

**INTERNATIONAL JOURNAL OF
INNOVATIVE RESEARCH AND KNOWLEDGE**

ISSN-2213-1356

www.ijirk.com

**Periodization of Hybrid Space Becoming in Urban Sprawl
Phenomenon Case Study: Darmo Permai Area Surabaya****Darmansjah Tjahja Prakasa**Department of Architecture, Faculty of Engineering
Universitas 17 Agustus 1945, Surabaya, Indonesia**Abstract**

The downtown under certain conditions is no longer suitable as a place to live for its citizens. This condition causes residents to move from the center to the urban periphery for certain reasons. This kind of phenomenon is known as urban sprawl. Theoretical studies on urban sprawl tend to harm the urban periphery. On the other hand, urban sprawl proceeds in the form of a dynamic mechanism through periods of time to produce a hybrid space. This creates a research gap in that there is no research on the periodization of hybrid space becoming in the urban sprawl phenomenon. The periodization of the hybrid space becoming is a dynamic mechanism for the urban sprawl phenomenon that has a positive impact. This study uses a constructivism paradigm and a combined strategy: mixed-methodology design, which is a combination of qualitative research and case studies. The first analysis is the condition of the hybrid space aspects analysis in the Darmo Permai area of Surabaya on the urban sprawl phenomenon. Second, analyze the periodization of hybrid space becoming in the Darmo Permai area of Surabaya in response to the urban sprawl phenomenon. The results of this study consist of, first, the findings of the condition of five aspects of hybrid space in the Darmo Permai area of Surabaya in the urban sprawl phenomenon. Second, the findings of the periodization of hybrid space becoming in the Darmo Permai area of Surabaya in response to the urban sprawl phenomenon.

Keywords: Dynamic Mechanism, Hybrid Space Aspect, Hybrid Space Periodization, Urban Sprawl.

I. INTRODUCTION

1.1. Urban Sprawl Phenomenon and Impact

The growth of a city can make it more difficult to live downtown. At a certain time, intensive urban growth becomes less effective so that it shifts to extensive. This includes planned urban expansion and unplanned urban sprawl. This situation triggers the city's development towards the sub-urban (Stan, 2013). Definitions of urban sprawl regarding the concept as unplanned, uncontrolled development, single land use, uncoordinated, and not providing mixed land use to surrounding land uses (Nelson, A.C and J.B. Duncan, 1995). This happens because as a cause of excessive land consumption in open spaces, congestion due to increased commuting, and socio-economic segregation due to the exclusive housing market (Carruthers and Ulfarsson, 2002). Sprawl growth is expected to have a significant financial cost for infrastructure (Burchell and Mukherji, 2003) and public health concerns (Sturm and Cohen, 2004).

The phenomenon of urban sprawl is positioned as a static pattern and tends to have a negative impact (Ewing, Pendall and Chen, 2002). Meanwhile, urban sprawl is seen as a process that tends to be dynamic. This negative condition requires time to improve extensive urban sprawl growth will formalize the hybrid space (Gordon and Richardson, 1998).

The analysis of the hybrid space aspect is based on the five aspects of the hybrid space from Stan. The five aspects of the hybrid space include coexistence, transfusion, interconnection, ambivalence, and heterogeneity. The findings in the case study are in the form of socio-cultural, socio-religious, social community, and socio-economic facilities that are characterized by the definition of each aspect of the hybrid space. The discovery of the five aspects of the hybrid space in the case study is a process that shows that the urban sprawl phenomenon has a positive impact. The positive impact is unity due to meetings between newcomers in Darmo Permai housing with residents.

1.2. Urban Sprawl Mechanism

Urban sprawl can be viewed in terms of patterns and processes. If urban sprawl is seen as a process, it is a dynamic phenomenon. Furthermore, if urban sprawl is seen as a process, it is a dynamic phenomenon. Static phenomena are seen only as events when urban sprawl occurs so that it tends to harm the urban periphery (Galster, et al., 2001). Meanwhile, a dynamic phenomenon is a process that take a long time to unite newcomers and locals. This dynamic phenomenon tends to have a positive impact on the urban periphery. Stan's writing is a stimulant to understand the position of urban sprawl as a process of the urban sprawl phenomenon. Stan explains that urban sprawl needs to be understood in its form and relationship through dynamic mechanisms that occur in the sprawling area. The mechanism in the sprawling area through periods to produce a hybrid space.

The definition of hybrid space according to Stan explains that hybrid space is a continuous heterogeneity of areas in urban expansion. Stan's writing only mentions five aspects of hybrid space without describing the spatial hybrid space. There are not many writings on hybrid space related to urban sprawl except for Stan. Another article on hybrid space from Cho is irrelevant because it is related to the context of public space in the middle of a high-density city and is not related to the context of urban sprawl (Im Sik Cho, et. al., 2016). Meanwhile, the article on hybrid space by Krasilnikova and Klimov is also irrelevant because it is not related to urban sprawl (E. Krasilnikova and D. Klimov, 2016).

The originality of this study is first to describe in more detail the five aspects of the hybrid space based on the findings of the case study. The second originality is to position urban sprawl as a process through dynamic mechanisms through periods to form a hybrid space. Based on the above discussion, the research question is how are the aspects of hybrid space in the Darmo Permai area Surabaya in terms of the urban sprawl? How is the periodization of the hybrid space in the form of dynamic mechanisms in the Darmo Permai area of Surabaya in responding to the urban sprawl?

II. METHODS

2.1. Research Strategies

This study focuses on the findings of hybrid space and periodization through a dynamic mechanism in the context of the urban sprawl phenomenon. The urban sprawl phenomenon in the case study was discovered in 1973. Therefore, the paradigm used is constructivism. This paradigm is to understand and reshape existing constructions of past events. This research strategy uses a combined strategy: mixed methodology design. The strategy in this study contains a combination of qualitative research and case studies (Groat and Wang, 2013). The validation of qualitative research strategies determination and case studies is based on several similar studies on urban sprawl. Similar studies using qualitative strategies and case studies are found in the writings of Hilman (2004), Polidoro, et al. (2011), Slaev and Nikiforov (2013), Stan (2013), Zeković, et al. (2015).

2.2. Research Design

This study requires respondents who know the conditions of post-urban sprawl in the past in the case study. This research is qualitative research with the purposive non-probability determination of respondents. Purposive sampling is also known as judgmental sampling because there are careful considerations in selecting respondents. The respondents consisted of community leaders, administrators of community institutions, the developers of Darmo Permai and the Sub District Head. The research data was obtained by asking the respondents through a questionnaire (11 people) and in-depth interviews (four people). With details of the choice of the questionnaire of seven respondents from village residents, two respondents from Darmo Permai housing residents, one respondent from the developer, and one respondent from the Sub District. Meanwhile, in in-depth interviews, one respondent each from the village, housing, developer, and Sub District residents.

The validation of the findings is obtained by observing the repeated and consistent information from several selected respondents. This is characterized by consistent or relatively the same answers from similar questions to several different respondents. So the intensity of the consistency of the similarity of answers from the respondents becomes a measure of determining the conditions and when aspects of the hybrid space are formed. Data from questionnaires and in-depth interviews of selected respondents were then used to analyze in detail the conditions of the hybrid space aspect and the periodization of hybrid space formation in the urban sprawl phenomenon.

