

LAND USE OF KUALUH HULU DISTRICT

(Case Study: Corridor of Jenderal Sudirman Street, Aek Kanopan)

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Abstract— The use of land in Aek Kanopan city was initially divided into three functions: residential area, offices and commercial activities. Urban growth occurs at a rapid rate, which reduces the ability of city planners and managers to control the developments that occurred as a result of the growth. Since its assignment as the capital of North Labuhanbatu Regency in 2008, urban activity in Aek Kanopan City has changed rapidly in an effort to fulfill the needs of the surrounding region. Land use, and the optimization of land use, is generally affected by the locale factors and the location of the land. The purpose of this research is to assess the land uses and identify aspects that influenced the uses of land in Kualuh Hulu district in the Corridor of Jenderal Sudirman street, Aek Kanopan. This research is conducted by using a rationalistic-descriptive method with descriptive analysis. Our goal is to find the existing land uses and aspects that influence said land uses, specifically in Kualuh Hulu district in Corridor of Jenderal Sudirman street, Aek Kanopan so that commercial activities can be accommodated. We hope that the potential of the use of land as a location of commercial activities can be explored optimally.

Keywords— *land use, corridor, utility*

I. INTRODUCTION

Based on the scope of services in the city of Aek Kanopan, the central area of Aek Kanopan City can be categorized in the initial city category, in which the downtown area was developed as an area where trade and service facilities fulfilled consumer needs in the region. Generally, the land use of Aek Kanopan City can be divided into three functions: residential areas, offices and commercial activities. Aek Kanopan City, as the capital of North Labuhanbatu Regency, is a strategic city. Urban growth occurs at a rapid rate, which reduces the ability of city planners and managers to control the developments that occurred as a result of the growth (Zahnd, 2008). The existing city activities requires Aek Kanopan City to change rapidly in terms of meeting the needs of the surrounding area. Hence, changes in city activities also means changes in the land use.

Aek Kanopan City as the capital of the district has the function of the Local Activity Center, as stated in the Local Regulation (PERDA) Number 05 of 2015 concerning the Regional Spatial Plan of North Labuhanbatu Regency for

the period of 2015-2035. Land use in Sudirman street of Aek Kanopan Corridor is dominated by trade and service activities. When observing the change of pattern tendencies of land use in Aek Kanopan, it seems that changes in land use occurs naturally as a result of change in the geographical factors of the region, and develops in line with the main road of the city, so that Aek Kanopan City became a Local Activity Center (PKL) for regional trade and potentially affects the land use of the community in Aek Kanopan City.

II. LITERATURE REVIEW

A. City

A city is understood as something that develops from its ecological aspects, the land use within the area, and the strength of its population in the formation of land use. The city is an area which is characterized by the presence of urban infrastructure, such as buildings, hospitals, educational institutions, markets, industries and so on, along with large squares and paved streets that are often densely filled with motorized vehicles (Jayadinata, 1999). From a physical perspective, a city is heavily influenced by man-made structures, such as road patterns, landmarks, permanent and monumental buildings, utilities, landscaping, and traffic.

Amos Rapoport in Zahnd (1999) defines cities by their functions as centers for various activities, such as government administration, military headquarters, religious institutions, and intellectual activities. Cities act as a place of interaction between humans and their environment, which leads to the creation of regularity in land use. Within the city, there are economic, governmental, political, and social activities that encourage development in all fields, such as the physical development of the city (namely buildings that have certain specified functions) and the development of the residents who live and work in the city.

B. City Development Pattern

The growth and development of a city is a term that is interrelated, sometimes even interchangeable, but is essentially defined as the process of development of a city. Urban growth is the physical progress of a city as a result of urban development, whereas the development of the city is contextualized within an urban society, which includes

socio-political, socio-cultural, and physical developments (Hendarto, 2001).

Some approaches that are often used to identify the structure of a city are through forms. The transformation of the elements that make up a city structure can have a strong influence to the city, and eventually become the main element in a city area. Branch in Aulia (2006) said that a city physically consists of buildings and activities that are either above or close to the ground, underground installations, and activities in an empty space in the sky. The shape of the city structure affects the direction of urban development in the future, as well as the main function and level of public service in each area of the city. It also affects the direction of reference for various types of different facilities (Tarigan in Aulia, 2006).

Branch (1995) said that the situation and condition of a city is the most important element in the growth and development of a city. Physical potential, such as the site of the city and its strategic geographical location, can be a criterion in determining the development of the city. The geographical state of a city can affect the function and the physical form of the city. A city that has a strategic location and a strong economic backbone tends to develop faster than cities in isolated areas.

