HYBRID SPACE AS A FORM OF SOCIAL ASPECT SUSTAINABILITY IN THE URBAN SPRAWL PHENOMENON (CASE STUDY: DARMO PERMAI AREA SURABAYA-INDONESIA)

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ABSTRACT

Urban sprawl is a phenomenon characterized by the accidental movement of residents from the downtown to the urban periphery. This urban sprawl phenomenon tends to hurt the urban boundary. The concept of spatial hybrid can indirectly be indicated as a form of sustainable urban development that overcomes the problems caused by the negative ImpactImpact of urban sprawl in the urban periphery. This study uses the constructivism paradigm. The strategy in this research is a combination of qualitative research and case studies. It specifically selected case studies in the area of Darmo Permai Surabaya-Indonesia. The Darmo Permai area is a form of urban sprawl that began in 1973. The Darmo Permai area finds harmony between the newcomer and residents through an adaptation process. This harmony is manifested in a hybrid space analyzed from the social aspect of sustainability. The hybrid space is founded based on the activities of its residents, which are characterized by five aspects of the hybrid space. The five aspects of the hybrid space are coexistence, transfusion, interconnection, ambivalence, and heterogeneity.

Keywords: Urban sprawl, harmony, hybrid space

INTRODUCTION

Modern urban planning began to develop in England during the second half of the nineteenth century. The concept is a reaction to industrialization that creates inequality in life downtown. The era of automation caused many problems, such as housing needs, air pollution, water pollution, and workers' health (Relph E, 1987). The urban planning of the twentieth century leads to various urban forms that pay less attention to environmental impacts. The Phenomenon of urban sprawl is a form of urban growth that has experienced negative criticisms of its environmental, economic, and social effects. These changes have sparked increased awareness of the global ImpactImpact of human activities on the environment.

Nelson et al. have discussed various definitions of urban sprawl as the concept of unplanned, uncontrolled development, single land use, uncoordinated, and does not provide mixed land use about surrounding land uses (Nelson A C and J B Duncan, 1995). Urban sprawl gives rise to low-density land, ribbon or strip development, scattered development, leapfrog, and isolation. Therefore, urban sprawl is viewed negatively in the urban planning literature. On the environmental side, urban sprawl is the cause of excessive land consumption in open spaces, congestion due to increased commuting, and socio-economic segregation due to exclusive housing (Carruthers J and Ulfarsson G, 2002). Urban sprawl is thought to contribute to high fiscal costs for infrastructure (Burchell R and Mukherji S, 2003) and health problems.

In addition to the negative ImpactImpact, urban sprawl has a positive effect. Burchell and Mukherji explain that urban sprawl has helped residents to find cheaper housing (Burchell R and Mukherji S, 2003). Another positive impact is that it is far from downtown, which is full of pollution, crime, and poverty. On the other hand, the citizens still have freedom of movement through an adequate road access system. The positive impacts experienced by the migrants continue to cause problems in terms of environmental (congestion), economic (high cost), and social (social inequality).

The urban sprawl phenomenon is an unplanned spread from the downtown to suburban areas and impacts the periphery. The ImpactImpact on the urban edge is in the form of negative and positive effects. The dominant-negative ImpactImpact befell residents. Meanwhile, the dominant positive ImpactImpact is felt by a newcomer. On the other hand, the positive effects received by migrants in the end also have negative impacts from the environmental, economic, and social aspects. The Phenomenon of urban sprawl poses a threat to the sustainability of cities, especially suburban areas, in terms of ecological, economic, and social factors. Related to the above problems, this study aims to analyze the conditions of the hybrid space aspects and the social aspects of urban sustainability in the Darmo Permai area of Surabaya regarding urban sprawl.

THEORY / RESEARCH METHODS

Methods

Considering that this study explores cases in the field regarding the condition of aspects of hybrid space as a mechanism for urban sprawl, this study uses the constructivism paradigm. The data of this study were obtained from respondents who knew the post-urban sprawl phenomenon in the case study environment. Therefore, the researcher must go directly to the field so that there is a closeness between the researcher and the object under study. The strategy in this study is a combination of qualitative research and case studies. Qualitative research assumes subjective reality, and the researcher's view interacts with the research subject. Qualitative research requires a thorough investigation of inductive reasoning that seeks clarification from analyzing several essential aspects of the case study. The

interaction between the researcher and the research subjects is the basis for the interrelated relationship between qualitative research and case studies.

