The Impact of Land Use Change and Factors Affecting the Settlements in Ambawang Corridor

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Abstract:

The development of urban infrastructure in Indonesia is faced with increasingly complex problems, especially with the conversion of open land into unuseful space. This research was generally aimed to design the corridor of Ambawang with green infrastructure to obtain an ecological corridor room, meaning that there would be a balance between urban development and environmental sustainability. The purpose of this research was to analyze and predict the trend of development of a waking space in Ambawang corridor. This research also analyzed and predicted the development of a built-up space in Ambawang corridor as well as the causal factors and practices of growth settlements in metropolitan outskirts. This research used a qualitative-descriptive research method through field observations covering identification for the purpose of building space and infrastructure in Ambawang corridor. An analysis of existing conditions was done through the interpretation of aerial photographs and thematic maps of 2016 to know the spread of the spatial space built in Ambawang corridor. This research is expected to provide for policy-making with design guidelines (engineering guidelines) for planning and designing space and infrastructure built in Ambawang corridor.

1 INTRODUCTION

The district of Sungai Ambawang is adjacent to the district of Kuala Mandor B to the north, the district of Sungai Raya to the south, the city of Pontianak to the west, and the regency of Sanggau to the east. This research was based on the results of previous studies that have formulated the direction of the Ambawang corridor policy which is linked to the Spatial Plan of Kuburaya regency for the direction of the development of Ambawang corridor as a cross-provincial transportation route.

As how its future strategicness is predicted, in the future, there will be space growth along the road as well as population growth which will lead to an increased amount of built space. This urges the need for a built-up space that have been set to avoid sporadic development. Stakeholder involvement (Oberg, 2016) is also highly important to the structuring of Ambawang corridor on this Trans-Kalimantan Road.

An interesting phenomenon related to the development of suburban settlements in the Trans-Kalimantan Road corridor is the development of

suburban settlements. This development gives a bad impression that it is not adequate as a city housing environment or tends to have a decreased carrying capacity and that it forms an irregular settlement pattern.

The purpose of this study was to analyze and predict the development of the space built in Ambawang corridor as well as the causes and practices of the growth of settlements on the metropolitan outskirts. The existing supporting facilities made available for fulfilling space needs in the Trans-Kalimantan Road corridor are generally inadequate, necessitating a design guideline for planning and designing this area. This planning is also related as a guideline for the development of Ambawang District as an agropolitan area by utilizing undeveloped land as urban agriculture land. This has become very important because the district spatial plan is not yet optimal in developing this area. This planning takes into consideration built space and undeveloped space as a unity that support each other to develop this area as an agropolitan areaBe advised that papers in a technically unsuitable form will be returned for retyping. After returned the manuscript must be appropriately modified.

2 METHODS

This research was conducted through a field survey by interviewing several informants and through institutional surveys with scientific, legal, and empirical studies on performance measurement models that had already existed and/or had been implemented based on the literature. Questionnaires aimed at residents who lived along the corridor of the Trans-Kalimantan Road in five villages of Sungai Ambawang District were developed to find out the quality of the space in Ambawang corridor. As many as 20 questionnaires were disseminated to each village. The villages surveyed were Ambawang Kuala Village, Jawa Tengah Village, Durian Village, Korek Village, and Lingga Village. The location serving as the object of the regional research was the area along the Trans-Ambawang crossing that crosses Sungai Ambawang district. In much of the area to the left and right of this road are various activities, from residential, educational, health, office, public open space, and trading to service activities, such as activities in markets, banks, shops, workshops, stalls (kios), and inns. Therefore it was chosen to be used as a city.

3 RESULT AND DISCUSSION

The Trans-Kalimantan corridor is part of the primary collector lane that connects Pontianak City to Landak Regency and Tapat Fogapaten. This made this corridor the main route of movement from and to Ambawang River and its surroundings. With its role as a main circulation lane, it is not surprising that the vehicles passing through this corridor were very The Trans-Kalimantan corridor was diverse. characterized by a space that is quite diverse in terms of mass of buildings/functions existing along it. There was a space filled by residential buildings that begin to change functions on the left and right of the road. It was occupied by multifunctional buildings in the form of residential or retail buildings as well as buildings such as shophouses, street vendors, and plantations. Closer to the city center the corridor space had a different character as it predominantly functioned as a residential and retail area with a smaller scale of buildings. The corridor space was occupied by residential and retail buildings located close to the city center. The settlements in the Sungai Ambawang area were mostly developed by local developers, and a small portion of them were built independently by local communities. Settlements and economic activities in the Sungai Ambawang area developed along the side of the collector road on the Trans-Kalimantan road, which is, administratively, directly adjacent to Pontianak City.

