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## Factors affecting the occupants' territory characteristic at the corridor of Cibereum Rental Social Housing - Indonesia

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### Abstract

Generally, the corridor is a space for circulation in the rental social housing. However, in reality, space invasion by occupant's goods and gesture mark a part of the corridor which stimulates another activity on the corridor. This study aims to determine the most influential factors that affect the resident's territory character at the corridor of Cibereum Rental Social Housing. This research uses a combination of qualitative and quantitative methods. The qualitative approach to determine the most influential factor in forming the character of territory. The quantitative method by doing the statistical test of correlation and regression using IBM SPSS Statistics 24. The data is converted into the modification of nominal and Likert scale to find out the most influential factor in the development of resident's territory character that makes it more invasive. The Sundanese, the low-income communities, and the *kampung* traditions of living (cultural factors) according to research conducted influence the formation phase of resident's territory character. The interpretation of the need for space per individual (personal element) affects the development phase of resident's territory character with a stable relationship with the territory character of the residents with 90.7% probability in unit typology 24 and 93.8% in typology unit 27. Situational factors are secondary factors supporting cultural factors when forming the character of territory and personal factors as the character of territory develop. Factors from research conducted can develop the design idea of corridor space based on the occupant's territory character.

Keywords: Territory Character; Rental Social Housing; Corridor; Cibereum

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### 1. Introduction

Rental social housing in West Java is a modular design that is applied over and over so that the problems that occur in one building can happen in all similar structures in West Java. Typical rental social housing typology used are unit 24 with one bedroom (Figure 1, Figure 3) and unit 27 with two bedrooms (Figure 2, Figure 3). The design problem that occurred was the invasion with the personal belongings of the residents on the corridor that disrupted the safety aspects of the building (Figure 4). It becomes very narrow on some sides which interfere with its functionality as circulation space. This phenomenon happens because of the dominance of controls in the space [1].

Territory has levels from non-invasive to the most invasive, namely presence, use and action, appropriation, modification, and disposition [2]. Factors that affect the

character of territory according to the existing theory are personal, situational, and cultural which is too general [3]. Personal factors related to individual matters such as gender, age, education, and religion [3,4]. Everything that causes a situation associates situational factors [3], which in this study is related to spatial and spatial capacity such as some occupants, floor height, and proximity to joint activity space (shared room and laundry room (unit 27)). Cultural factors related to the culture of society [3], which in this study is the tradition of living that of living consist of Sundanese (local people), low-income (resident economic) communities, and *kampongs* (previous residence for the majority of the inhabitants).

The tradition of living in the Sundanese society has the assumption that the person who owns the house also has land around it and is familiar with the mass ordering parallel to each other with circulation in the space between them



Figure 1: One bedroom building typology of Cibereum Rental Social Housing (unit 24).

(linear) [5]. The tradition of living in low-income communities includes simplicity and togetherness [5,6]. The tradition of living in *kampung* has the concept of togetherness, communal, and plebeian [7].

administrative data from social housing manager, which converted into numbers with nominal and Likert scale scales adapted to each factor.

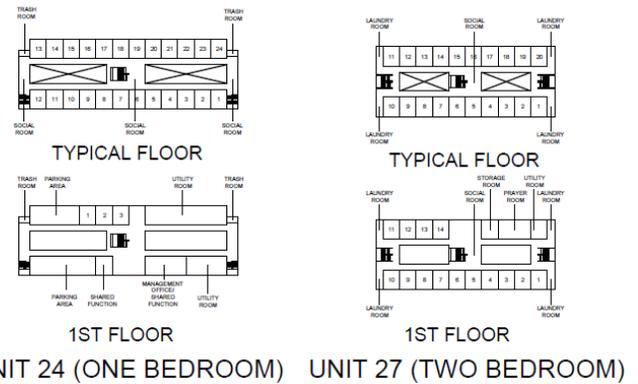


Figure 3: Floorplan of Cibereum Rental Social Housing building typology.



Figure 2: Two bedroom building typology of Cibereum Rental Social Housing (unit 27).

This research will develop the theory with the fact that happened in the corridor of rental social housing in West Java, Indonesia. The results of this research can become additional consideration of the specific factors that affect the West Java occupant's character of territory in the future designing process.

## 2. MATERIALS AND METHODS

The study sample was all units of mass B, C (unit 24), and D (unit 27) representing each typology and difference in building orientation (Figure 5). Data collection for qualitative analysis with field sighting and interviewing residents in the morning, afternoon, and evening, on weekdays and weekends. Data retrieval for quantitative analysis with observation and



Figure 4: Invasion in the corridor of both building typologies.