Determination of conclusions on the findings of the hybrid space obtained from the activities of residents, which are characterized by five aspects of hybrid space and social aspects of sustainability.

This research begins with an understanding and critical review of several literature studies regarding urban sprawl. Furthermore, it is found that there is a tendency for negative impacts from the urban sprawl phenomenon. This condition threatens the sustainability of the CityCity in the suburbs. On the other hand, when examined from a process perspective, this negative ImpactImpact eventually becomes positive by discovering a hybrid space. This study has found an analysis of the conditions of five aspects of the hybrid space, namely coexistence, transfusion, interconnection, ambivalence, and heterogeneity. The findings of the study of the state of the five elements of the hybrid space are based on the consistency of the similarity in the answers of several different respondents to the same question. These five aspects of the hybrid space are further discussed regarding social factors in urban sustainability. The social aspects of urban sustainability include equity, empowerment, accessibility, participation, sharing, cultural identity, and institutional stability. At the same time, the determination of the level of dominance of the five elements of the hybrid space is based on the number of space findings that are characterized by aspects of the hybrid space in the case study.

RESULTS AND DISCUSSION

3.1. The Phenomenon of the emergence of sprawl

The distribution of the population from the downtown to the suburban areas dominates the developed cities in the world as urban sprawl. Urban sprawl appeared in the world's developed cities during the twentieth century. It is a combination of financial and technological factors. An interesting phenomenon in that century was urban decentralization. This was marked by relocating some residents from the downtown area, polluted by industrialization, to the urban periphery. The existence of trains and trams triggered the move. This condition increased when cars were from the 1920s, especially after the Second World War. The relationship between urban decentralization and living standards eventually deteriorated due to traffic congestion and the increasingly homogenous land use of sub-urban areas (figure 1) (Arbury Joshua, 2005).

In its development, it is not only the increase in car ownership that has led to the emergence of urban sprawl. Many other important factors, such as Duany et al. (Duany A, Plater-Zyberk E and Speck J, 2000), stated that the sub-urban results from policies that conspire strongly to encourage the spread of the CityCity. One example is the significant contribution policy in the United States as the Federal Housing Administration and Veterans Administration loan programs.

Figure 1. Extensive and dependent urban sprawl growth on the city car of Calgary, Canada (Arbury, 2005)

3.2. Characteristic features of urban sprawl

Many characteristics can accommodate the term urban sprawl. There is still use in the urban planning literature regarding the precise definition of this term. There is disagreement about whether certain urban forms can be categorized as urban sprawl or not. According to Gillham, urban sprawl has four main characteristics (Gillham & Oliver, 2002). These characteristics are word jump development, commercial development path, low density, and single land use. The development of the word jump goes beyond the CityCity to create a particular community. The condition is empty in the CityCity by areas that have not been developed.

Urban sprawl is an inefficient land use because it meets its needs to build roads and infrastructure. The result is patchy, widespread, and consumes more agricultural land for development (Gillham & Oliver, 2002). Another aspect of urban sprawl is related to low density. Density measures in terms of population density or residential units per area. A population density of fewer than 25 people per hectare is considered low. Asian cities often have a density of more than 100 people per hectare (Elkin T, McLaren D, and Hillman M 1991). The last characteristic of urban sprawl is proliferation (rapid growth produces new land). It is characterized by single land use and complete freedom of cars for transportation.

3.3. The ImpactImpact of urban sprawl on the environment, economy, and social

The dominant urban sprawl has a negative impact which consists of three aspects. The first aspect is the environmental aspect: consuming agricultural land, causing congestion, and air pollution. The second aspect is the economic aspect, marked by increased infrastructure costs and personally benefiting the developer. The third aspect is social, characterized by social segregation [11,12]. The negative

ImpactImpact of the urban sprawl phenomenon on the urban periphery will disrupt the sustainability of the CityCity.

In addition to the negative ImpactImpact, urban sprawl also has a positive impact that contributes to its proliferation. Burchell and Mukherji explain that urban sprawl has allowed people to get cheaper housing away from the downtown, which is full of pollution, crime, and poverty (Burchell R and Mukherji S, 2003). Meanwhile, residents still have access via a broad highway to accommodate their cars. Although urban sprawl has a positive impact, in the end, it has a negative impact, as described in the previous paragraph.

