

CHANGES AND EXISTENCE OF CIREBON'S RIVERS IN 1900-1942

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ABSTRAK

Pada masa Hindu-Budha hingga VOC peran sungai sangat penting, karena sungai merupakan jalan raya utama yang mudah ditemui dan dibutuhkan oleh masyarakat Cirebon sebagai alat transportasi untuk menghubungkan kawasan pantai (pelabuhan) dengan interior (pedalaman). Namun, pada masa Hindia Belanda keberadaan sungai di Kota Cirebon telah berubah. Perubahan keberadaan sungai adalah hal yang mendasar. Pertama, seiring dengan perkembangan zaman dan teknologi serta meningkatnya kebutuhan barang dan jasa terus berlanjut untuk kebutuhan eksploitasi daerah jajahan, serta untuk mengefisienkan pendistribusian barang dan jasa. Kemudian, pemerintah Hindia-Belanda melakukan peralihan dari moda transportasi sungai ke berbagai moda pembangunan transportasi darat, seperti jalan raya dan kereta api. Kedua, kondisi ekologi sungai yang tidak sehat turut memengaruhi, sehingga banyak orang yang sering terkena imbasnya oleh wabah penyakit akibat kondisi sungai yang tidak sehat dan ketika musim hujan tiba, sungai meluap dan menggenangi rumah penduduk. Faktor-faktor tersebut yang melatarbelakangi pemerintah Hindia-Belanda melakukan perubahan terhadap keberadaan sungai-sungai di Kota Cirebon, seperti pengerukan Sungai Lama "Kali Bacin", normalisasi Sungai Sukalila, normalisasi Sungai Sipadu dan pembuatan drainase.

Kata Kunci: *Perubahan Eksistensi Sungai, Hindia-Belanda*

ABSTRACT

In the Hindu-Buddhist period until the VOC, the river was very important. It is because the river was the main highway that was easily found in Cirebon as a means of transportation to connect the coastal area (port) with the interior (hinterland). However, during the Dutch East Indies, the existence of rivers in the city of Cirebon had been changed. This change became essential for several reasons. First, the changing of time and technology development following the increase of goods and services demands due to the needs of exploitation of a colony, and to streamline the distribution of goods and services. The Government of the Indies-Netherlands, then, changed the transportation mode from river transportation to land transportation modes such as highways and trains. Second, the unhealthy ecological condition of the river also gave an effect. Many people were affected by disease outbreaks due to bad river conditions and when the rainy season came, the river overflowed and flooded people's houses. These factors were the main reasons for the Indies-Netherlands government to change the rivers in the city of Cirebon, such as dredging the Sungai Lama "Kali Bacin", normalizing Sukalila River, normalizing Sipadu River and making drainage.

Keywords: The Change of River Existence, The Indies-Netherlands



INTRODUCTION

Based on the geographical location, the city, and at the same time, the port of Cirebon is very strategic. This port of the city is located on a bay near the Indramayu Peninsula and corals in some offshore reefs from the waves from the north. The entrance to the port is located north of the Losari estuary.

This condition has enabled the port of Cirebon to function as a shelter for ships. Moreover, the port of Cirebon is located in the middle of the shipping route "Silk Road" along the coast of Java which has a strategic meaning as a place for boat stops to take various suppliers of travel supplies and merchandise. The most prominent area in the geographical port of Cirebon is the river (Sulistiyono, 1997). Before the road developed, the role of the river was very important as a transportation route from the harbor to the interior, and access to various strategic places including political power, fortresses, religious ceremonies, the spread of religion, and also irrigation.

River courses have encouraged people from various civilizations to interact and influence one another (Rosidin, 2018). This also happened in Cirebon, the bustling activity of the port of Cirebon, which is located near the mouths of the river as a commercial route, encouraged economic activities of the community in the form of exchanging merchandise between indigenous people (natives) with migrants. Besides, cultural and religious exchange activities also took place, one of which was Islam.