The discussion in this study begins by positioning the case study as the urban sprawl phenomenon representation. The second discussion describes the conditions of the five aspects of the hybrid space, including the time of its formation. The third discussion is the periodization through a dynamic mechanism of the hybrid space formation. The periodization is based on the year the five aspects of the hybrid space appeared in the second discussion. Furthermore, the second and third discussion ends with a discussion between the research findings and the existing theory.

III. ANALYSIS AND RESULT

3.1. Context Appropriateness, Definition, and Characteristics of Case Studies as Urban Sprawl

The definition of urban sprawl in the Darmo Permai area meets the requirements regarding the growth of urban expansion from the center to the urban periphery which began in 1973 (West Surabaya) which was driven by market conditions (figure 1). This is indicated by the absence of plotting plans and inefficient conditions. The Darmo Permai area was developed without any plotting of land use which can be seen in the Surabaya Masterplan 2000 (Pemerintah Kotamadya Surabaya, 1978). The inefficiency of the Darmo Permai area is because the area meets the characteristics of urban sprawl, among others: the first characteristics are low density, which is marked by large plots for the upper economic class. Based on the Surabaya Masterplan 2000 the density of Darmo Permai residential

buildings is classified as low density. Patchwork is characterized by building housing processes and supporting facilities to meet the vacant needs of residents. Scattered, indicated by the vacant land presence due to the land acquisition process from the original settlements that have not been completed. So the house was built based on the condition of the status of the land that had been acquired with uneven conditions. Discontinuity, indicated by the absence of a relationship with the surrounding villages (Prakasa, 2018).

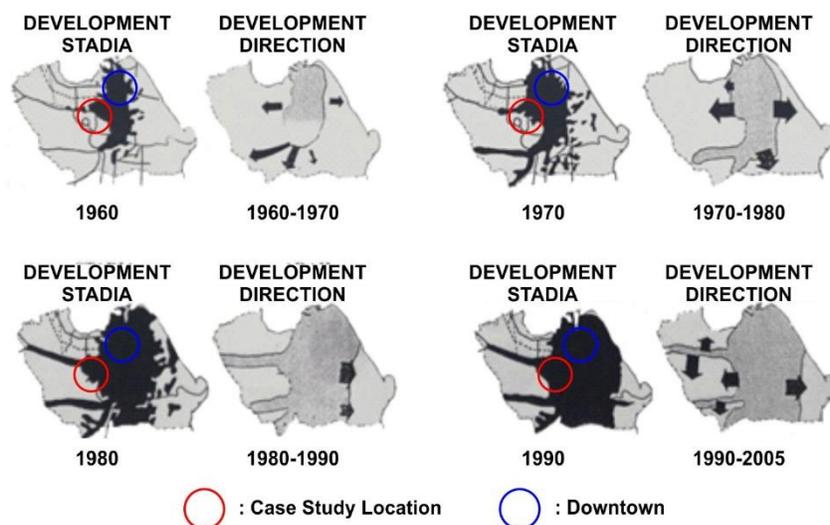


Figure 1: Stadia and direction of development of the City of Surabaya

(Source: City Government of Surabaya, 1978)

The second characteristic is the lack of land use differences or homogeneous land (dominated by housing). There is no good definition found with housing conditions experiencing a crisis of confidence due to unstable soil conditions and low carrying capacity. This makes the prestige of the area doubtful. The growth of activity centers, due to the emergence of new facilities in the form of housing, has triggered the emergence of new activity centers on the urban periphery of West Surabaya. With the growth of public services and trade, it can be understood that the presence of housing in this area will be followed by the growth of supporting facilities. The supporting facilities are public service facilities, shophouses, and public services and trade. The third characteristic is the lack of access to public transportation. Considering that in the 1970s, the area was suburban, public transportation facilities had not yet been reached. As for access to the downtown rely on private vehicles. Based on these three characteristics, the Darmo Indah area is considered to meet the requirements as a case study of the urban sprawl phenomenon (Prakasa, 2018).

3.2. Darmo Permai Residential Area and Surrounding Villages

This research is limited in time to review the process of the urban sprawl phenomenon in the city of Surabaya from 1973 to the present. This was done considering the urban sprawl phenomenon that occurred in the case study location which began in 1973 at the same time as the Darmo Permai housing estate. The city of Surabaya in the 1970s experienced progress in terms of business in the downtown. The condition of the downtown began to show discomfort to be a place to live. This resulted in the displacement of the population towards the urban periphery. This phenomenon was captured by housing developer Darmo Group to provide more comfortable housing. These developers included Darmo Permai (300 ha) in 1973, Darmo Grande (125 ha) in 1973, and Darmo Satellite (175 ha) starting in 1974.

The development stage of the Darmo Permai area started from a village called Pradah Kalikendal and Kawal Kalikendal around before the 1960s. In north Pradah Kalikendal, there are village houses that are spread unevenly. The spread of the village lasted until around the 1970s. The settlement area, at that time, time was about 10% compared to the area in 1980-1985. Furthermore, in the 1970-1975s, the Darmo Permai housing phase began to be built. Phase I development was carried out through land acquisition which was carried out in stages. Phase I development resulted in the resettlement of village distribution in 1975-1980s (Pradah Permai village). The village is unique because it is right in the middle of Darmo Permai's formal housing estate. Furthermore, Darmo Permai continued its construction to stages II and III. In the same year, the new villages of Sono Rejo also emerged. The Darmo Permai housing construction completed stages IV and V, approaching the 1980-1985s. Along with these developments, a new village named Pradah Indah appeared which was located on the south side of Stage IV. To clarify the growth stadia for Darmo Permai housing and the surrounding villages, it can be seen in Figure 2.

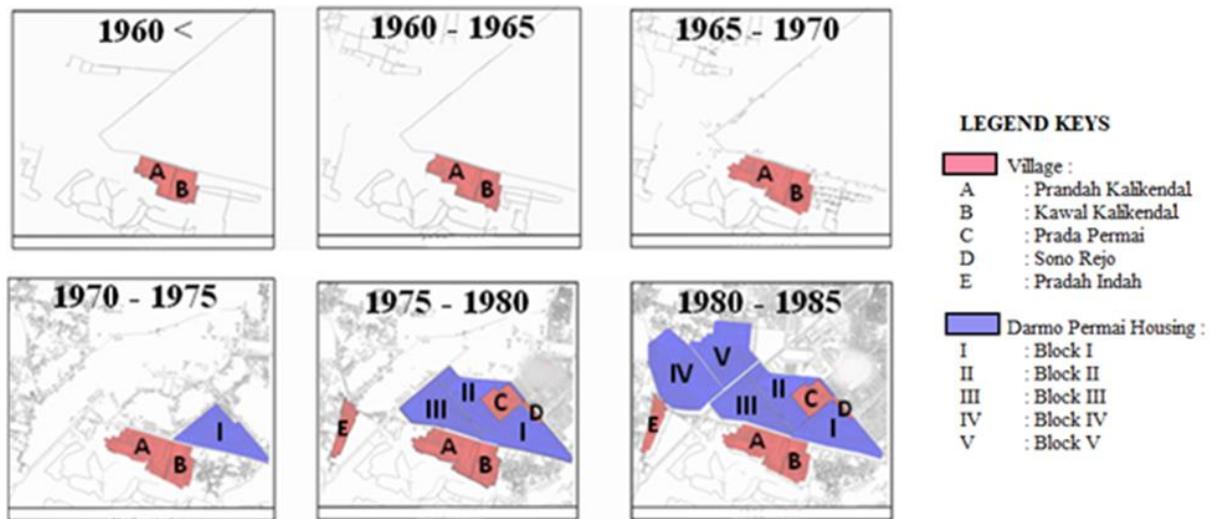


Figure 2: Phase of housing growth for Darmo Permai and its surrounding villages

(Source: Results of survey and archives of PT. Darmo Permai, 2022)

