore, the visual factor is important: they use *Bale bales* on island and street corners to watch people from many different angles and with an unobstructed view. The *Bale bales* along breakwaters are always empty because their owners are only willing to lease them and are thus usually used by visitors on Saturdays and Sundays only. Moreover, many vacant *Bale bales* are found inland because islanders tend to seek the *Bale bales* located in the pleasant environment of the coastal areas.

Roadside and seashore-type *Bale bales* are located in public spaces that offer a variety of comforts, such as shelter from the sunshine, a cool atmosphere, a long vista, and ease of access. These factors are why those two types of *Bale bale* are used as gathering places by the Lae Lae islanders more often than other types (see Figure 7). The *siring* type of *Bale bale* is often used because owners feel comfortable being with other users, the shadow of the house on stilts protects them from the sunshine, and it provides users with easy access. In contrast, while the terrace and yard types of *Bale bale* are easily accessed, their views are limited by house walls and open to the front. In addition, many of them are not shielded from the sunshine, thus exposing their users to it.

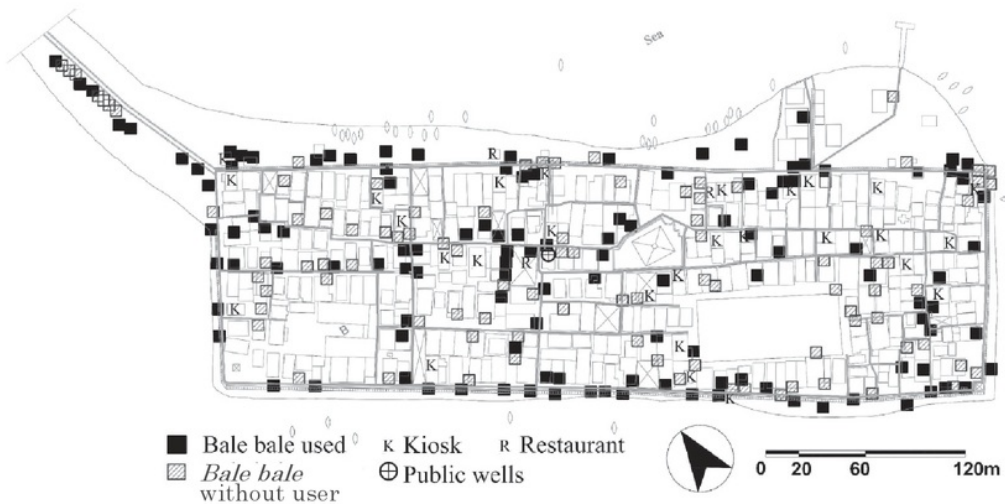


Fig. 6 Map of *Bale bale* Used and Without user

A field survey conducted during an afternoon revealed that the roadside-type *Bale bale* is the most common type (see Figure 8). It was most often used by one to two people in the evening and by three to six people in the afternoon. Only two *Bale bales* were used by more than ten people.

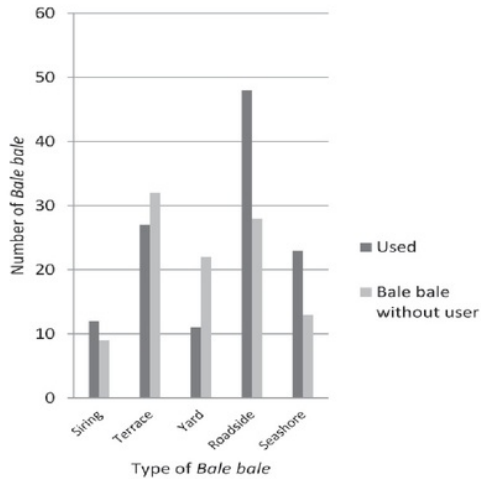


Fig. 7 *Bale bale* used and without users

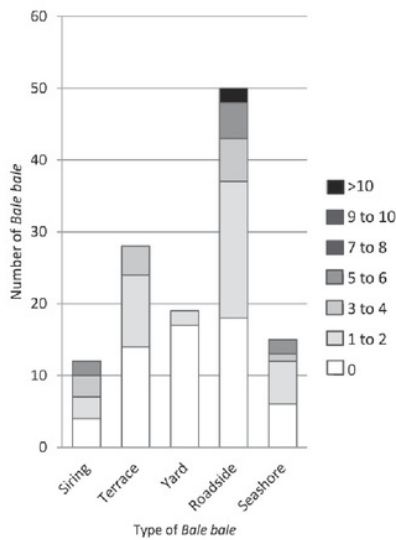


Fig. 8 Number of users of *Bale bale* (afternoon)