Based on the built area, housing in the Sungai Ambawang area included a type of small-scale housing. Housing complexes were built per lane with the width of the complex of plots ranging from 35 m to 45 m. In general, there were two typologies of settlements in the Sungai Ambawang area, namely 1) stage houses—houses with wooden stake foundations (stick poles), which are traditional houses of the Pontianak community but currently are being abandoned/in demand by the community and existing in a very small number and 2) tapak houses—houses with river lane foundations, similar to the houses on Java. The site was developed by developers and was garnering pretty much interest from the community.

Among the main strategic positions of the area along the Trans-Kalimantan road were hinterland or peripheral area and part of the metropolitan area of Pontianak City. There was a high demand from commuters for a place to live in and a center for warehousing in the Sungai Ambawang area. This was partly due to the availability of large enough land, accessibility, and the distance from pontianak city center which is still affordable. Settlements' being located on the outskirts of the city, comfortable atmosphere, and beautiful environment with low noise levels provided an added value to the Sungai Ambawang area as an alternative choice of residence. The arrangement of proportional and less densed residential areas in the center of the city (Pontianak), the availability of adequate settlement facilities and infrastructure, as well as the booming economic activities made this area the hinterland area with faster growth compared to other hinterland regions (Sungai Kakap and Seberang region), especially in the housing and trading/services sector. The relatively low price of land also had an impact on the price per unit of housing that is relatively cheap and affordable to the community. The following are the findings of a quantitative analysis of Sungai Ambawang district which are the priority for the development of the corridor area.

Table 1: Findings Regarding Land Use in Durian Village.

Assessment Aspects	Findings
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	Conditions				
and toilet) facilities in the form of than 15 years.					
		and toilet) facilities in the form of			than 15 years.

Types of Land	In the study area, 60% of the
and Business	respondents used their land as
	locations for commercial business,
	while the other 40% only used it as
	residences. In terms of type of
	commercial business itself, 100% of
	the respondents were engaged in
	trading. Fifty percent of the respondents could reach
	environmental facilities easily, while
	50% had to be from the outside of the
	environment. Fifty percent of the
	respondents used their land for
	residence as well as business, and the
	remaining 50% did not. As for
	ownership status, the whole land was
D C	private property.
Reasons for	Of the total respondents, 40% were
Selection and Land	indigenous, and 60% were migrants. With regard to reasons for location
Allocation	selection, 90% of the respondents
Tinocation	chose locations because they were
	strategically situated, while 10% of
	the respondents chose locations for
	other reasons. As for the allocation
	of location selection, 90% of the
	respondents considered the locations to be crowd centers, and the other
	10% did not.
Licensing and	In terms of business licensing, the
Land	entire respondents did not have any
Development	commercial business license. The
	areas of land owned by the
SCIEN	respondents varied. Eighty percent
	of the respondents had land areas of
	less than 100 m ² . Ten percent of the respondents had land areas of 100
	m ² –200 m ² . Ten percent of the
	respondents had land areas of more
	than 200 m ² . With regard to land
	development, 60% of the
	respondents chose to do business
	development, and the other 40% did
	not have any plan for land
I Inducation ding	development in the future. All respondents were not aware of
Understanding of the Spatial	the RTRW (spatial planning) and did
Plan (Spatial	not understand the Spatial Plan of
Plan)	Kubu Raya.

Table 2: Findings Regarding Land Use in Lingga Village

Assessment	Findings
Aspects	
Population	Ninety percent of the respondents
Conditions	were men, and the remaining 10%
	were women. Sixty percent of the
	respondents were elementary to
	secondary school graduates, and
	40% were college graduates and had

a Bachelor's degree. With regard to profession, 60% of the respondents were temporary workers (e.g., construction workers or laborers), and only 40% had permanent jobs. Seventy percent of the respondents earned less than Rp1 million a month, and 80% felt that the income was not enough to meet their living needs. Meanwhile, 30% of the respondents earned from Rp1 million to more than Rp1 million, and only 20% felt that their income was more than enough to meet their living needs, some of which they could still save. General In general, 90% of the respondents Environmental had 1 family in one dwelling, and Conditions only 10% had more than 1 family. The status of the land owned by the entire respondents (100%) was selfowned. Sixty percent of the respondents had permanent buildings, and 40% had semipermanent buildings. A11 respondents (100%) still left land on their land. With regard to building age, 60% of the respondents occupied buildings less than 15 years of age, and 40% occupied buildings more than 15 years of age. Ninety percent of the respondents had made repairs more than 1 time, and the rest (10%) had never made any improvement on their buildings at all. Living/Business With regard to the condition of the Environment business environment, 20% of the Conditions respondents used their land as places of business, and 80% used their land only as residences. With regard to business type, 100% of the respondents were engaged in home industries. With regard accessibility environmental to facilities, 60% of the respondents could reach the facilities easily from their environment, and 40% had to be from the outside of the environment to reach the nearest facility. As for the building itself, 90% of the respondents were in an environment where the entire buildings were oriented towards the road, and 10% were in an environment where not all of the buildings were oriented towards the road.