The two impacts of urban sprawl are on newcomers and natives. Ultimately, these two impacts still result in adverse environmental, economic, and social impacts. The positive and negative impacts end up with bad results. This condition is seen from the scientific point of view of the CityCity as a part that is not accepted by formal urban planning. This condition will also worsen the sustainability of cities in suburban areas.

Sustainable development is the global paradigm of the United Nations. The concept of sustainable development was described by the Bruntland Commission report in 1987 as "Development that meets the needs of the present without compromising future generations to meet their own needs." Sustainability is a paradigm that focuses on the future through balanced environmental, social, and economic aspects of development and improvement—the quality of life. The sustainability paradigm is a significant change from the previous economic development paradigm by damaging the social and environmental aspects. This is based on the realization that significant damage to human welfare and the environment in pursuit of economic development has no place in the sustainability paradigm.

A change in strategy has been made by UNESCO (UNESCO, 2012). Previously, the idea of sustainable development used economic, environmental, and social parameters but mostly ignored matters related to cultural issues. Cultural diversity, in this case, is given a central place and not aside in some discussions. This is why UNESCO developed and adopted 2001 the Universal Declaration on Cultural Diversity, which states that: "Cultural diversity is as important to humans as biological diversity is to nature. In this respect, it is the common heritage of humanity and must be recognized and affirmed for the benefit of present and future generations".

Although the negative ImpactImpact of the urban sprawl phenomenon occurs on environmental, economic, and social aspects, this paper only focuses on discussing the social aspect. The sustainable social aspect, according to Basiago, including equity, is the aspect of justice that exists in society. Empowerment is the empowerment that exists in the community. Accessibility is the ease of access in the community. Participation is the level of community participation in an area. Sharing is a situation of sharing between people. Cultural identity is the cultural identity of the community in an area. Institutional stability is the level of institutional stability in society (Basiago AD, 1999).

3.4. Urban sprawl recomposition

In the 1990s, the growth of suburban Europe resulted in a mutation in the concept of the limit itself from compactness to dispersal. The distribution is out from the downtown towards the urban periphery with a destructive tendency. On the other hand, Rosi states that a future city is a place where something fragments will once be broken and then recomposed (Rossi A, 1984). The theory of new urbanism asserts that compact cities were initially the only accepted model for sustainable urban development.

The growth of suburbs has a new role in spatial planning to obtain mixed land use with good quality of life. New Urbanism leads to a return to the traditional model city with a transition from high to low density. The suburbs become a different model from conventional urban development focusing on urban intensification. During the early 1990s, the compact city policy of new urbanism was widely practiced by planners, particularly in the United Kingdom and throughout Europe. This is related to the development goal of being better.

In this situation, there is still controversy as to whether the compact CityCity can fulfill its promises to provide better results. As a result, there was a debate about the concept of this compact CityCity. The development of reality shows that predictions of the benefits of compact cities do not occur as they should and do not reflect the harsh realities of economic demands for environmental sustainability and social expectations (Hillman M, 1991). Opportunities for improvement lie in the assertion that further urban sprawl growth will formalize and become spatial hybridization (Gordon P, 1998).

According to Stan, hybrid space is a continuous regional heterogeneity in the urban expansion (Stan A I, 2013). This is a concept that explains the dynamics of the patchwork structure in the suburbs. The area is a heterogeneous land consisting of repeated interactions of several spatial groups. The periphery is the composition of the area, some of which are in conflicting positions within it. Extrapolating from this becomes a practical ecological point of view for understanding the Phenomenon of expansion.

Hybrid, according to Gausa, is a current condition referring to simultaneous reactions that are no longer related to harmonious and coherent conditions (Gausa M, 2003). A hybrid is a mixed scenario that consists of a coexistent structure and spatial identity. Hybrids are open-ended and characterized by unusual cohabitation situations. Hybrids consist of link mongrelizations between bits of information, overlapping, and interconnection. The idea of a mixture can be taken in several ways: mongrelization, hybridization, coexistence, transfusion, and so on (Gausa M, 2003). A loss of purity characterizes this situation, often interpreted as a compromise or loss of essential spatial principles.

These impure encounters naturally lead to merging between species or genres based on the flexible direct linking of opposing elements. These opposing elements give rise to a new situation of marital cooperation. This condition gives rise to intelligent traits that can link information limitations and potential disturbances. Hybrid nature is understood in the form of more open, flexible, multifaceted, and informal spatial support (Stan A I, 2013).