3.4 Individual-Centered Map Analysis (ICM)

The ICM was used to determine the frequency of Lae Lae islanders used a *Bale bale* (see Figure 9). Field work is performed by asking respondents, where is their home, which *Bale bale* they often used in daily life, and why they choose it. Individual-centered maps are especially useful in understanding how and where Lae Lae islander spend their time to use a *Bale bale*.

The maps show that even though Lae Lae islanders have own

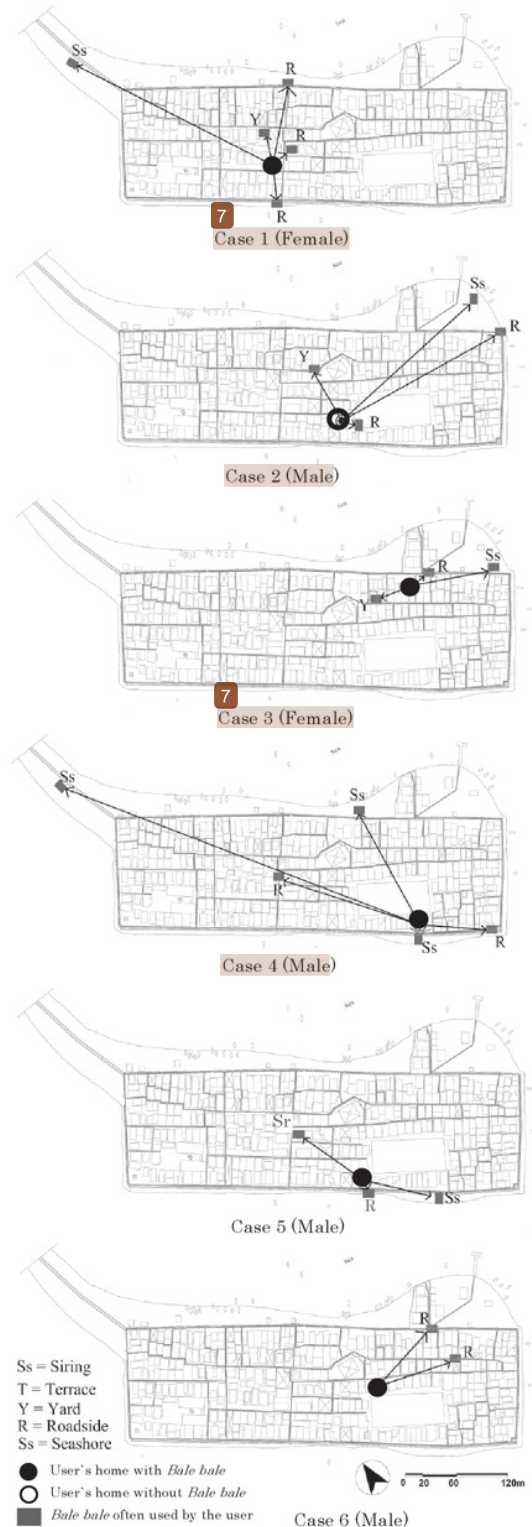


Fig. 9 Six Cases of Individual-centered Map

Bale bale, but they like to use another *Bale bale* to get comforts. Not only one *Bale bale*, but they use several. They use it for temporary activities, further they find and use another *Bale bale* to get a new atmosphere. In addition, they are not just using a *Bale bale* close from the home, but they use a *Bale bale* far away. In general, roadside and seashore type *Bale bales* are often used by the Lae Lae islanders. Both types of *Bale bale* are located in public spaces, which everyone can easily access.