With the river course, it is also easier for preachers to spread Islam into areas that are far from the coast of Cirebon or commonly known as the hinterland of Cirebon. An example is Sunan Gunung Djati, a leader of Cirebon who brought the teachings of Islam to several regions outside Cirebon in the 15th to 16th centuries (A. Sobana, et al, 2011).

At the same time, the river was also had a significant role in the people of Cirebon's life, as documented by the traveler and researcher from the Portuguese, Tomi Pires, in his travel records known as "Suma Oriental". In his notes in 1513, he explained that the river in Cirebon had been used as a back and forth route for a boat from the hinterland to the coast or vice versa. What was Tome Pires meant is certainly the Kasunean River or the Kriyan River which can be navigated to Cirebon Girang. Cimanuk River in the north and Cimanuk River in the east also play a role in connecting the coastal area with the inland areas of Cirebon (Tim Peneliti Jurusan Sejarah Fakultas Sastra Universitas Padjadjaran, 1991).

When the transfer of political power from the Sultanate of Cirebon to the VOC, the river also had a very important role. Apart from being a transportation route as well as the economic and political basis of the Company, placing the fortress "De Beschermingh" near the lower reaches of the Cirebon River or the mouth of the old Sukalila river was strategic. The placement of the fort was also related to the bustling port of Cirebon by traders both from inside and outside Cirebon. So the Company placed the resident's office, the assistant resident's office, and other offices in the fort (Hendro, 2014).

A quite prominent problem in the next context is the increase of trade and industrialization in Cirebon City which occurred during the Dutch colonial imperialism. This had an impact on the need to provide efficient transportation facilities both in terms of time and infrastructure for transporting goods from inland to the port. But, on the other side of the river, the mainline of the water transportation system cannot reach potential inland areas (hinterland). Only a few can be reached via the river namely the Cirebon Girang

inland area which has a river flow up to the Kriyan river, and other areas that cannot be reached by river.

When the river cannot reach potential areas, a road was constructed. An example is the Pos Anyer (Banten) - Panurukan (East Java) Roads which was built by Governor-General Daendels in 1808-1811 (Handinoto, 2015). The construction of the Pos Anyer-Panurukan Roads was an important infrastructure for the development of modern cities in Java, one of which was Cirebon. With the development of land transportation systems, the distance would no longer be a problem for the distribution of goods and services (Hendro, 2014:25). This also marks the change in the use of transportation modes from river transportation to land transportation (Asteja, 2018).

On the other hand, in the 18th century to the mid-20th century, it was reported that the city of Cirebon was a dirty city, muddy and smelly. This, thus, brought the image of Cirebon City to be unhealthy. Some causes were the absence of urban sanitation (drainage), the people's habit who often dumped trash into rivers, the disposal of human and animal feces in rivers, and even the disposal of waste into rivers. This led to various outbreaks of diseases and floods in the city of Cirebon.

The above challenges encouraged the Colonial Government to make efforts to organize a better and cleaner city, planned to fight the river in the city of Cirebon, which began in the late 19th century until the beginning of the 20th century AD. As an effort made by the Dutch Colonial Government, including changes to the existence of rivers such as the normalization of the Sukalila River, normalization of the Sipadu River, and the closure of the river "Kali Bacin" (Molsbergen, 2010b).

METHODS

This study uses a historical approach with several stages. Firstly *heuristics* can be interpreted as a collection of sources, secondly, *criticism* is the stage of sorting the data that has been obtained, thirdly, the *interpretation* which is the stage for narrating an event, and then the last one is *historiography*, can be interpreted as the stages of writing in a story or historical event.