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Environmental	With regard to environmental			not consider that technological
Facility	facilities that are available on a			changes had occurred in their
Conditions	graphical basis, 60% of the			environment. With regard to the type
	respondents used MCK (bath, wash,			of land, 40% of the land owned by
	and toilet) facilities in the form of			the respondents was a residential
	cubluk, and 40% used latrines in			area, 50% was empty land, and 10%
	rivers or ponds. With regard to			was rice fields. Forty percent of the
	environmental waste management,			respondents had occupied the land
	60% of the respondents threw their			for 5–10 years, and the remaining
	own waste on their own land or in			60% had occupied the land for more
	ditches, and only 40% of the waste			than 15 years.
	management was carried out by the		Types of Land	In the study area, only 20% of the
	environment. One-hundred percent		and Business	respondents, while the other 80%
	of the respondents did not have any		and Dusiness	only used it as dwellings. As for
	-			
	^			commercial types, 10% of the area
F :	construction in their environment.			was for home industries, and the
Environmental	With regard to environmental			remaining 80% was for other types
Physical	physical conditions, 40% of the			of field. Only 20% of the
Conditions	respondents experienced flooding,			respondents used their land as
	and 60% rarely or never experienced			business land, while the remaining
	flooding in their environment.			80% only used their land as a
	Environmental management in the			residential area.
	form of community service was		Reasons for	Of all of the respondents, 90% were
	carried out by 80% of the		Selection and	indigenous, and the other 10% were
	respondents, and 20% of the		Land	migrants. For reasons of location
	respondents did not carry out any		Allocation	selection, 50% of the respondents
	environmental management. As for			chose locations because they were
	the availability of clean water, the		/	strategically situated, while the other
	entire respondents (100%) obtained			20% chose locations because they
	clean water from the well. With			were not adjacent to the locations of
	regard to environmental road			similar activities. Twenty percent of
	construction, 60% of the	17		the respondents did not know the
	respondents' environment had			reason for choosing locations, and
SCIENT	concrete roads, and the environment		OCH E	the remaining 10% did not know the
	of 40% of the respondents had dirt	7		reason for choosing locations. With
	roads. As for the availability of			regard to the allocation of location
	electricity networks, 100% of the			selection, 90% of the respondents
	respondents' environment had been			considered the locations to be crowd
	supplied with electricity.			centers, and the other 10% did not.
Ownership	Sixty percent of the respondents had		Licensing and	In business licensing, 50% of the
Status	lived in the study area before 1990,		Land	respondents already had business
Status	and the rest (40%) lived there after		Development	licenses, and the other 50% did not.
	1990. All respondents (100%)		Development	According to 10% of the
	considered that the location had an			
	important value. With regard to			arranging permits was not
	ownership status, 70% of the			transparent, and 90% had other
	respondents had land certificates,			reasons. The areas of land owned by
	while the remaining 30% did not.			respondents varied. Ten percent of
	Sixty percent of the respondents had			the respondents had land areas of
	IMBs (Permits for Building), and the			less than 100 m ² . Sixty percent of the
	rest (40%) did not.			respondents had land areas of 100
Development	Of all of the respondents, 80%			m ² –200 m ² . Meanwhile, 30% of the
and Type of	thought that there was an			respondents had land areas of more
Land	environmental development taking			than 200 m ² . As for land
	place. The remaining 20% thought			development, 50% of the
	that there had been no significant			respondents chose to do business
	development. Ninety percent of the			development, and the other 50% did
	respondents considered that there			not have plans for the land in the
	had been a technological			future.
	development, and the other 10% did			
	•	•		

Understanding of the Spatial Plan	Of all of the respondents, 70% did not know about the Spatial Plan of Kubu Raya Regency, and 30% knew
	about the spatial plan. According to
	20% of the respondents,
	socialization had been carried out by
	the local government regarding the
	RTRW (Spatial Planning), and 80%
	stated that the information came
	from other sources. Of all of the
	respondents, only 20% understood
	the directions in the spatial plan,
	while the remaining 80% did not
	understand the directions in the
	spatial plan.