The scale depends on the variation present in each factor. Territory characters, number of children, and number of occupants consist of four scale scoring. Marriage status and tradition of living comprised of two scales scoring. Distance from joint activity spaces and floor height containing five scales scoring. Age consists of seven scales scoring. Education includes eight scales scoring. Religion consists of three scales scoring. Higher scoring represents more invasive, more, older, taller, farther, and the majority factors. A lower score represents a less intrusive, less, younger, smaller, closer, and minority factors.

The test applied to two typologies of rental social housing with the total sample of 272 samples (198 samples of unit 24 and 74 samples of unit 27). The correlation test to determine the relationship between the determining factor to the territory character of the residents by the Pearson and Spearman-Rho methods depending on the data normality test results. Regression test to obtain the probability of correlation

relationship that happened. Statistical analysis using IBM SPSS Statistics 24 software.



Figure 5: Cibereum Rental Social Housing Complex massing in West Java, Indonesia [Google Earth, March 2017].

### 3. RESULT AND DISCUSSION

Based on the results of interviews, the formation of the territory character of the occupants is influenced by cultural factors. The assumption that space around the house is the house's territory in the Sundanese tradition of living makes the tendency of spatial dominance to the corridor located in the front of the dwelling unit. Also, the living habits of the linear spatial order make the occupants feel the corridor as their own similar to land around a house in the past.

The tradition of living in low-income communities that influences is the concept of simplicity in exploiting the resources around the house to meet the occupant's needs, which in this case is spatial needs. This tradition of living lead to an invasion into the corridor due to the small living area in the dwelling unit and a possible solution, in this case, is only dominating it. Also, social activity is frequently happening in this corridor mainly because of the concept of togetherness which occurred in the space close to the dwelling according to their tradition of living.

The tradition of living in the *kampung* community that influences is togetherness, by doing the activity together. Togetherness applied to many social events that are done collectively around the dwelling by the neighboring occupants. Communal concepts with strong fraternal ties make the occupants dominating the corridor space pleasantly knowing that the nearby occupants are not against it. Plebeian makes the highly invasive act of reducing corridor functionality happen even if it is not very intelligent. Moreover, in character D, the

domination barricading the corridor space made it inaccessible for another occupant.

The territory character that occurs in the corridor has four types (Figure 6). Character A with no physical invasion or temporary minor physical invasion. Character B has the physical broadening of the upper and lower plane of the spatial plane adjacent to the dwelling. Character C has the physical widening of the top and the bottom plane both in the spatial plane adjacent to the unit and the atrium or inner court. Character D has a physical invasion of the upper and lower plane of both the spatial plane of the dwelling and with the spatial plane adjacent to the atrium or inner court with a tendency to block the access (Table 1).

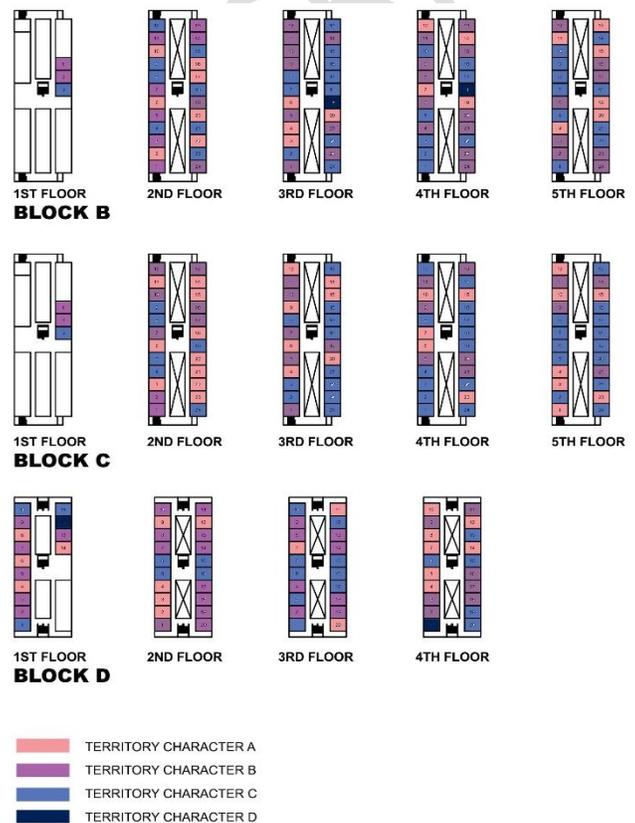


Figure 6: Territory character of Cibereum Rental Social Housing's occupants

The interpretation of space requirements per individual influence the development of the level of territorial invasion occurring in both building typologies. A stable correlation relationship with the very high probability that is 90.7% in unit 24 and 93.8% in unit 27 shows the factor affecting the development of territory character is the interpretation of the individual space requirement (personal element) (Table 2). Other factors have a weak and fragile relationship with a probability below 5% in both typologies that is considered less significant. Cultural factors do not affect the development of