3.3. Hybrid Space Aspect Analysis

3.3.1. Analysis of the Coexistence Aspect

The conceptual definition of coexistence then derived into an operational definition. The two communities live side by side peacefully (Cambridge Dictionary, 2021). The operational definition of coexistence in this study is space in an urban area that accommodates two communities that live together at the same time or in the same place. The purpose of the two communities is between residents of Darmo Permai housing and surrounding villages with different characters. These differences in character tend to appear on the socio-cultural, religious, and socio-community sides.

The physical character of this aspect is in the form of spaces/places for different groups of citizens and directly adjacent/adjacent. The questionnaire results found that activities belonging to the coexistence aspect were earth alms activities activities, and the adjoining settlement between resettlement village houses and housing. The place or space for the charity activity is located in Barongan Watu Neighborhood-03 as a form of gratitude to local ancestors. This event ran peacefully even though it was in the middle of Darmo Permai housing. This type of facility is included in the socio-cultural facilities. This facility was formed from 1973 until now.

Activities included in the second aspect of coexistence are worship, including a series of worship activities at the At-Taqwa Mosque, the Maranatha Satellite Church of Allah, and the Hwa Sen Miau Temple. This activity is included in the coexistence aspects because even though these facilities have different beliefs, they still coexist peacefully. This type of facility is included in the socio-religious facility. This facility was formed in 1981 until now. The activity that belongs to the third aspect of coexistence is the coexistence of the resettlement village house and housing located in Pradah Permai Neighborhood-04. This is unique because the village is located in the middle of Darmo Permai housing. This type of facility is included in the socio-community facilities. This facility was formed in 1977 until now (figure 3).

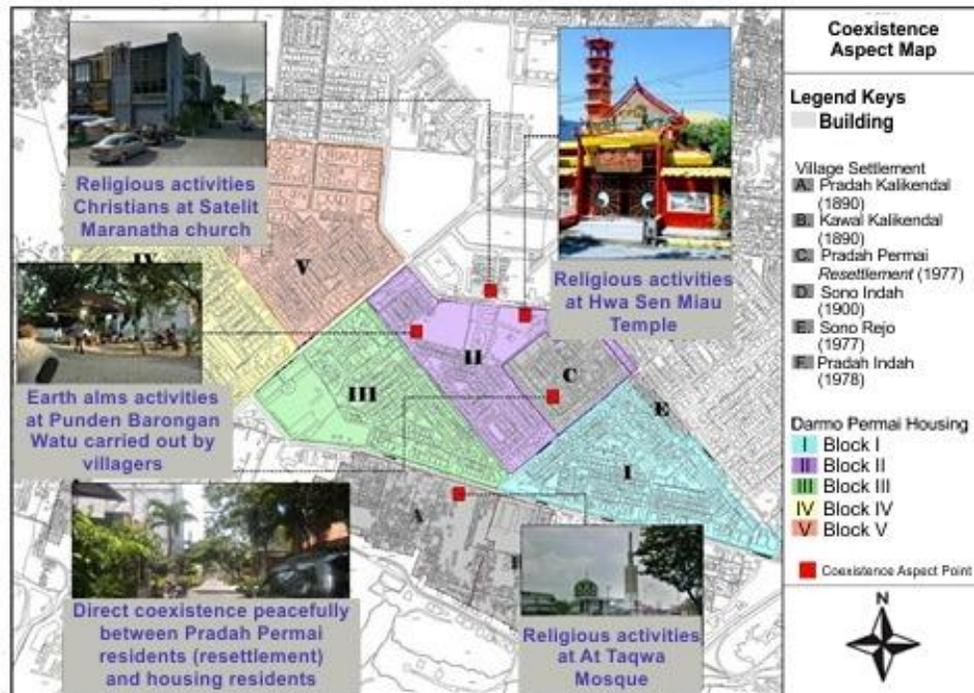


Figure 3: The space of the coexistence aspect in the form of types of socio-cultural, religious, and community activities

(Source: Result of Analysis, 2022)

3.3.2. Analysis of Transfusion Aspect

The conceptual definition of transfusion is from the Cambridge Dictionary and then derived into an operational definition of transfusion in this study is a space in an urban area that accommodates the process of giving from one party to another in need. This giving process is one-way. channeling from one citizen's interest to another. This means that there is a one-way interaction between residents of housing and residents of the village or vice versa. These interactions tend to be in the form of one-way contributions culturally, religiously, and socially.

Based on the questionnaire data, the findings of activities that are included in the aspect of transfusion are alms of the earth, worship of Muslims in mosques, provision of grave land, and donations of necessities. First, the place or space for the earth's alms activity is in Barongan Watu Neighborhood- 03. This activity belongs to the transfusion aspect because there is a donation of funds to the earth alms event from the Darmo Permai housing administrator. This type of facility is included in the socio-cultural facilities. This facility was formed in 1973 until now.

Furthermore, the second activity which is included in the aspect of transfusion is the worship activities of Muslims at the At-Taqwa mosque. This activity is included in the aspect of transfusion because the residents of the housing contributed construction funds to the At-Taqwa mosque. This type of facility is included in the socio-religious facility. This facility was formed in 1980 until now. The third activity of the transfusion aspect is the provision of the burial ground in the Puncak Permai cemetery. The tomb is the tomb of villagers who through an agreement that residents of Darmo Permai housing can also use it. This type of facility is included in the socio-community facilities. This facility was formed from 1980 until now. The fourth activity is the donation of basic necessities at the Sub District office. This type of facility is included in the social community facilities. This facility was formed in 1990 until now (figure 4).