 $Table \ 3: Findings \ Regarding \ Land \ Use \ in \ Ambawang \ Kuala \ Village.$

Assessment	
Aspects	Findings
Population Conditions	100% of the respondents were men. Forty percent of the respondents were elementary to secondary school graduates, 30% were college graduates and had a Bachelor's degree, and the rest did not mention their level of education. With regard to profession, 20% of the respondents were temporary workers, and 60% had permanent jobs. Thirty percent of the respondents earned less than Rp1
SCIEN	million a month, and 60% of them felt that the income was not enough to meet their living needs. Seventy percent of the respondents earned from Rp1 million, and only 40% of them felt that their income was more than enough to meet their living needs, some of which they could still save.
General	In general, 80% of the respondents
Environmental Conditions	had 1 family in one dwelling, and only 20% had more than 1 family. With regard to the status of the land owned by the respondents, 90% was self-owned, and 10% of the respondents rented other people's land. Eighty percent of the buildings owned by the respondents were permanent buildings, and 20% were semi-permanent buildings. Seventy percent of the respondents still left land for the yard, and 30% did not. With regard to building age, 70% of the respondents occupied buildings less than 15 years of age, and 30% occupied buildings more than 15 years of age. One-hundred percent of

	the respondents had made repairs on
	their buildings more than 1 time.
Living/Business Environment Conditions	With regard to the condition of the business environment, 20% of the respondents used their land only as housing, and 80% used their land as places of business. With regard to the type of business undertaken by the respondents, 30% of the respondents were engaged in the household industry, 20% were doing business in kiosks, and 50% were engaged in other fields. As for accessibility to environmental facilities, 60% of the respondents could reach the facility easily from their environment, and 40% had to be from the outside of the environment to reach the nearest facility. With regard to the building itself, 90% of the respondents were in an environment where the entire
	buildings were oriented towards the road, and 10% were in an environment where not all buildings
	were oriented towards the road.
Environmental Facility Conditions	With regard to environmental facilities available on a graphical basis, 60% of the respondents used MCK (bath, wash, and toilet) facilities in the form of <i>cubluk</i> , and the other 40% used latrines in rivers or ponds. As for waste management, 10% of the respondents had the
LOGY F	environmental waste management carried out by the Department of Sanitation, 60% threw their own waste on their own land or in the ditch, and 30% had the waste management carried out by the environment. One-hundred percent of the respondents did not have any permanent rainwater construction in their environment.
Environmental Physical Conditions	With regard to environmental physical conditions, 30% of the respondents experienced flooding, and 70% rarely or never experienced flooding in their environment. Environmental management in the form of cooperation was carried out by 40% of the respondents, while the other 60% did not carry out any environmental management. As for the availability of clean water, the entire respondents (100%) obtained clean water from the well. With regard to environmental road construction, 90% of the respondents' environment had concrete roads, and 10% of the

	respondents' environment had dirt roads. With regard to availability of electricity networks, 100% of the respondents' environment had been supplied with electricity.
Ownership	Fifty percent of the respondents had
Status	lived in the study area since before
Status	1990, and the other 50% started to
	live there after 1990. All respondents
	(100%) considered that the location
	had an important value. As for the
	ownership status, 90% of the
	respondents had land certificates,
	while the remaining 10% did not.
	Sixty percent of the respondents had
	IMBs (Permits for Building), and the
	rest (40%) did not.
Development	Of all of the respondents, 100%
and Type of	thought that there was an
Land	environmental development. Eighty
	percent of the respondents thought
	that there was a technological
	development, and the other 20% did
	not consider that any technological
	change occurred in their
	environment. With regard to the type
	of land before being owned by the
	respondents, 70% of the land was a
	residential area, 20% was empty
	land, and 10% was rice fields.
	Twenty percent of the respondents
	had lived on the land for 0–5 years,
	50% for 5–10 years, and the
SCIEN	remaining 30% for more than 15
T. CT 1	years.
Types of Land	In the study area, 80% of the
and Business	respondents used their land as
	locations for commercial businesses,
	while the other 20% only used it for
	housing. As for commercial business
	alone, 63% of them were engaged in
	trading, and 38% were engaged in
	other fields. Seventy percent of the
	respondents used their land as
	residences as well as business
	locations, and 30% only functioned
	as either of the two. With regard to
	ownership status, 10% of the land
	was leased land, and 90% was
	private property.
Reasons for	Of all of the respondents, 90% were
Selection and	indigenous, and 10% were migrants.
Land	With regard to reasons for location
Allocation	selection, 80% of the respondents
	chose locations because they were
	strategically situated, while 20% of
	the respondents did not know the
	reason for location selection. With
	regard to allocation of location
	selection, 80% of the respondents
	belowing, out of the respondents