Stan, in his article on urban sprawl, describes the existence of five aspects of hybrid space (Stan A I, 2013). The five aspects of the hybrid space consist of coexistence, transfusion, interconnection, ambivalence, and heterogeneity. Stan's writing has not explained in detail the definition of each aspect of the hybrid space. Stan's article on hybridization partially refers to Gausa's article. On the other hand, Gausa does not explicitly describe the existence of these five aspects of the hybrid space. Stan clearly states in his writings that hybrid is a feature of space and place that contains coexistence, transfusion, interconnection, ambivalence, and heterogeneity.

Given that Stan does not define the hybrid space aspect in detail, his definition uses several references. The definition of coexistence from the Cambridge dictionary is the condition of two communities living together at the same time or in the same place. These two communities coexist peacefully. Transfusion is the process of giving from one party to another that requires and is one-way. The definition of interconnection is the two-way relationship between one party and another. The definition of interconnection referred to is from the Cambridge dictionary, which is interconnected between each other.

Ambivalence is one of the factors for the occurrence of hybrid culture in Indonesia. According to Hendrik P., ambivalence is an attitude towards conflicting unconscious feelings towards a situation or person simultaneously (Prevent Hendrike, 2019). The definition of heterogeneity referred to is that of Gultom et al., which is formed from different or not the same parts, in different materials, and different quantities. Heterogeneity is based on the assumption that if diverse people live together, they will get better and learn to respect differences (Gultom K, 2015).

Urban sprawl can be seen as a pattern and a process. When viewed as a pattern, urban sprawl will have a negative impact. When viewed as a process, urban sprawl tends to produce something positive. Urban sprawl is seen as a pattern in the form of urban land use with a spatial configuration in temporal time. Urban sprawl is also seen as a process, namely a change in the City'sCity's spatial structure from time to time.

Urban sprawl, either as a pattern or a process, must be distinguished from the causes that bring about the pattern or the consequences of the pattern. If urban sprawl is seen as a pattern, then it is a static phenomenon, and if as a process, it is a dynamic phenomenon (Galster G, 2001). Urban sprawl as a pattern helps to understand spatial distribution as a static phenomenon, but urban sprawl is part of a dynamic urban area [28, 7]. Urban sprawl should be viewed as a dynamic process that produces a hybrid space (Stan A I, 2013).

3.5. Hybrid space in the Darmo Permai area in the urban sprawl phenomenon

The Darmo Permai area meets the criteria as an urban sprawl because it is an urban expansion growth from the downtown to the urban periphery. This condition started in 1973 in West Surabaya and was driven by market needs. This phenomenon is characterized by the absence of plotting plans and inefficient conditions. 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. The second characteristic is the lack of land use differences or homogeneous land. This homogeneity is indicated by the existing area, which tends to be dominated by housing. So that at the time of standing, the function of the land did not vary. The third characteristic is that public transportation is less accessible, considering that the area in the 1970s was suburban, so public transportation facilities had not yet reached (figure 2).
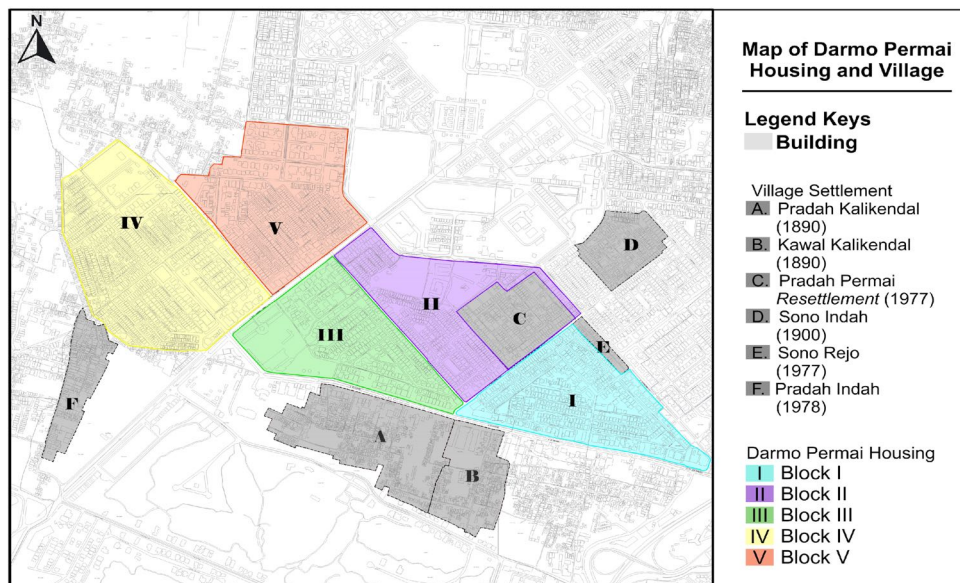

Figure 2. Darmo Permai housing and surrounding village settlements
(Results of survey, 2021).