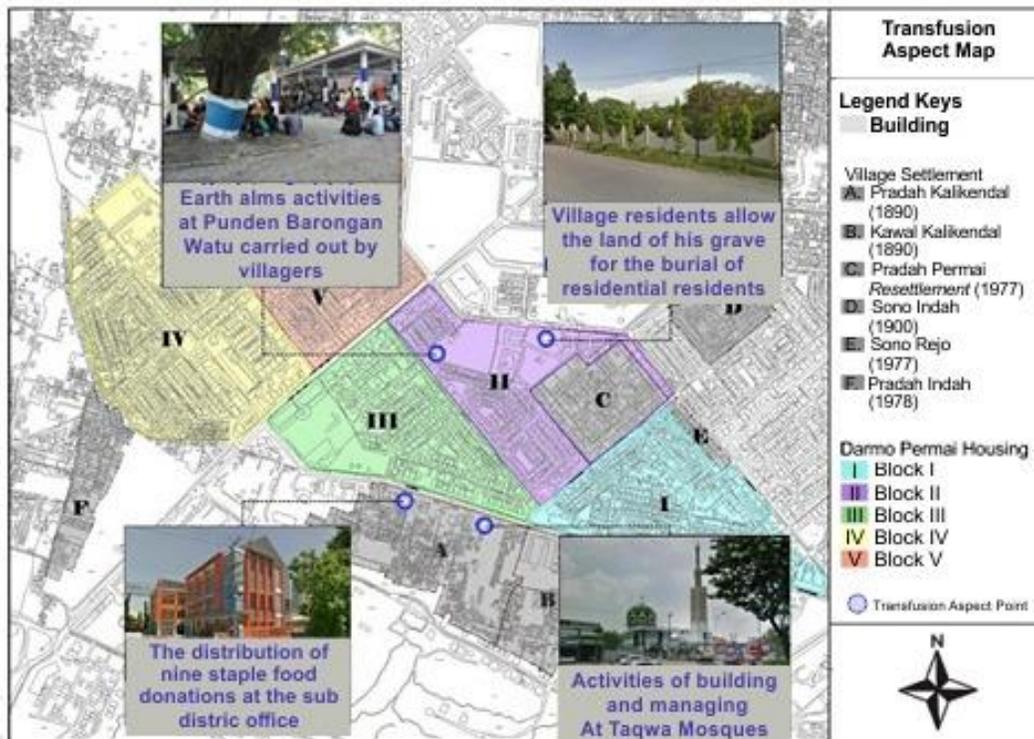


Figure 4: The space of the transfusion aspect in the form of types of socio-cultural, religious, and community activities

(Source: Result of Analysis, 2022)

3.3.3. Analysis of Interconnection Aspect

The conceptual definition of interconnection referred to is from the Cambridge Dictionary and then derived into an operational definition in this study is space in an urban area that accommodates interconnectedness with one another. The relationship is a reciprocal interaction between two or more elements of citizens (interaction is a two-way interaction, both from residents of Darmo Permai housing and the surrounding villages). These two-way interactions tend to be in the form of socio-religious, socio-community, and socio-economic activities.

Based on the questionnaire data, the findings of activities belonging to the interconnection aspect are activities to commemorate the independence of the Republic of Indonesia, religious worship, recruitment of workers, coordination meetings, and sports. The first room or place of activity is the commemoration of the independence of the Republic of Indonesia in the courtyard of the Pradah Kalikendal Sub-District office. This activity belongs to the

interconnection aspect because there is a reciprocal interaction between residents of Darmo Permai housing and villagers. These activities include healthy walks, thanksgiving, recitation, and wayang kulit performances. This type of facility is included in the socio-community facilities. This facility was formed in 1981 until now.

The second aspect of interconnection is religious worship at the At-Taqwa Mosque and the Maranatha Satellite Church. These activities are classified in the interconnection aspect because there is a two-way interaction between residents of housing and villages to worship together and become administrators of mosques or churches. This type of facility is included in the socio-religious facility. This facility was formed in 1981 until now. The third interconnection aspect is that the recruitment of workers resides in each individual's home and residential environment. This is classified in the interconnection aspect because there is mutual need and giving between residents of Darmo Permai housing (financially) and village residents (energy). This type of facility is included in the socio-economic facilities. This facility was formed from in 1981 until now.

The fourth activity that is included in the interconnection aspect is a coordination meeting at the Pradah Kalikendal Sub-District office and a coffee shop. This activity is a reciprocal or two-way relationship between housing residents and the village through a coordination meeting. This type of facility is included in the socio-community facilities. This facility was formed in 1990 until now. The following five interconnection aspects are sports at the Pradah Kalikendal Sub-District office and a small residential area park. This sports activity can be a means of two-way communication between residents of housing and villages. This type of facility is included in the socio-community facilities. This facility was formed from in 1990 until now (figure 5).

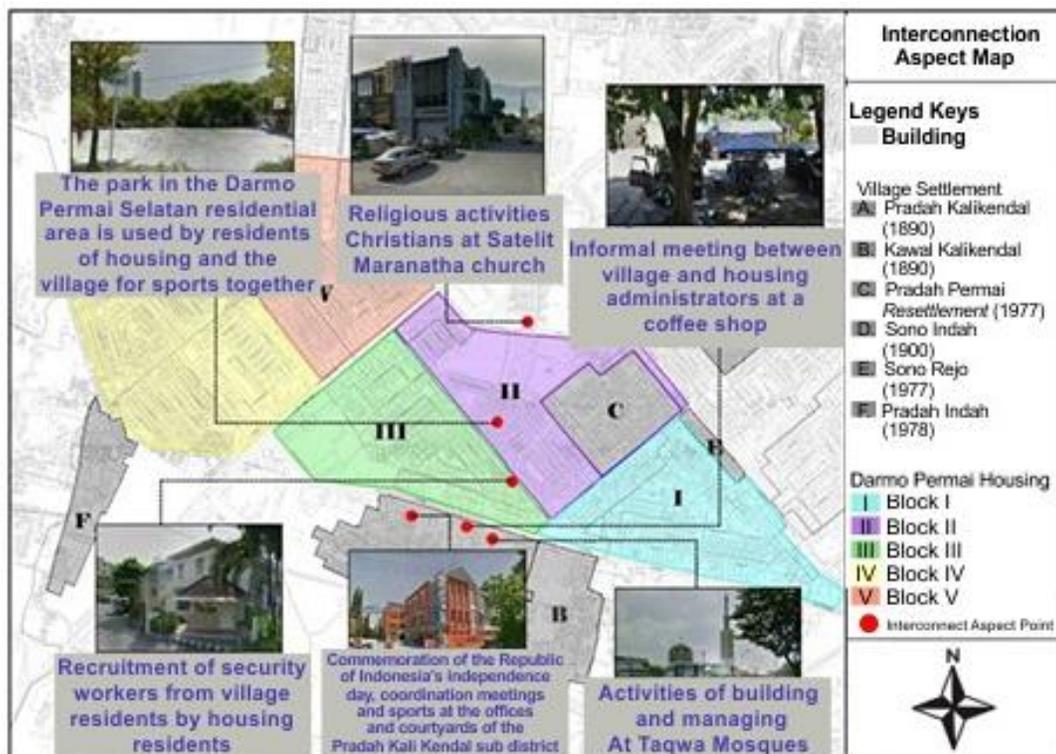


Figure 5: Interconnection aspect space with types of socio-community, religious, and economic activities
 (Source: Result of Analysis, 2022)

3.3.4. Analysis of Ambivalence Aspect

Ambivalence is one of the factors for the occurrence of hybrid culture in society (Priventa, 2019). The operational definition in this study is a space in an urban area that accommodates attitudes towards conflicting unconscious feelings towards a situation or person at the same time. Conflicting attitudes towards the situation in the form of ambiguous attitudes of citizens, namely attitudes that are not clear between elements/groups of citizens. The ambiguity in question is the lack of clarity of attitude between the residents of Darmo Permai housing and the residents of the surrounding villages. This ambiguity tends to be in the form of socio-cultural activities.