C. *Land Use*

Land use is an effort to plan the use of land within an area by classifying the regions based on certain special functions (Wendika, et al., 2012), for instance: residential, trade, industrial, etc. The structure of land use reflects the character of the community, while the activities of the community form the land use in an urban area (Burgess, 1992). Land use plans can work as a framework in determining certain locations, while also planning the capacity and schedule for the construction of facilities such as roads, clean water facilities, waste management facilities, educational institutions, health centers, recreational facilities and other public facility centers. Land conversion can be defined as the transfer of functions or the mutation of land in general, and is related to the changes in the allocation of land resources from one use to another (Tjahjati in Wendika et al, 2012).

III. RESEARCH METHODOLOGY

The method used in this study is descriptive rationalistic, where the authors directly conduct field observations by describing the existing conditions or carrying out the stages of each process, which is done by describing the observations and examinations of the field conditions. The authors also directly conducted a study of the theory to be concluded from the issues reviewed.

This research is carried out by conducting field surveys which intend to obtain the primary and secondary data needed for the study. This research also includes applied research, which is the careful and systematic research or investigation of a problem with the aim to be used for certain purposes (Nazir, 1988). Considering the background of the problem, the method we found most appropriate to provide an explanation for the results of the research in this thesis is a descriptive method.

The data used for the analysis material are primary data and secondary data. Primary data are the results of interviews

and observations, which focuses on data regarding land characteristics. The land characteristics studied here include data on land use, reasons for site selection, reasons for land development, perceptions on progress and development of the area, perception on the relative attractiveness of the location, perception on land conversion, licensing arrangement processes, as well as development program plans allocated in the research area. Interviews with key individuals from government agencies were also conducted. Secondary data is obtained indirectly from the subject/object, in the form of development plans and numerical data that can be obtained from previous literature and research papers. The secondary data was also sourced from government agencies, educational institutions, and private institutions. A descriptive analysis technique was used in this study, which directly analyzes the state of the object of study through the descriptions and explanations of both the measurable and unmeasurable variables.

A. *Aek Kanopan City Center*

Aek Kanopan was once the capital of Kualuh Hulu District, Labuhanbatu Regency, North Sumatra Province. Until 2010, Kualuh Hulu, with a total population of around 64,638 people, was concentrated in the city of Aek Kanopan. Since the division of the Regency, Aek Kanopan, which was previously located in Labuhanbatu Regency, became the capital of North Labuhanbatu Regency (also known as Labura). The geographical location of the city is on the Sumatra crossing and is surrounded by both small-scale rubber and palm plantations and medium to large scale plantations (either owned by BUMN or private corporations). Due to its strategic location, Aek Kanopan has enjoyed various benefits, including social, economic, political and educational benefits. Administratively, according to Aek Kanopan's General Spatial Planning (RUTRK) for the period of 1999-2009, the city of Aek Kanopan was initially comprised by the Aek Kanopan and East Aek Kanopan villages, which were under 1 sub-district, Kualuh Hulu. It was later developed into 2 sub-districts, namely Kualuh Hulu and Kualuh Hilir Districts. The Kuala Hulu District consists of Aek Kanopan, East Aek Kanopan, Kanopan Ulu Plantation, Mambang Muda Plantation, and Parpaudangan village, while the Kualuh Selatan District is consisted of Gunting Saga and Damuli Pekan . The city center area is located at the intersection of two villages, namely Aek Kanopan Village and East Aek Kanopan Village, which is passed through by Jendral Sudirman street, Aek Kanopan's main road.

The urban area of Aek Kanopan with its naturally occurring urban characteristics needs to be arranged so that the planning of the downtown area can be developed on all sides of the Sumatran highway. The area of research in this thesis is the downtown area of Aek Kanopan along the Sudirman road corridor, seen in "Fig. 1".