Table 1. Cibereum Rental Social Housing Occupant's Territory Character Type

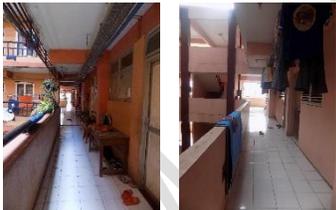
Character type	Existing condition	Territory level
CHARACTER A: A territory character with no physical invasion or temporary minor physical invasion.		Presence
CHARACTER B: A territory character with the physical invasion of the upper and lower plane of the spatial plane adjacent to the dwelling.		Appropriation
CHARACTER C: A territory character with the physical invasion of the upper and the lower plane both in the spatial plane adjacent to the dwelling and the atrium or inner court.		Appropriation (more invasive than CHARACTER B)
CHARACTER D: A territory character with the physical invasion of the upper and lower plane of both the spatial plane of the dwelling and with the spatial plane adjacent to the atrium or inner court with a tendency to block the access.		Appropriation (more invasive than CHARACTER C)

Table 2. Statistical Test on Factor Affecting the Cibereum Rental Social Housing Occupants' Territory Character

Factor	Normality test result	Correlation test method	Correlation test		Regression test	
			Value	Correlation	Value	Probability (%)
Unit 24						
Personal factor						
Marriage status	Abnormal	Spearman-Rho	-0,018	Negative very weak	0,000	0,0
Male age	Normal	Pearson	0,218	Positive weak	0,047	4,7
Female age	Normal	Pearson	0,127	Positive very weak	0,016	1,6
Number of children	Abnormal	Spearman-Rho	0,035	Positive very weak	0,001	0,1

Children age	Abnormal	Spearman-Rho	0,087	Positive very weak	0,007	0,7
Male education	Normal	Pearson	-0,068	Negative very weak	0,005	0,5
Female education	Normal	Pearson	-0,150	Negative very weak	0,022	2,2
Religion	Normal	Pearson	0,030	Positive very weak	0,001	0,1
Space needs interpretation	Abnormal	Spearman-Rho	0,949	Positive very strong	0,907	90,7
Situational factor						
Number of occupants	Abnormal	Spearman-Rho	0,066	Positive very weak	0,003	0,3
Floor height	Abnormal	Spearman-Rho	0,111	Positive very weak	0,010	1,0
Distance from joint activity spaces	Abnormal	Spearman-Rho	-0,026	Negative very weak	0,000	0,0
Cultural factor	Abnormal	Spearman-Rho	0,000	No correlation	0,000	0,0
Unit 27						
Personal factor						
Marriage status	Abnormal	Spearman-Rho	0,024	Positive very weak	0,000	0,0
Male age	Normal	Pearson	0,121	Positive very weak	0,015	1,5
Female age	Normal	Pearson	0,010	Positive very weak	0,000	0,0
Number of children	Abnormal	Spearman-Rho	0,001	Positive very weak	0,000	0,0
Children age	Normal	Pearson	-0,079	Negative very weak	0,006	0,6
Male education	Normal	Pearson	0,111	Positive very weak	0,012	1,2
Female education	Normal	Pearson	-0,120	Negative very weak	0,014	1,4
Religion	Abnormal	Spearman-Rho	0,024	Positive very weak	0,001	0,1
Space needs interpretation	Abnormal	Spearman-Rho	0,975	Positive very strong	0,938	93,8
Situational factor						
Number of occupants	Abnormal	Spearman-Rho	0,001	Positive very weak	0,001	0,1
Floor height	Normal	Pearson	-0,019	Negative very weak	0,000	0,0
Distance from joint activity spaces	Abnormal	Spearman-Rho	-0,139	Negative very weak	0,024	2,4
Cultural factor	Abnormal	Spearman-Rho	0,000	No correlation	0,000	0,0

territory character because they have no relationship based on the correlation test (Table 2). Rental social housing complex's residents have one tradition of living which is a combination of Sundanese, low-income, and *kampong* tradition of life and it is recognized.

#### 4. Conclusions

1. Cultural factors influence the formation phase of territory character (presence to use and action).
2. The most influential cultural factors are the Sundanese tradition of living, the tradition of living in low-income communities, and the *kampong* traditions of life.
3. The interpretation of individual space requirement influences the development phase of the territory character (appropriation, modification, and disposition) which is a personal factor with a stable relationship with the territory character of the residents with 90.7% probability in unit typology 24 and 93.8% in the typology unit 27.
4. Situational factors do not dominantly influence both the formation phase and the development phase of territory character, except for secondary elements that support the cultural factors at the formation phase and personal factors at the development phase.

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