Based on the questionnaire data, the findings of the space of activity that are classified as ambivalence aspects are the earth alms event. Earth alms activities are classified in the ambivalence aspect because of the ambiguous attitude of Darmo Permai residents towards the earth alms event. The earth alms event is at Barongan Watu Neighborhood-03 which is located in the middle of the Darmo Permai housing estate. This type of facility is included in the socio-cultural facilities. This facility was formed in 1973 until now (figure 6).

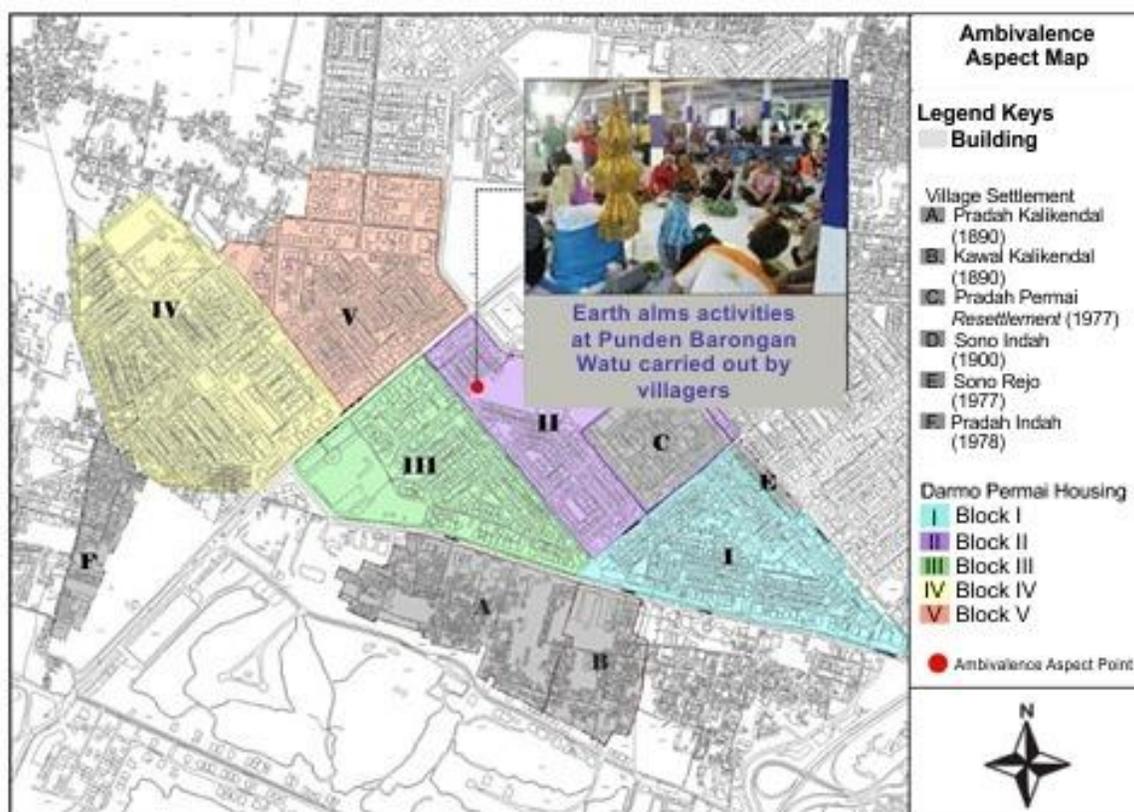


Figure 6: The space/place of the ambivalence aspect is the type of socio-cultural activity

(Source: Result of Analysis, 2022)

3.3.5. Analysis of Heterogeneity Aspect

Heterogeneity is based on the assumption that if diverse people live together, they are better off. They will learn and will appreciate differences (Gultom, Gandarum and Ischak, 2015). The operational definition in this study is space in an urban area that accommodates something that is formed from different or not the same parts, both in different materials and in different quantities. Furthermore, what is referred to as the different parts are the activities of the residents who vary and differ in nature or type which tend to be socio-community activities. Based on the

questionnaire data, the findings of activities belonging to the heterogeneity aspect are places or spaces that accommodate a variety of activities. These activities include the commemoration of the Republic of Indonesia's independence day, coordination meetings, sports and food donations. Places that accommodate these diverse activities are the Sub-District office and coffee shops. The first activity from the heterogeneity aspect is that the space or place to celebrate Indonesia's independence day is in the courtyard of the Pradah Kalikendal Sub-District. This type of facility is included in the socio-community facilities. This facility was formed in 1981 until now.

While the activities of the two aspects of heterogeneity are coordination meetings at the Pradah Kalikendal Sub-District office and coffee shops. Both places are included in the heterogeneity aspect because they accommodate various kinds of activities. This type of facility is included in the socio-community facilities. This facility was formed in 1990 until now. The activities of the three aspects of heterogeneity are the sports space in the Pradah Kalikendal sub-district office yard and the small garden of Darmo Permai housing. The sports activity was held at the sub-district office, which was in the hall behind the office before being renovated. After the renovation, the sport is carried out on the third floor. The small park is located in Neighborhood Unit-02 housing Darmo Permai on a basketball court. This type of facility is included in the socio-community facilities. This facility was formed in 1990 until now. The activity of the four aspects of heterogeneity is the activity of donating necessities at the Pradah Kalikendal Sub-District office. This type of facility is included in the socio-community facilities. This facility was formed in 1990 until now (figure 7).