	considered the locations to be crowd centers, and the other 20% did not.
Tisansina and	
Licensing and	In business licensing, 60% of the
Land	respondents had business licenses,
Development	and the other 40% did not have any
	commercial business license.
	According to 10% of the
	respondents, the licensing process
	was costly, 20% of the respondents
	considered the licensing process to
	be complicated, and 70% had other
	reasons. The areas of the land owned
	by the respondents varied. Sixty
	percent of the respondents had land
	areas of less than 100 m ² . Thirty
	percent of the respondents had land
	areas of 100 m ² –200 m ² . Ten percent
	of the respondents had land areas of
	more than 200 m ² . With regard to
	land development, 70% of the
	respondents chose to do
	development, and the remaining
	30% did not have a plan for the land
	in the future.
Understanding	Of all of the respondents, 70% did
of the Spatial	not know about the Spatial Plan of
Plan	Kubu Raya Regency, and 30% knew
	about the Spatial Plan. According to
/	20% of the respondents,
	socialization regarding RTRW
	(Spatial Planning) had been carried
	out by the local government, and
	80% stated that the information came
	from other sources. Of all of the
LOGS F	respondents, only 20% understood
	the directions in the spatial plan,
	while the remaining 80% did not.

Table 4: Findings Regarding Land Use in Jawa Tengah Village.

Assessment	Findings
Aspects	
	Ninety percent of the respondents were men, and 10% were women. One-hundred of the respondents were elementary to secondary school graduates. With regard to profession, 60% of the respondents were temporary workers, and 40% had permanent employment. One-hundred percent of the respondents earned less than Rp1 million a month. Ninety percent of the
	respondents considered that their income was not enough to meet their living needs, and 10% felt that their income was more than enough, some of which they could save.

-	<u></u>	,		
General	Based on the graph, 100% of the		Environmental	With regard to environmental
Environmental	respondents had 1 family in one		Physical	physical conditions, 100% of the
Conditions	dwelling with the status of the land		Conditions	respondents experienced flooding in
	owned by 90% of the respondents			their environment. Environmental
	being self-owned and the status of			management in the form of
	the land owned by the remaining			cooperation was carried out by 60%
	10% being state-owned land. Forty			of the respondents, and 40% did not
	percent of the respondents' owned			carry out environmental
	buildings were permanent buildings,			management. As for the availability
	and 60% of the respondents' owned			of clean water, the entire respondents
	buildings were semi-permanent			(100%) obtained clean water from
	buildings. Eighty percent of the			the well. With regard to
	respondents still left land for the yard			environmental road construction,
	and 20% did not. With regard to			20% of the respondents'
	building age, 80% of the respondents			environment had concrete roads, and
	occupied buildings less than 15 years			80% of the respondents'
	of age, and 20% occupied buildings			environment had dirt roads. With
	more than 15 years of age. Seventy			regard to availability of electricity
	percent of the respondents had made			networks, 100% of the respondents'
	repairs on their buildings more than			environment has been supplied with
	1 time, and 30% had never made any		0 1:	electricity.
	improvements on their buildings at		Ownership	Fifty percent of the respondents had
T : : /D :	all.		Status	lived in the study area since before
Living/Business	With regard to condition of the			1990, and the other 50% started to
Environment	business environment, 70% of the			live there after 1990. Ninety percent
Conditions	respondents used their land only as			of the respondents considered that
	housing, and 30% used their land as			the location had an important value,
	places of business. With regard to the			while 10% did not. With regard to
	type of business carried out, 100% of			ownership status, 80% of the
	the respondents carried out businesses in kiosks. As for			respondents had land certificates, while the remaining 20% did not.
	accessibility to environmental	7		Twenty percent of the respondents
	facilities, 30% of the respondents	7		had IMBs (Permits for Building),
	could reach the facilities easily from			and the rest (80%) did not.
SCIEN	their environment, and 70% had to	V	Development	Of all of the respondents, 90%
	be from the outside of the		and Type of	thought there were environmental
	environment to reach the nearest		Land	and technological developments
	facility. With regard to the building		Land	taking place, and the other 10% did
	itself, 50% of the respondents were			not consider that environmental and
	in an environment where the entire			technological changes had occurred.
	buildings were oriented towards the			With regard to land types before
	highway, and 50% were in an			being owned by the respondents,
	environment where not all buildings			60% of the land was residential area,
	were oriented towards the road.			30% was vacant land, and 10% was
Environmental	With regard to environmental			paddy fields. Ten percent of the
Facility	facilities available on a graphical			respondents had occupied the land
Conditions	basis, 20% of the respondents used			for 0–5 years, 50% for 5–10 years,
	MCK (bath, wash, and toilet)			10% for 10-15 years, and the
	facilities in the form of <i>cubluk</i> , and			remaining 30% for more than 15
	the remaining 80% used latrines in			years.
	rivers or ponds. With regard to waste		Types of Land	Of all of the respondents, 90%
	management, the whole respondents		and Business	thought that there were
	(100%) threw away their own			environmental and technological
	garbage on their own land or in			developments taking place, and the
	ditches. One-hundred percent of the			other 10% did not consider that
	respondents did not have any			technological changes had occurred.
	permanent construction of rainwater			With regard to land types before
	channels in their environment			being owned by the respondents,
				60% of the land was residential area,
				30% was vacant land, and 10% was