3.5 Place-centered Map Analysis (PCM)

The PCM was used to examine the *Bale bales* most often used by people in order to discover the users' relationships, the types of *Bale bales* involved, and the distances to them.

1) Users' Relationships

The relationship between the owner and user of a *Bale bale* can be identified on the place-centered map (see Figure 10). The map shows that the relationships between owners and users can be divided into three patterns: 1) family relationship (see *Bale bale* nos. 17, 32, 99, and 168), 2) non-family relationship (see *Bale bale* nos. 39, 77, 105, 173, 180, and 223), and 3) both family and non-family relationship (see *Bale bale* nos. 67, 138, 146, 166, and 171).

Twenty users in four cases for the first pattern are in a family relationship with the owner and generally live close to the house of the *Bale bale* owner. Half do not have a *Bale bale*. Three *Bale bales* in this pattern are located in coastal areas, and the other is close to the mosque. Users in the coastal areas may see far away because nothing obstructs their view; they can see people passing by on the roadside and the beach. In addition, they feel comfortable because their *Bale bale* is shielded by the shadow of the trees and the roof. Users of the other *Bale bale* feel comfortable under the RP's shadow.

There is no family relationship between the *Bale bale* owners and users in the second pattern: 44.7% of these 38 users do not have a *Bale bale*. Users are both neighbors living close to the owners' houses and residents living far away. Three *Bale bales* are located in a public space: two are located at a street corner, so users can freely survey around them. In addition, the users are protected from the sun because the *Bale bale* is located under trees, under a kiosk roof, or under a RP.

Owners and users in the third pattern have both family and non-family relationships. There are 39 users among five cases in this pattern, of whom 39.3% do not have a *Bale bale*. Their houses are both far away and close to a *Bale bale*. Four *Bale bales* are located in a public space, one under the RP. Users in the public spaces feel comfortable because they are shielded from the sunshine by the shadow of the trees and the roof of the hut-shaped *Bale bales*. In addition, users can see far because the *Bale bale* is placed on a roadside, on the beach, or at a street

corner. Meanwhile, users of the *Bale bale* under the RP feel comfortable because they are shielded from the sunshine by the shadow of the RP.

2) *Bale bale* types

Some patterns can be seen in the place-centered map: 1) users of the roadside- and seashore-type *Bale bales* tend to live inland (see *Bale bale* nos. 17, 32, 39, 67, 77, 99, and 105). These users feel cool and comfortable because this *Bale bale* is located under trees, a house or kiosk roof, or has its own roof (i.e., the hut-shaped *Bale bale*). In addition, users also have a good vista and can see far away because nothing obstructs their view; 2) the roadside-type *Bale bale* is generally used by family and neighbors who live nearby (see *Bale bale* nos. 17, 32, and 138); 3) the *siring*, terrace, and yard-types of *Bale bale* are private but also used by neighbors (see *Bale bale* nos. 77, 173, 180, and 223), and (4) *Bale bales* close to kiosks and restaurants are frequently used by the Lae Lae islanders (see *Bale bale* nos. 32, 138, and 171).

3) Distance to *Bale bale*

The user's average distance from a *Bale bale* can be divided into three types: 1) from 0 to 59 m (*Bale bale* nos. 17, 32, 77, 105, 138, and 180); 2) from 60 to 99 m (*Bale bale* nos. 146, 166, 168, 171, 173, and 223), and 3) up to 100 m (*Bale bale* nos. 39, 67, and 99). Users of the first type are in family relationships or neighbors living close to the *Bale bale*. All *Bale bales* are located along the roadside, under trees, or close to a kiosk or restaurant. The locations of the *Bale bales* provide comfort to users by protecting them from sunshine, providing good vistas, and allowing them to see far away. Of the 38 users of the second type, 60.5% have no family relationship with the owner and live either close to or far from the *Bale bale*. Three of the cases provide good locations, being at the roadside (so users can watch passersby on the street) and allowing users to feel cool under the shadow of the roof. Three of the others of *Bale bale* are located under the RP, so that users feel cool because it shielded from the sun. Three *Bale bales* cases of the third type have good locations, being placed either in a coastal area or in a public space. This provides visual appeal to the users because they can see clearly far away and feel cool from being shielded from the sunshine.