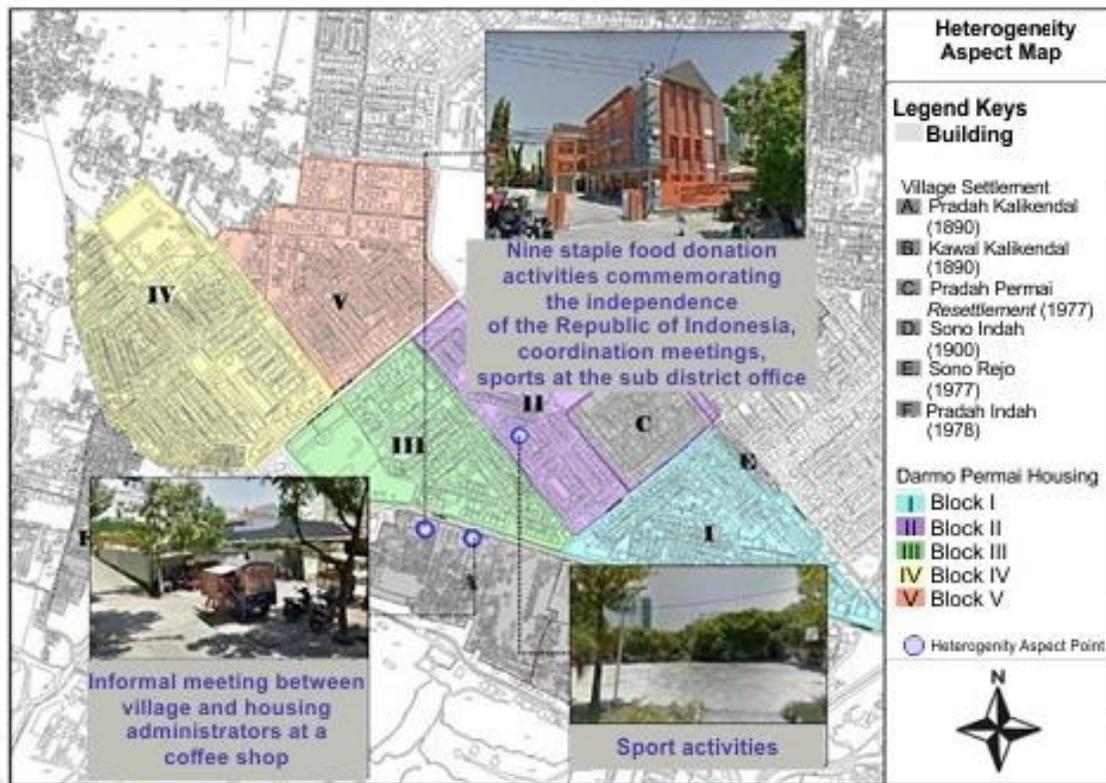


Figure 7: Space aspects of heterogeneity in the form of types of socio-community activities

(Source: Result of Analysis, 2022)

3.3.6. Discussion

The discussion on hybrid space conditions contains a discussion between hybrid space theoretical/writing and research findings. The main theory regarding hybrid space refers to the writings of Stan (2013). This discussion is divided into three parts, in the form of a comparison of theory and research results, first, the definition of hybrid space; second, the aspect of hybrid space; and third, the relation of hybrid space with the urban sprawl phenomenon. The discussion in the first part, related to the definition of hybrid space according to Stan explains that hybrid space is a continuous heterogeneity of areas in urban expansion. The findings in this study support the definition of Stan, explains that hybrid space is a continuous heterogeneity of areas in urban expansion. The heterogeneity in the case studies is shown by the finding of hybrid spaces that have many functions. Heterogeneity in question is a space with various activities of different nature and types. This heterogeneity aspect occurs continuously in urban expansion. This is indicated by the heterogeneity in the types of socio-community activities (table 1), while a type of socio-community is dominant compared to other activities. So heterogeneity has proven to be quite important because it occurs continuously in urban sprawl according to Stan.

Stan describes that hybrid space is a concept that explains the dynamics of the patchwork structure in the periphery. The area is a heterogeneous land consisting of several repeated interactions of spatial groups as a whole. Based on questionnaires and in-depth interviews, the findings in the case study support Stan's writing with a dynamic patchwork structure. The dynamics of the patchwork structure is found in the needs of public facilities, both those needed by the residents of Darmo Permai housing and the village which are achieved through unplanned natural processes. For example, housing residents who need a burial place is provided from the village burial place. On the other hand, the villagers perform the Earth Alms ritual in the middle of the housing estate, given access by the housing residents. The interaction of groups on heterogeneous land in the case study was found in the heterogeneity hybrid space aspect, namely the village office, coffee shop, and residential garden. Some of the interacting groups are villagers and housing. This group of residents includes administrators, ordinary citizens, and village officials.

In the second part of the discussion, Stan wrote that there are five aspects of the hybrid space, namely coexistence, transfusion, interconnection, ambivalence, and heterogeneity. The five aspects of the hybrid space are found in this study. So the findings of this study support the writings of Stan. Next Stan seats each aspect of the hybrid space on an equal level. Stan did not explain the different levels of dominance in each aspect of the hybrid space. While this research novelty is the discovery of differences in the dominance level of hybrid space in each aspect. The level of dominance of the hybrid space aspect is based on the intensity of the number of hybrid spaces sourced from the respondents' answers. This can be seen in the order of the largest to the smallest aspects found in the field. The aspects of the hybrid space found in order of dominance are first interconnection, second transfusion and heterogeneity, third coexistence, and fourth ambivalence. The level of dominance of the hybrid space aspects is to deepen Stan's writing (Figure 8).

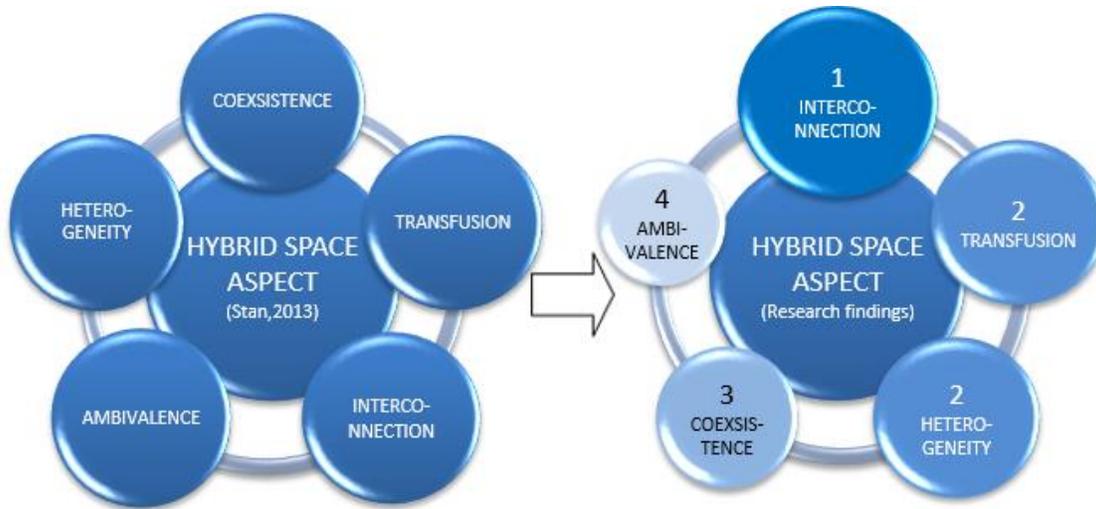


Figure 8: Comparison of the order of dominance levels of the hybrid aspect of Stan (2013) with research findings

(Source: Result of Analysis, 2022)

Table 1: Finding Types of Activities and Space in the Hybrid Space Aspect

No	Activity Type	Place	Hybrid Space Aspect					Domination
			Coexistence	Transfusion	Interconnect	Ambivalence	Heterogeneity	
1	Charity of the earth (social cultural)	Barongan Watu	●	●		●		Less dominant
2	Religious worship (social religious)	At-Taqwa Mosque, Maranatha Satellite Church, Hwa Sen Miao Temple	●		●			Less dominant
3	Worship of Muslims (social religious)	At-Taqwa Masjid Mosque		●				
4	Side by side between resettlement village and housing (social community)	Pradah Permai Village Neighborhood 04	●					Dominant
5	Coordination meeting (social community)	Pradah Kalikendal sub-district office & coffee shop			●		●	
6	Provision of grave land (social community)	Puncak Permai Cemetery		●				
7	Nine staple food donations (social community)	Pradah Kalikendal sub-district office		●			●	
8	Commemoration of the independence of the Republic of Indonesia (social community)	Pradah Kalikendal sub-district page			●		●	
9	Sports (social community)	Pradah Kalikendal sub-district yard and a small garden housing Darmo Permai			●		●	
10	Labor recruitment (social economy)	Houses of residents of Darmo Permai housing and Darmo Permai residential neighborhoods						Not dominant
Domination			Less dominant	Dominant	Very dominant	Not dominant	Dominant	
Finding			<ul style="list-style-type: none"> - The type of social community is the first (dominant) activity that accommodates aspects of the hybrid space, namely coexistence, transfusion, interconnection and heterogeneity. - The type of social cultural activity is the second most (less dominant) activity that accommodates aspects of the hybrid space including coexistence, transfusion and ambivalence. The second most common type of activity is about social religious (less dominant) including coexistence, transfusion and interconnection. - The type of activity related to the social economy is the third largest activity (not dominant) to accommodate the interconnection hybrid space aspect. - From all types of hybrid space activities, among the aspects of the hybrid space that most show sequentially are interconnection (very dominant), then transfusion and heterogeneity (dominant), then coexistence (less dominant) and finally ambivalence (not dominant). 					