	paddy fields. Ten percent of the respondents had occupied the land for 0–5 years, 50% for 5–10 years, 10% for 10–15 years, and the remaining 30% for more than 15 years.					
Reasons for	Of all of the respondents, 90% were					
Selection and	indigenous, and 10% were migrant					
Land	With regard to reasons for location					
Allocation	selection, 60% of the respondents					
	chose locations because they were					
	strategically situated, 10% chose					
	locations because they were not					
	adjacent to similar activities, and					
	10% chose locations for other reasons. For the allocation of					
	reasons. For the allocation of location selection, 90% of the					
	respondents considered the locations					
	to be crowd centers, and the other					
	10% did not.					
Licensing and	In business licensing, the entire					
Land	respondents had commercial					
Development	business licenses. With regard to					
	constraints in licensing, 10% of the respondents considered the process					
	as complicated, and 90% had other					
	reasons. The areas of land owned by					
	the respondents varied. Seventy					
	percent of the respondents had land					
	areas of less than 100 m ² , and 30% had land areas of 100 m ² –200 m ² .					
	With regard to land development,					
	30% of the respondents chose to do					
SCIEN	business development, 10% planned					
	to sell their land, and the remaining					
	60% did not have any plan for the					
Understanding	land in the future. All respondents were not aware of					
of the Spatial	the RTRW (Spatial Planning) and					
Plan	did not understand the Spatial Plan					
	of Kubu Raya Regency.					
-						

Table 5: Findings Regarding Land Use in Korek Village.

Assessment Aspects	Findings
Population Conditions	One-hundred percent of the respondents were men. Seventy percent of the respondents were elementary to secondary school graduates, and 30% were college graduates and had a Bachelor's degree. With regard to profession, 40% of the respondents were temporary workers, and 60% had permanent jobs. Sixty percent of the respondents earned less than Rp1 million a month, and 40% of the respondents earned more than Rp1 million. Seventy percent of the

	respondents considered their income to be not enough to meet their living needs, and 30% felt that their income was more than enough, some of which they could save.
General Environmental Conditions	In general, 70% of the respondents had 1 family in one dwelling, and 30% had more than 1 family. The status of the land owned by the entire respondents (100%) was billionaire. Sixty percent of the respondents had permanent buildings, and 40% had semi-permanent buildings. Ninety percent of the respondents still left land for the yard, and 10% did not. With regard to building age, 20% of the respondents occupied buildings less than 15 years of age, and 80% occupied buildings more than 15 years of age. Eighty percent of the respondents had made repairs on their buildings more than 1 time, and 20% had never made any repair on
	their buildings.
Living/Business Environment	With regard to condition of the business environment, 20% of the
Conditions	respondents used their land only as
	housing, and 80% used their land as
	places of business. With regard to
	type of business undertaken by the
LOGY F	respondents, 25% of the respondents were engaged in household industries, 50% were engaged in businesses in kiosks, and 25% were engaged in other fields. As for accessibility to environmental facilities, 90% of the respondents could reach the facilities easily from their environment, and 10% had to
	be from the outside of the environment to reach the nearest facility. With regard to the building itself, 80% of the respondents were in an environment where the whole buildings were oriented towards the road, and 20% were in an
	environment where not all buildings
Portion (1	were oriented towards the road.
Environmental	With regard to environmental
Facility Conditions	facilities available on a graphical basis, 50% of the respondents used
Conditions	MCK (bath, wash, and toilet)
	facilities in the form of <i>cubluk</i> , and
	50% used latrines in rivers or ponds.
	With regard to waste management,
	20% of the respondents' garbage was
	managed by the environment, and
	80% disposed of their own waste on
	their own land or in ditches. One-
	hundred percent of the respondents