IV. DISCUSSION & ANALYSIS

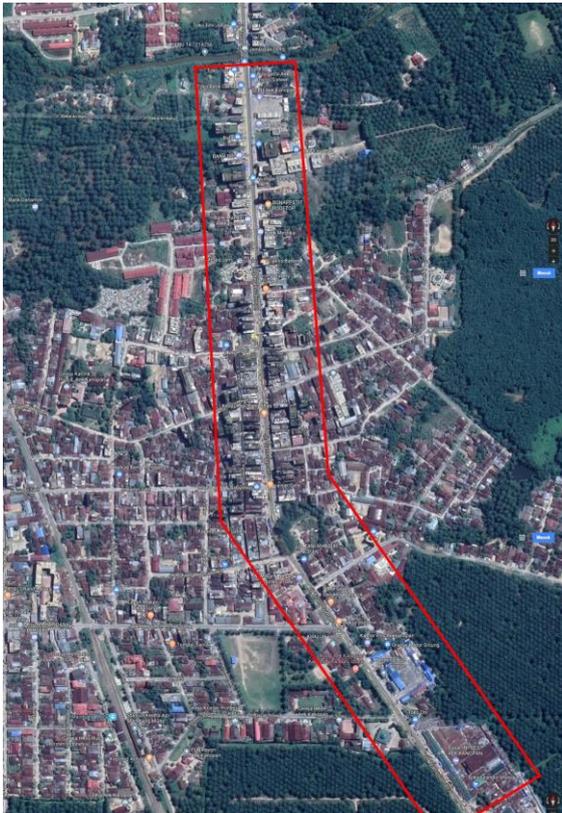


Fig. 1. Map of the study of the central area of North Labuhanbatu city

B. Function of Aek Kanopan City Central Corridor Area

The rapid physical development along the corridor has been uncontrolled from the beginning of the development, resulting in the lack of representative characteristics in the established environment. Buildings have been made with varying shapes, different heights, irregular plots, and even irregular facades. From the condition of the field data sourced from the observation results, the data indicates that the condition of the functions of the land in the central area of Aek Kanopan city can be described as follows:

- The functions of trade and service areas have linear characteristics along the main road of the city. Trade and service activities in the downtown area of Aek Kanopan have various types and scales of services, starting from residential, shop houses (*ruko*), convenience stores, markets, restaurants, and workshops.
- The functions as government and private office areas vary within the area. There are KUA offices, Camat offices, police stations (Satlantas) of the North Labuhanbatu Regency. There are also local government facilities, including SKPD (Regional Work Unit) office complexes of the North Labuhanbatu District Government.
- Functions as residential areas are concentrated throughout the second layer of the main road. The housing environment in this region can be categorized as moderate to high intensity.
- Functions of public service areas, in the form of gas stations, hospitals, clinics and bus stations.
- The function of worship areas, namely the Great Mosque and the North Labuhanbatu Great Mosque.

The physical development that occurs in a city can be seen from changes in land use and development of the developed area. Development activities that occur in the Aek Kanopan area have changed the use of land, such as the change of palm oil plantations into developed land. The types of activities that were conducted in the area of study in Aek Kanopan included trade and services, offices, settlement/residential, public service, and worship, as seen in “Fig. 2”. The phenomenon of changes in land use (as exemplified above) will likely increase as the population grows, due to an increase in the demand for land while land is increasingly scarce. As a result, there are many land use changes that are inappropriate and deviate from existing spatial plans, despite the efforts of the regional government to create a General Spatial Plan (RUTR) for the Capital of North Labuhanbatu Regency. The area of North Labuhanbatu Regency is relatively large, totaling 3,545.80 km², but a major part of the population of North Labuhanbatu still resides in the capital city, Aek Kanopan, resulting in a population density of 5,748 individuals/km². The current levels of population density are still relatively low and not evenly distributed, with density levels outside of Aek Kanopan currently at 95 persons/km². This population growth and rise in activity will eventually require land for its survival. The high demand for land in urban areas, especially in strategic areas, can cause an increase in land prices.

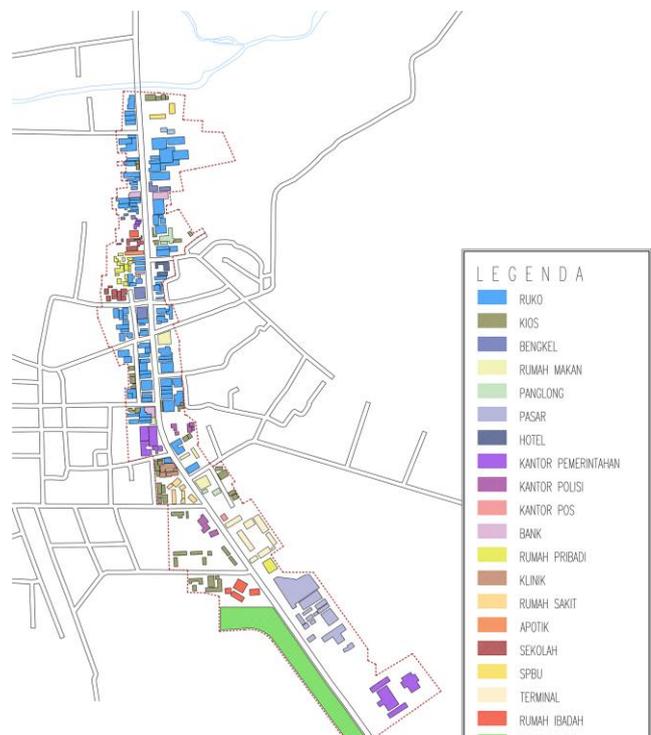


Fig. 2. Map of the land used of the central area of North Labuhanbatu city

A. Trading and Service Activities

Trade and service facilities are very important public facilities in an area since without these, a city would not be able to serve the needs of the community. The trade and service area in the area of study is one of the areas which functions as an environmental service center located in Aek Kanopan City. The pattern of development of the trade and

services area in terms of the city morphology is growing along the main roads, while also branching out to extend development to side roads as well. This area has sufficient regional potential to be developed as a high intensity trade and service area, which hopefully can become an economic driver of the North Labuhanbatu regency, especially the city of Aek Kanopan. The growth of economic activity in trade and service areas is followed by changes in land use, mainly in the transformation of land with residential functions into trade and services functions. Economic activities that are very prominent in this trade and service area mainly occur along Sudirman street, where there are still buildings that maintain their residential functions, as well as buildings that combine both functions. The development of trade and services was followed by an increase in demand from the city residents themselves, seeing the need to fulfill office and city crossing needs between provinces and districts.