4. Conclusions

The results of this study are as follows.

First, the *Bale bale* is a private space because it is placed by the owner around the house—in a *siring*, terrace, yard, or in front of the house. The *Bale bale* is used by the owner for daily activities, such as family gatherings, eating, sleeping, and working. It changes into a shared place when others arrive: they are greeted and then sit on the *Bale bale* with the owner.

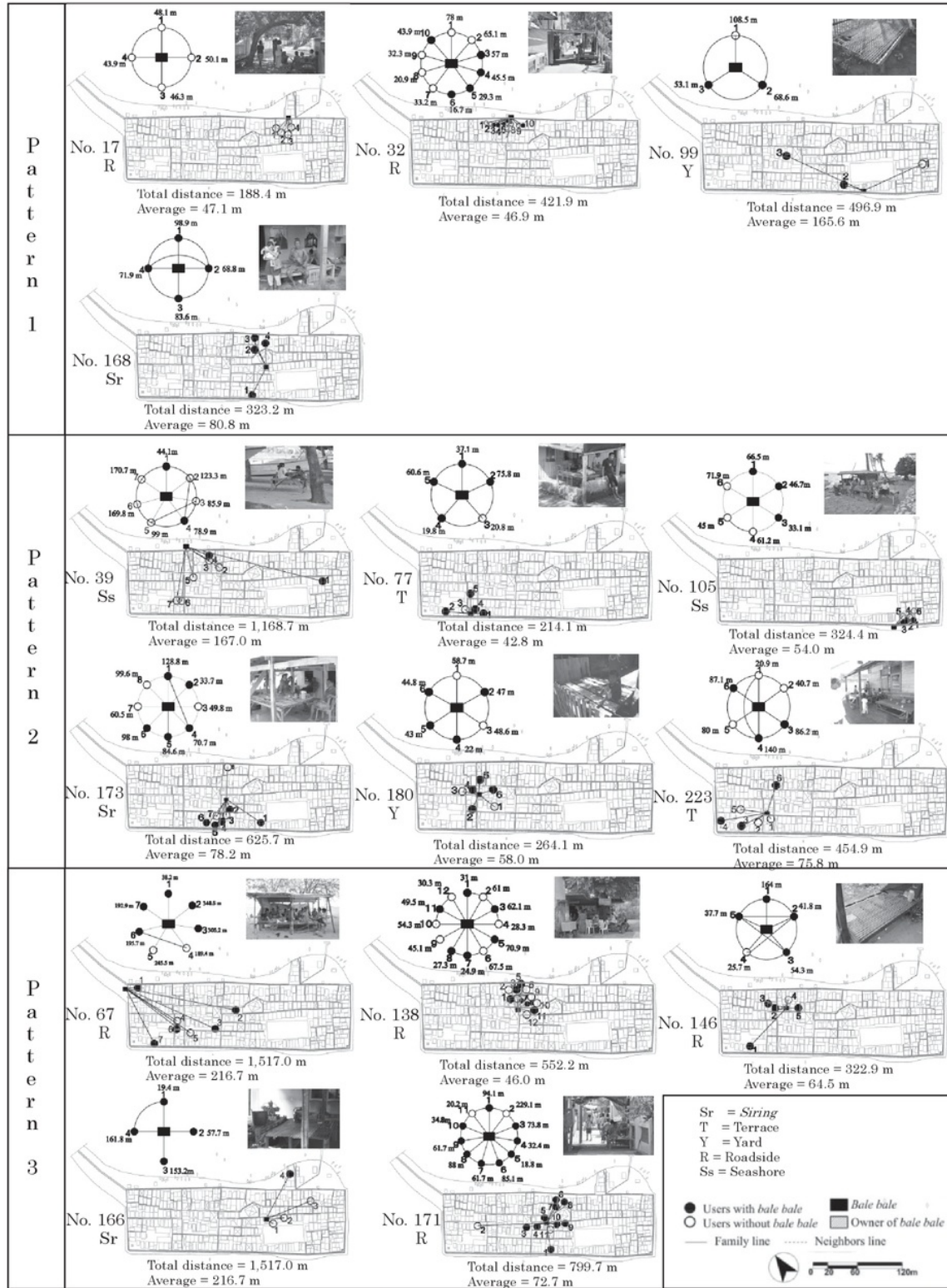


Fig. 10 Place-centered Map

Moreover, both family members and neighbors can use and move the *Bale bale* without the owner's permission.

Second, several factors influence the *Bale bale*'s use as a shared space: the environment, a good vista, and ease of access. A good environment will make the user comfortable—being shielded from the sun by a group of surrounding trees and cooled by the breeze, for example. *Bale bales* on street corners allow users to see far away and from many angles.

Third, the relationships between *Bale bale* owners and users follow three patterns: 1) family relationship; 2) non-family relationship; and 3) both family and non-family relationship.

Fourth, *Bale bale* users are divided into four types: 1) Lae Lae islanders living inland tend to use roadside- and seashore-type *Bale bales*; 2) roadside-type. *Bale bales* are used by families and neighbors who live close to them; 3) terrace- and yard-type *Bale bales* are placed on private property but are used by neighbors; 4) *Bale bales* placed close to kiosks and restaurants are frequently used by Lae Lae islanders.

Fifth, *Bale bales* are private objects placed by owners around the house for family use. However, 1) *Bale bales* are sometimes moved to better environments, not only by the owners but also by neighbors; 2) whether they have their own *Bale bale* or not, many islanders use the *Bale bales* of other family members when they are located in comfortable environment; 3) not only relatives but also