(Source: Result of Analysis, 2022)

3.4. Periodization Through a Dynamic Mechanism of the Hybrid Space

Hybrid space occurs through a process with several periods. The determination of the period is based on the year the five aspects of the hybrid space appeared in the case study sourced from interviews with selected respondents. The periodization is a dynamic mechanism for the formation of a hybrid space. The period is divided into five, the first period is 1973-1976, the second period is 1977-1979, the third period is 1980, the fourth period is 1981-1989, and the V period is 1990. All of them continue until now. The division of the year is found naturally in the field following the year the hybrid space aspects appeared in the case study.

3.4.1. Period I Formation of Hybrid Space

The first period was the formation of the hybrid space starting in 1973-1976 which lasted until now. The determination began in 1973 because that year was the first year the residents of Darmo Permai housing lived. In the same year residents of Darmo Permai housing began to meet with residents of the surrounding villages. The 1973 determination is also related to the emergence of the first hybrid space. While the determination of 1976 is the year before the emergence of the second hybrid space, namely 1977. Based on interviews with respondents, the activities that took place in the first period of 1973-1976 which have continued until now are earth alms activities in Punden Barongan Watu. In period I, three aspects of the hybrid space were found, namely coexistence, transfusion, and ambivalence. More details can be seen in table 2.

3.4.2. Period II Formation of Hybrid Space

The second period was the formation of the hybrid space starting from 1977-1979 which lasted until now. The determination started in 1977 because that year the second hybrid space occurred. While the determination of 1979 is the year before the emergence of the third hybrid space, namely 1980. Based on interviews with respondents, the activities that occurred in the second period are only the coexistence of the resettlement village and housing in the village of Pradah Kalikendal Neighborhood-04. In the second period, only one aspect of the hybrid space was found, namely coexistence. In the second period, 1977-1979, and continuing until now, the activities are open, flexible, multifaceted, and informal with the type of socio-community carried out routinely throughout the period. day. More details can be seen in table 2.

3.4.3. Period III Formation of Hybrid Space

The third period for the formation of the hybrid space began in 1980. The determination began in 1980 because in that year the third hybrid space occurred which continues until now. Based on interviews with respondents, the activities that occurred in the third period from 1980 are the worship activities of Muslims at the At-Taqwa Mosque and the provision of grave land at the Puncak Permai cemetery. In this period of the year, only the hybrid aspect of the transfusion room was found. More details can be seen in table 2.

3.4.4. Period IV Formation of Hybrid Space

The fourth period was the formation of a hybrid room starting from 1981-1989 which has continued until now. The determination began in 1981 because that year the fourth hybrid space occurred. While the determination of 1989 is the year before the emergence of the fifth hybrid space, namely 1990. Based on interviews with respondents, the activities that occurred in the fourth period in 1981-1989 are religious worship activities in mosques, churches, and temples. All these activities are found in the hybrid space aspect of coexistence. Furthermore, commemorating the Republic of Indonesia independence, which are in the village courtyard and religious services located in mosques, churches, and temples are all contained in the aspect of interconnecting hybrid spaces. Meanwhile, labor recruitment that occurs in homes and residential environments is all found in the aspect of interconnecting hybrid spaces. It was

also found that the commemoration of the independence of the Republic of Indonesia in the village courtyard accommodated the heterogeneity hybrid aspect of space. More details can be seen in table 2.

3.4.5. Period V Formation of Hybrid Space

The fifth period of the formation of the hybrid space took place from 1990 until now. The determination started in 1990 because in that year the fifth hybrid space had occurred. Based on interviews with respondents, the activities that took place in the fifth period of 1990 are food donation events that accommodate aspects of the transfusion hybrid room. Furthermore, the activities of formal coordination meetings and sports accommodate aspects of the interconnection hybrid space. It was also found that coordination meeting activities, sports, and donations of necessities accommodated the heterogeneity aspect of the hybrid space. All these activities are in the office and courtyard of the Pradah Kalikendal sub-district. Coordination meetings are also held informally in coffee shops that accommodate aspects of interconnection and heterogeneity. Meanwhile, the sport takes place in addition to taking place in the courtyard of the Pradah Kalikendal sub-district, it also takes place in the small garden of the Darmo Permai housing estate. More details can be seen in table 2.

Table 2: Hybrid Space Aspect Periodization Finding

No	Hibrid Space Aspect	Period/Year				
		I 1973 - 1976	II 1977 - 1979	III 1980	IV 1981 - 1989	V 1990 - Present
1	Coexistence					
2	Transfusion					
3	Interconnection					
4	Ambivalence					
5	Heterogeneity					
	Total Per-Period	3	1	1	3	3
	Total Per-Current Period	3	3	3	5	5
	Findings	-In the first period, 1973-1976, three aspects of the hybrid space began to occur, namely coexistence, transfusion, and ambivalence, and then these three aspects have continued until now. -In the second period, 1977-1979, there were additional aspects of the coexistence hybrid space which continued to this day. In the third period in 1980 there was an addition to the aspect of the transfusion hybrid space which has continued until now. -In the fourth period, 1981-1989, the hybrid space aspect of coexistence was added. This period began to occur aspects of hybrid space, interconnection and heterogeneity, all of which have continued until now. In this fourth period, five aspects of the hybrid space have been found. -In the fifth period of 1990 until now, there have been additional aspects of the hybrid space for transfusion, interconnection and heterogeneity. The fifth period marks the end of the discovery of the five aspects of the hybrid space, reinforcing it as in period IV.				
	Information:	Start of activity Ongoing activity				

(Source: Result of Analysis, 2022)

3.4.6. Discussion

So the overall conclusion, period I there are three aspects of the hybrid space, namely coexistence, transfusion, and ambivalence. The second period saw the addition of one aspect of coexistence with a fixed total of three aspects of the hybrid space. The third period saw the addition of one aspect of transfusion with a fixed total of three aspects

of the hybrid space of coexistence, transfusion, and ambivalence. The fourth period began to appear aspects of interconnection and heterogeneity as well as the addition of aspects of coexistence. In the fourth period, it has accommodated the five aspects of the hybrid space, namely coexistence, transfusion, interconnection, ambivalence, and heterogeneity. In the fifth period, there are additional aspects of transfusion, interconnection, and heterogeneity. In the fifth period, it accommodates the five aspects of the hybrid space as in the fourth period.