The hybrid space in the Darmo Permai area is characterized by the discovery of a space characterized by five aspects of a hybrid space. The five aspects of the hybrid space are coexistence, transfusion, interconnection, ambivalence, and heterogeneity. The findings of hybrid spaces characterized by coexistence include Barongan Watu, At-Taqwa Mosque, Maranatha Satellite Church, Hwa Sen Miau Temple, and Pradah Permai village. The hybrid space in Barongan Watu is a type of socio-cultural activity. This means accessibility, namely the ease of access by the community, and cultural identity, namely the cultural identity in the village community. The hybrid space at the At-Taqwa Mosque, the Maranatha Satellite Church, and the Hwa Sen Miau Temple is socio-religious activity. This means of equity, namely justice in the community in carrying out worship. The hybrid space in Pradah Permai village is a type of social-community activity. This means of equity, namely justice for the villagers in the middle of the housing community. The hybrid space aspect of coexistence was less dominant in the Darmo Permai area (figure 3 and table 1).

The findings of the hybrid spaces with transfusion characteristics include Barongan Watu, At-Taqwa Mosque, Puncak Permai Tomb, and Pradah Kalikendal sub-district Office. The hybrid space in Barongan Watu is a type of socio-cultural activity. This has the meaning of participation and sharing, namely participation and

sharing of donations from housing residents to the village. The hybrid space at the At-Taqwa Mosque is a type of religious and social activity. This means participation and sharing, namely donating housing residents to the village. The hybrid space in the Puncak Permai tomb is a type of social-community activity. This means participation and sharing, namely the donation of villagers to housing residents. The hybrid space at the Pradah Kalikendal sub-district office is a type of social-community activity. This means participation and sharing, namely donating housing residents to the village. Aspects of the transfusion hybrid space were dominant in the Darmo Permai area (figure 4 and table 1).

Figure 3. The space aspect of coexistence means equity, accessibility, and cultural identity in the form of types of socio-cultural, socio-religious, and socio-community activities (Analysis results, 2021)
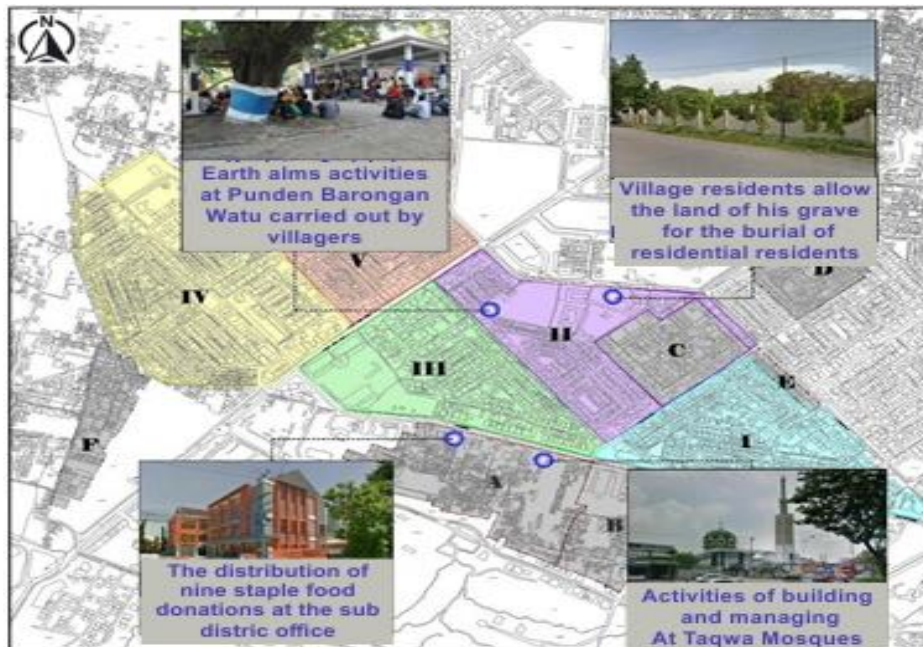
Figure 4. The space of the transfusion aspect means participation and sharing in the form of types of socio-cultural, socio-religious, and social-community activities
(Analysis results, 2021)