neighbors and visitors are permitted to use the *Bale bales* in the island. Through these customs and rules, islanders share their pleasant environment on their high-density island. This system is different from the sharing of public space, of common space in group, and of space generated by a collection of flat private spaces produced by housing as seen in the Gangi system.

Acknowledgment

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Notes

- (i) The *Bale bale*, or *balai balai*, is a seat or bed made of bamboo or wood (Indonesian dictionary, 2008). It has two forms, prototype, and hut-shaped. Not only in Lae Lae isle, but we can find bench like *Bale bale* in many city in Indonesia.
- (ii) The *Endai* is a small wooden bench that used to be located in front of Japanese houses. It was used for family gatherings.
- (ii) The Makassarese and Buginese are the two largest tribes in South Sulawesi Indonesia. The other tribe is the Torajanese.
- (iii) The *Siring* is a space located underneath a *rumah panggung* (house on stilts). It has multiple uses, such as a storage cage, sometimes used for *Bale bales*. It can also for a bedroom, guest room, kitchen, toilet, or living room.

- (v) A *Rumah Panggung* (RP) or house on stilts is a traditional Makassarese/Buginese form of architecture. It is divided into three



parts—a top part for storage, a middle part for daily activities (such as sleeping, cooking, and eating) and a bottom part, called *Siring*.

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和文要約

コモنزやシェアなど，私的所有に替わる空間や場を共有する仕組みについての関心が高まっている。本稿は，インドネシア，マカッサル市の沖合のラエラエ島の縁台的のしつらえであるパレパレをとりあげ，高密度な島において環境を共有（シェア）する仕組みを明らかにするものである。調査・分析の結果，パレパレは基本的に個人の私有物であり，所有者が自分の家族の利用のために住居の近傍に設置するものであるが，1）（所有者でなくとも）より良い環境に移動させて利用する。2）（パレパレを自分でもっていても）浜辺，街角，公共スペース等，環境条件の良い場に設置された他人のパレパレを思い思いに選択し遠出して利用する。3）その際，親族でなくても住民誰でも利用できる，といった使い方によって，公共的な空間を共同で設置する，全員が平等に空間を提供するのは違う方法で，良好な環境を共有するシステムを形成していることが明らかになった。

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