The novelty in the findings of this study is that Stan (2013) does not discuss the time sequence of the emergence of each aspect of the hybrid space, while in this study the sequence in time periodization has been found. The time sequence in the form of the periodization of the emergence of the hybrid space is based on the emergence of the first hybrid space since the arrival of the newcomers to the locals until the five aspects of the hybrid space are found. This is certainly related to a natural process in the urban sprawl phenomenon. The order of the first period is the aspect of coexistence, transfusion, and ambivalence. The character of the three aspects of the hybrid space is the initial form. In its formation, there is still a distance or not too integrated between newcomers and locals. This continues until the second and third periods. Furthermore, in the fourth and fifth periods, interconnection and heterogeneity aspects have been found. The character of these two aspects of the hybrid space is a form that tends to be intact or unified between newcomers and locals.

IV. CONCLUSION

The five aspects of the hybrid space found in the case study are coexistence, transfusion, interconnection, ambivalence, and heterogeneity. Aspects of coexistence and transfusion are found in socio-cultural, socio-religious, and socio-community facilities. The interconnection aspect is found in socio-religious, socio-community, and socio-economic facilities. The ambivalence aspect is only found in socio-cultural facilities. While the heterogeneity aspect is only found in socio-community facilities. Aspects of coexistence are found in periods I, II, and IV. Furthermore, the transfusion aspect was found in periods I, III, IV, and V. The interconnection aspect was found in periods IV and V. While the ambivalence aspect was found in periods I only. The last aspect of heterogeneity was found in periods IV and V.

Through a process, the five periods prove that the urban sprawl phenomenon which initially had a negative impact later became positive in the urban periphery. This is because there is a process of increasing integration between newcomers and locals which is manifested in the hybrid space. This research is useful to show that there are important facilities for hybrid space to occur. These facilities include socio-cultural, socio-community, socio-religious, and socio-economic facilities. These facilities accommodate the five hybrid aspects, both in villages and housing.

REFERENCES

- Burchell, R.W., Shad, N.A., Listokin, D., Phillips, H., Downs, A., SeskinS., Davis, J.S., Moore, T., Helton, D., Gall, M. (1998). *The costs of sprawl – revisited. TCRP Report 39. Transit Cooperative Research Program. Transportation Research Board.* National Research Council. Washington DC. National Academy Press: 268.
- Burchell, R. and Mukherji, S. (2003). “Conventional development versus managed growth: the costs of sprawl”. *American Journal of Public Health.* 93(9): 1534-1540.
- Carruthers, J. and Ulfarsson, G. 2002. *Fragmentation and sprawl: evidence from interregional analysis, Growth, and Change.* 33(3): 312-340.
- Cambridge Dictionary. Accessed Desember 21, (2021). dictionary.cambridge.org/.
- Cho, I.S., Heng, C.K., Trivic, Z., (2016). *Re-Framing Urban Space, Urban Design For Emerging Hybrid and High-Density Conditions*, Routledge taylor and Francis Group, New York and London.
- Ewing, R., Pendall, R., Chen, D.D.T. (2002). *Measuring Sprawl and Its Impact, Smart Growth America.* Washington DC.
- Galster, G., Hanson, R., Wolman, H., Coleman, S., Freihage, J. (2001). *Wrestling Sprawl to The Ground: Defining And Measuring An Elusive Concept.* Housing Policy Debate 12: 681-717.
- Gordon, P. and Richardson, H.W. (1998). *A Critique of New Urbanism, Meeting of the American Collegiate Schools of Planning.* Pasadena.
- Groat, Linda W, and Wang, David. (2013). *Architectural Research Methods.* Second edition. John Wiley & Sons Inc., Hoboken, New Jersey. Published simultaneously in Canada.
- Gultom, K., Gandarum GN., Ischak, M. (2015). “Pengaruh Heterogenitas Sosial, Ekonomi, Budaya Penghuni Terhadap Heterogenitas Desain Fasad Bangunan Sebagai Pembentuk Kualitas Kawasan Perumahan”. *AGORA. Jurnal Arsitektur.* Volume 15. Nomor 2. Desember 2015: 20.
- Hilman, Maman. (2004). “Perkembangan Lokasi Perumahan Di Wilayah Gedebage Kota Bandung Akibat Pemekaran Kota”. *Dimensi Teknik Arsitektur* Vol. 32. No. 2. Desember 2004: 157–160.
- Krasilnikova, E & Klimov, D (2016). “The Main Design Principles Of Hybrid Spaces In Term Of The Urban Planning Regeneration”, *RUDN Journal Of Agronomy and Animal Industries*, December 2016.
- Nelson, A.C., and J.B. Duncan (1995). *Growth management principles and practices.* Planners Press. American Planning Association. ISBN: 9780918286925.
- Pemerintah Kotamadya Daerah Tingkat II Surabaya (1978). *Masterplan Surabaya 2000 Evaluasi Kedua.* Pemda TK-II. Surabaya: II-10.

- Polidoro, Maurício., de Lollo, José Augusto., Fernandes Barros, Mirian Vizintim. (2011). “Environmental Impacts of Urban Sprawl in Londrina, Parana, Brazil”. *Journal of Urban and Environmental Engineering*. vol. 5. núm. 2. 2011: 73-83 Universidade Federal da Paraíba Paraíba. Brasil.
- Prakasa, D.T, (2018). “Concept of Squatter Settlement Improvement Due To Urban Sprawl Became A Sustainable Tourism Kampung, Case Study: Kampung Banyu Urip Surabaya”. *International Journal of Innovative Research and Knowledge*. Vol-3 Issue-9. September 2018.
- Priventa, Hendrike. (2019). “Sikap Ambivalensi Pribumi Dan Hibriditas Masyarakat Di Kepulauan Utara Jepang Dalam Film Animasi Joppani No Shima Karya Shigemichi Sugita”. *ejournal.undip.ac.id/index.php/kiryoku*. e-ISSN: 258-0960 p-ISSN: 2599-0497: 129-130.
- Slaev, Aleksandar D. and Nikiforov, Ivan. (2013). “Factor of Urban Sprawl in Bulgaria”. *Spatium International review*. No. 29. July 2013: 22-29.
- Stan, A.I. (2013). “Morphological Patterns of Urban Sprawl Territories”. *Urbanism, Arhitectură, Construcții*. Vol. 4 / Nr. 4 / 2013: 11-24
- Sturm, R. and Cohen, D. 2004. *Suburban sprawl and physical and mental health*. Public Health. 118: 488-496.
- Surabaya RTRW team (2005). *Surabaya Master Plan 2000 Second Evaluation*.
- Zeković, Slavka., Vujošević, Miodrag., Claude Bolay, Jean., Cvetinović, Marija., Miljkovic, Jelena Živanovic., Maričić, Tamara. (2015). “Planning And Land Policy Tools For Limiting Urban Sprawl: The Example Of Belgrade”. *SPATIUM*. No. 33. June 2015: 69-75.