	did not have any permanent					
	did not have any permanent construction of rainwater channels in					
	their environment.					
Environmental	With regard to environmental					
Physical	physical conditions, 60% of the					
Conditions	respondents experienced flooding in					
	their environment, and 40% of the					
	respondents rarely or never					
	experienced flooding in their					
	environment. Environmen					
	management in the form of service					
	was carried out by 90% of the					
	respondents, and 10% did not					
	manage the environment. As for the					
	availability of clean water, the entire					
	respondents (100%) obtained clean					
	water from the well. With regard to					
	environmental road construction,					
	90% of the respondents' environment had concrete roads, and					
	10% of the respondents'					
	environment had dirt roads. With					
	regard to availability of electricity					
	networks, 100% of the respondents'					
	environment had been supplied with					
	electricity.					
Ownership	Eighty percent of the respondents					
Status	had lived in the study area since					
	before 1990, and the remaining 20%					
	started to live there after 1990. All					
	respondents (100%) considered that					
	the location had an important value. With regard to ownership status,					
	100% of the respondents had land					
SCIEN	certificates and IMBs (Permits to					
	Establish Building).					
Development	Of all of the respondents, 100%					
and Type of	considered that there were					
Land	environmental and technological					
	developments taking place in their					
	environment. With regard to type of					
	land before being owned by the					
	respondents, 10% of the land was					
	residential area, and 90% was vacant					
	land. Ten percent of the respondents					
	had occupied the land for 0–5 years,					
	10% for 5–10 years, and the					
	remaining 80% for more than 15					
Types of Land	In the research area, 80% of the					
and Business	respondents used their land as					
and Dasiness	locations for commercial businesses.					
	while the other 20% only used their					
	land as residences. With regard to the					
	type of commercial business itself,					
	50% of the respondents were					
	engaged in trading, 25% in					
	household industries, and 25% in					
	other fields. Eighty percent of the					
	respondents used their land as					

	residential as well as business				
	locations. As for ownership status,				
	the whole land was private property.				
Reasons for	Of all of the respondents, 100% were				
Selection and	indigenous. With regard to reasons				
Land	for location selection, 50% of the				
Allocation	respondents chose locations because				
	they were strategically situated, 10%				
	chose locations because they did not				
	lie near locations of similar				
	activities, 30% did not know the				
	reason for choosing a location, and				
	10% chose locations for other				
	reasons. With regard to allocation of				
	location selection, 90% of the				
	respondents considered the locations				
	*				
	to be crowd centers, and the other				
T : 1	10% did not.				
Licensing and	In business licensing, 88% of the				
Land	respondents who owned businesses				
Development	already had permits, and the other				
	13% did not have any business				
	license. The areas of land owned by				
	the respondents varied. Ten percent				
	of the respondents had land areas of				
	less than 100 m ² . Eighty percent of				
	the respondents had land areas of				
	100 m ² –200 m ² , and 10% had land				
	areas of more than 200 m ² . With				
	regard to land development, 100% of				
	the respondents chose to do business				
	development in the future.				
Understanding	Regarding the Spatial Plan of Kubu				
of the Spatial	Raya Regency, 40% of the				
Plan	respondents knew the RTRW				
1 1411	(Spatial Planning), and 60% claimed				
	that they did not know about the				
	existing RTRW. Forty percent of the				
	respondents knew about the RTRW				
	from the socialization by the local				
	government. Twenty percent of the				
	respondents understood the				
	directions in the Spatial Plan, and				
	80% did not.				

An analysis of the space pattern of Sei Ambawang District was an analysis of the distribution of space allotment in the area, which included the analysis of the designation of space for protection functions and the analysis of the designation of space for cultivation functions. The analysis of the space pattern of Sei Ambawang District functions as the following:

- a. allocation for the community's socio-economic activities and environmental conservation activities;
- b. regulator of the balance and harmony of space allocation;
- c. a basis for the 10-year program indication; and

d. a basis for granting space utilization permits.

In the Sei Ambawang District Road corridor, settlements, trade, and services, as well as development of existing oil palm plantations have been established. Judging from the pattern of space, the following characteristics were identified:

- a. commercial activities were centered in the city center:
- b. settlement activities developed in agricultural and plantation areas; and
- c. the development of agropolitan areas provided a place for plantation production.

With regard to the floating area of Sei Ambawang District, in accordance with the directions above, the development concept was to utilize the land in Sei Ambawang District as certain spots, with an emphasis being placed on the area of the east cross-road corridor of Sei Ambawang District. Based on the existing conditions in Sei Ambawang District, the use of land had yet to be optimal. The land was designated to be used as productive cultivation areas, such as rubber plantations and oil palm plantations in several villages and areas for trading/services and government activities or other social activities.