The findings of hybrid spaces with interconnection characteristics include the At-Taqwa Mosque, the Maranatha Satellite Church, the Hwa Sen Miau Temple, the Pradah Kalikendal sub-district office, and coffee shops, a small garden, and the Darmo Permai residential area. Hybrid space at At-Taqwa Mosque, Maranatha Satellite Church, and Hwa Sen Miau Temple is a type of religious and social activity. This means equity and accessibility, namely the justice of worship and ease of access to worship. Hybrid space in the office/yard of Pradah Kalikendal sub-district and, a coffee shop, a small garden is a type of social-community activity. This means participation, namely the participation of residents of housing and villages in the interaction of activities. This also means institutional stability, namely the government's role to accommodate these citizens' activities. Hybrid space in Darmo Permai housing is a type of socio-economic activity. This means empowerment, namely the use of village labor by housing residents. The interconnection hybrid space aspect is found to be very dominant in the Darmo Permai area (figure 5 and table 1).

The finding of hybrid space characterized by ambivalence is only found in Barongan Watu. The hybrid space in Barongan Watu is a type of socio-cultural activity. This has the meaning of equity, namely justice for the villagers to carry out their ritual activities. This also means cultural identity, namely the preservation of the traditions of residents. The hybrid ambivalence aspect was found non-dominant in the Darmo Permai area (figure 6 and table 1). The findings of hybrid spaces characterized by heterogeneity, among others, are in the Pradah Kalikendal sub-district office, a coffee shop, and a small garden. Hybrid space in the office/yard of

Pradah Kalikendal sub-district and, a coffee shop, a small garden is a type of social-community activity. This means community empowerment in participating in joint activities, both village residents and housing. This also means institutional stability, namely the role of the local government to unite the villagers and housing. Aspects of hybrid space heterogeneity were dominant in the Darmo Permai area (figure 7 and table 1).

Figure 5. The space of the Interconnection aspect means equity, empowerment, accessibility, participation, and institutional stability in the form of types of activities socio-religious, social-community, and socio-economic
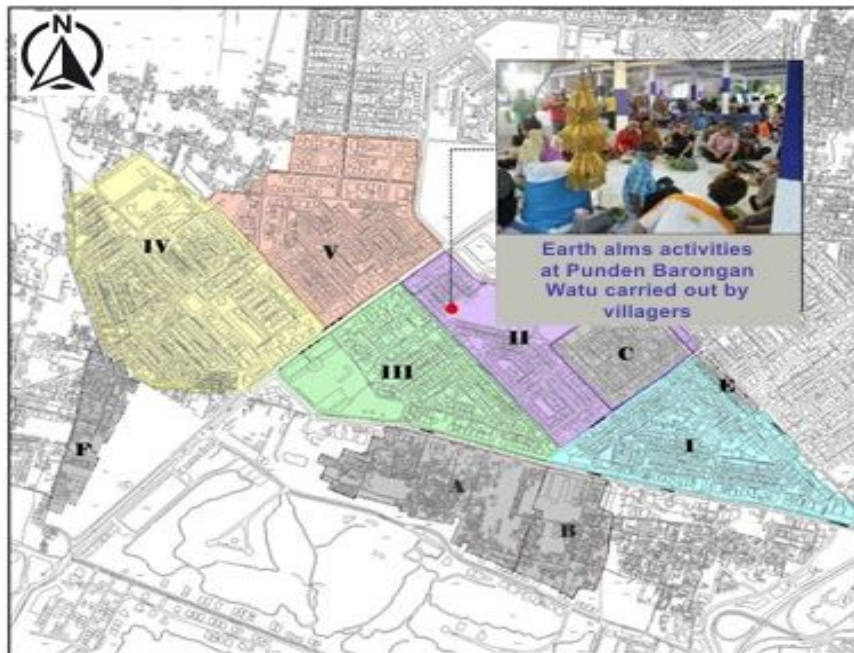(Analysis results, 2021)