B. Office Activities

The physical development of a city will have implications for changes in urban land use (Yunus, 2004). Since the expansion in 2008 until the time when this research was conducted, the regional government administration was effectively considering the best way to divide the vast area of Labuhanbatu. *Pemekaran* is the way the central government chose to divide regions by implementing rules practiced by Dutch colonials in the past (Pohan, 2015). *Pemekaran* also affects the occurrence of rapid changes in land use. Changes occurred from the undeveloped land into farming, vacant land, and yards intended to be developed to accommodate various communal activity. In line with government policy, the development of government office centers is not only limited to one agency, but all North Labuhanbatu district government agencies are placed in the city of Aek Kanopan. Over time, most employees have brought their families to the city of Aek Kanopan to shorten the commute to their workplace. This has had an impact on the development of the city's population. The high rate of population growth, especially newcomers from other provinces, results in increasing demand for lands. It can be concluded that the transfer of the central government to Aek Kanopan has had significant implications for the growth and development of the city.

C. Settlement Activities

The settlements are parts of the earth's surface that are inhabited by humans, including all the facilities and infrastructure that support life into a single unit with the residence in question (Sumaatmadja, 1988). Settlement land in the studied area follows the line of village community theory, with settlements extending to the left and right of the road. Population settlements are mixed with other activities such as lodging, trade, and other public services. Residential neighborhood activities in this area are categorized as settlements with high intensity, seeing that the population that must be accommodated in this area are almost the same as the population in the densely populated downtown area. The dominant regional development prospects has caused Aek Kanopan to be a concentration of the regency's population, which increases annually. Therefore, to meet all of the population's increasing needs, the number of land used to fulfill those needs is also increasing.

D. Public Service Activities

The public service activities discussed in this study are focused on health and transportation services. The availability of health facilities in the center of the city of Aek Kanopan has had a positive impact on the survival of local residents, with each facility equipped with adequate equipment in accordance with general hospital standards. The central area of the city of Aek Kanopan is easily accessible by means of transportation with the availability of city facilities and utilities such as gas stations and the bus terminal, which is the advantage of the area compared to other regions. The ease of accessibility is also an element that influences the development of the region, especially changes in land use.

E. Worship Activities

In its position as a spatial center, a mosque is not only a place of worship, but also a center for managing all social problems. Thus, the mosque becomes the main center for its surrounding buildings.

Land use changes occur because of increasing demand for space faced with limited availability of land. Non-developed land use in the central corridor of Aek Kanopan, such as oil palm plantations and vacant land, are often easily converted into developed land uses, such as settlements, trade zones, and educational institutions. In general, the factors causing land use irregularities are the division of districts, the development of regional infrastructure, and the development of plantation and mining businesses (Basri, 2013). Based on the results of the interviews, the factor of implementation of spatial plans, which is related to the transfer of government activities, have not been carried out thoroughly, resulting in changes of land use in the studied area. The availability of facilities and infrastructure to support the aforementioned activities in the studied area is an important factor influencing the shift in activities.

V. CONCLUSIONS

The land use of Aek Kanopan City, where the land was originally used for settlements, offices, and commercial activities, is now used for trade and services, offices, settlements, public services, and worship. Land use and the optimization of the land use is influenced by the location of the land. The known weakness lies in the regulatory factors of implementing the RDTR urban area of Aek Kanopan. The availability of related stakeholders to monitor and control the spatial use, as well as the existence of qualified human resources, are essential to support the implementation of the spatial plan. The factors we identified to be causing the irregularities of land use in the studied area are regency expansion, regional infrastructure development, and the development of plantation and mining businesses. Implementation factors related to the transfer of government activities have not been carried out thoroughly, resulting in changes in activities of land use in the studied area. The availability of facilities and infrastructure to support activities in the studied area is an important factor in influencing the shift in activities.

Based on the results of this study, several things can be recommended to fully realize the conditions of land use, so that it is in accordance with its initial purpose in realizing sustainable land use in the Aek Kanopan area. The first is to enable the Aek Kanopan Area to make a trade and service

center within the scope of serving as a cultivation area on a regional or district scale. The second is regulating land use along the Jendral Sudirman corridor in order to create sustainable land use in Aek Kanopan.

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