Economic activities are regularly conducted by all residents on a day-to-day basis. Therefore, in order to provide economic services, it is necessary to analyze economic facilities such as markets, banks, rental services, cooperatives, among others. In Sungai Ambawang District, the economic facilities such as shops and stalls/kiosks in 2015 were arguably very adequate. Shop service and stalls (kios), restaurants with the scope of housing environment services. In 2025, there will be additions to the existing market facilities, and it is expected that the facilities added will be more evenly distributed, so that all residents can be served. Commercial areas were concentrated along the collector road from Ambawang River (Trans-Kalimantan Road) to the capital city of Pontianak. As a primary function facility (service scale at the district level), commercial areas were arranged on the sides of the collector road connecting traffic between districts.

The presence of markets, shops/kiosks, and restaurants on the sides of new arterial roads will be able to trigger regional growth. This is due to the fact that market, restaurants, and shops/kiosks serve as centers of activity. It will be able to trigger the growth of the area from the undeveloped land to the built land of the surrounding land. Agglomeration or clustering of commercial functions (markets, shops) in close proximity will become the main attraction of a region. Economic means do not always stand alone and are

separate from other building facilities. The provision of such facilities is based on not only the size of the population that will be served, but also the approach of design of spatial units or existing environmental groups. This can be related to the formation of the building/block groups according to the context of the environment. The facilities will be provided for the villages in need. The extent to which economic facilities are needed for the following year is outlined in table 6.

Table 6: Economic Facilities Needs in Ambawang District for the Period 2015–2025.

	ıtion	facility facility		K 10e/Stalle	Hospi-tals	Lodging
		std	30000	Kios/Stalls 250	250	30000
Year	Population (life)	Amou nt 2015	4	202	12	1
91	91	K	1	97	97	1
2016	24176	T	0	0	85	0
2017	24532	K	1	98	98	1
2018	2018	Т	0	0	1	0
20	249	K	1	100	100	1
61	81	Т	70	0	2	0
2019	25481	K		101	101	ΝĒ
20	20	T	0	0	1	0
2020	26040	K	1	102	102	1
121	2021	T	0	0	1	0
2021	26	K	1	103	103	1
22	2022	T	0	0	1	0
202		K	1	104	104	1
2023 27959	27959	T	0	0	1	0
2(27	K	1	105	105	1
24	28668	Т	0	0	1	0
2024		K	1	106	106	1
55	29411	T	0	0	1	0
2025		K	2	107	107	1

Source: Observation Results, 2017, and Analysis Results, 2018

According to the table above, we can see that in 2015, there was only 1 market, and there is no addition each year. However, there is a need for two additional markets for 2025. Meanwhile, there were 202 stores / kiosks/grocery in 2015, and the number is not projected to increase for 2025. As for lodging/hotel facilities, as is the case with market, there is no addition every year, but there is a need for two additional lodging/hotel facilities. In 2015, there were 12 restaurants, and the number will increase with an addition of 95 restaurants by 2025. In Ambawang District, based on the 2015 data, there was only 1 bank, and no addition is projected for 2025. In this analysis, there is no annual addition, but in the coming years, with the increase in population size, the bank will be easily accessible by the people of Ambawang District in 2025.

4 CONCLUSIONS

Urban Cultivation Areas, namely urban cultivation areas that can be developed in Sei Ambawang District in accordance with the policy direction of Kubu Raya Regency development, are areas for residential activities, which, in this case, include housing and business premises (trade, offices, etc.) at the local/district service scale. They are distributed in every village in Sei Ambawang District with a pattern of development following the transportation route and the centers of economic activities, district government services, industrial areas, and trading and services that support the economic activities.

Plantation & Agriculture Cultivation Areas, including the plantation & agricultural cultivation areas which can be developed in Sei Ambawang District in accordance with the policy direction for Kubu Raya Regency development, are areas for annual plantation activities for oil palm, rubber, and several other commodities.

The development of suburban settlements is reflected in the appearance of the housing environment according to the typological characteristics of the development of settlement groups, both regular and irregular, so that a strategy is needed in developing a road structure that connects the parcels to the main road access, namely the Trans-Kalimantant corridor.

Based on the development potentials and the problems mentioned above, it is necessary to plan the development of the region by preparing a Sei Subdistrict development master plan. Ambawang is an area that is on the crossroads and the urban areas development. The planning area covers the

administrative district area, namely Sei Ambawang District.

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