Figure 6. The space aspect of ambivalence means equity, and cultural identity in the form of types of socio-cultural activities
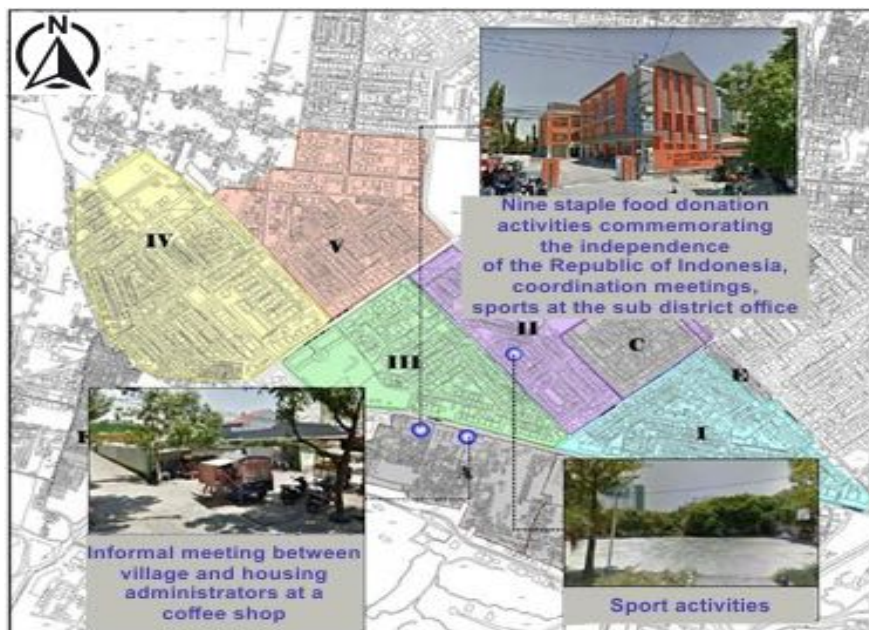(Analysis results, 2021)

Figure 7. The space heterogeneity aspect means empowerment and institutional stability in the form of a social community
(Analysis results, 2021).

Table 1. Findings for Types of Activities and Place in the Hybrid Space Aspect

No	Activity Type	Place	Hybrid Space Aspect*					Domination**
			C	T	I	A	H	
1	Charity of the earth (social-cultural)	Barongan Watu	✓	✓		✓		LD
2	Religious worship (social religious)	At-Taqwa Mosque, Maranatha Satellite Church, Hwa Sen Miau Temple	✓		✓			LD
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	✓					
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		✓			✓	D
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			✓			ND
Domination			LD	D	VD	ND	D	

* (C= Coexistence; T= Transfusion; I= Interconnect; A= Ambivalence; H=Heterogeneity)
**(LD=Less dominant; D=Dominant; VD=Very dominant; ND=Not Dominant; D=Dominant)

Findings:
- 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 social and 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).

CONCLUSIONS

This urban sprawl phenomenon tends to hurt the urban periphery. Therefore, urban sprawl threatens the City'sCity's sustainability, especially in the suburbs. The concept of spatial hybrid is a form of sustainable urban development that overcomes the problems caused by the negative ImpactImpact of urban sprawl in the urban periphery. The hybrid space is founded based on the activities of its residents, which are characterized by five aspects of the hybrid space. The five aspects of the hybrid space are coexistence, transfusion, interconnection, ambivalence, and heterogeneity. From the social aspect of sustainability, coexistence means equity, accessibility, and cultural identity.

Furthermore, transfusion has the meaning of participation and sharing. Interconnection means equity, empowerment, accessibility, participation, and institutional stability. At the same time, ambivalence means equity and cultural identity. Finally, heterogeneity has the meaning of empowerment and institutional stability.

Furthermore, the hybrid space involves socio-cultural, socio-religious, social community, and socio-economic activities. Types of socio-cultural activities were less dominant in the Darmo Permai area. This activity accommodates the hybrid space aspects of coexistence, transfusion, and ambivalence. Types of socio-religious activities were also less dominant in the Darmo Permai area. This activity accommodates aspects of the hybrid space of coexistence, transfusion, and interaction. Types of social-community activities found dominant in the Darmo Permai area. This activity accommodates the hybrid space aspects of coexistence, transfusion, interconnection, and heterogeneity. Types of socio-economic activities were found non-dominant in the Darmo Permai area. This activity accommodates aspects of the interconnected hybrid space.

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