RESULT AND DISCUSSION

The River Existence in Cirebon City Before the Year 1900

Cirebon has been referred to as a port city attached to aquatic life for a long time. At the beginning of the 5th century AD, Raja Purnawarman had launched the river development program throughout West Java. The development program was in the form of strengthening, widening, and deepening the river carried out by the entire community as a service. The implementation starts with strengthening the edge of the Ganggadi River in the Indraprahasta region (Cirebon Girang). This was informed on 12 Kresnapaksa Posyamasa (December-January) in 332 Saka or 411 AD. The Ganges river functioned as a place for bathing ceremonies to purify people according to Sanghyang which is held once a year (Adeng, Wiwi Kuswiyah, 1998).

Based on the State script *Kertbhumi Sargah I*, Sudjana explained that Tarumanegara ordered the kingdom, namely the Indraprahasta Kingdom (Cirebon Girang) to carry out the royal bathing ceremony (*tirtamedia*) of the kingdom along the Gangganadi river (Hasyim, 2010). The sacred bathing ceremony (*tirtamedia*) conducted at the Ganges river aimed to pay homage to his ancestors who also performed the sacred bathing ceremony at the Ganges river in



South India. The choice of the Gangganadi River for the sacred bathing ceremony (*tirtameda*) was due to its similarity with the Ganges River in South India (Sudjana, 1968).

The Estuary of the river and its flow not only played an important role in the growth and development of Hinduism but also the growth and development of Islam. The development of Islam was increased when Prince Cakrabuwana established a political institution namely the Pakungwati Palace on the banks of the Sipadu and Kriyan rivers (Sudjana, 1986). The choice of the palace that was located between the two banks of the river was part of the political representation of Cirebon at that time, where the Sipadu River in front of the palace and the Kriyan River behind the palace is a symbol of the royal defense barricade (A. Sobana, et al, 2011:71).

Not only did the river play an important role in the development and spread of religion, but it was also important for the people of Cirebon to connect to the coastal (port) with the interior (hinterland) areas. It is important to note that the Cirebon region was divided into two regions namely Cirebon Larang (coastal) and Cirebon Girang (inland).

Cirebon coast is a sloping beach, not steep, so it is easy to be visited by ships let alone boats. Most people make a living as fishermen by relying on marine products such as fish, shrimp paste, salt, and other sea products. Such natural conditions allow ease in the construction of port facilities and infrastructure at river mouths. Many ports that have a geographical constellation like this that are in the bay, on the edge, or in a river mouth, develop not only as an economic center but often also become the center of government such as Palembang, Banten, Sunda Kalapa, Surabaya, Banjarmasin and

including Cirebon (Sulistiyono, 1997:79).

Meanwhile, the hinterland (inland) surrounding the city of Cirebon is an area of fertile land consisting of low land (valleys), highlands, and even mountainous areas with several volcanoes such as Mount Ciremai, Mount Sawal, and Mount Cakrabuana. From the lowlands, abundant rice is produced, making it an export commodity and even abroad. Likewise, this area produces parrot or Tarfish which is quite large. The highlands and slopes of the inland mountains of Cirebon produced abundant coffee plants (Cibeureum Kuningan), especially from the early 17th century until the end of the 19th century. This area also produces fruits, vegetables, various kinds of meat, and so on. Besides, the location of the city of Cirebon which is opposite the mountain gap (valley) that can be passed to go to the Priangan area which is very fertile and producing export commodities that are unmatched in the history of Java.

To connect the two regions, road infrastructure needs such as land and river routes. Before the arrival of the Company and the colonial road, routes were difficult route. Many obstacles are facing such as the number of wild forests, the number of wild animals in the interior that often threatens the community, the time has taken a long time and not yet built a good road. Seeing this reality, traders and the public need to find alternative ways that are easy and safe. Eventually, sea transportation became one of the ways and helped connect the two regions, and the river became a connecting route for the distribution of goods and daily community activities, even though the river route did not reach all the interior of Cirebon.

Some of the most important rivers that played a role in connecting inland areas with the Cirebon coast were

Cimanuk, Kesunean, and Losari rivers. This information was included in Tome Pires's note published in Cirebon in 1513, which discusses rivers in Cirebon connecting road routes that can be navigated with the forest towards the interior of Cirebon. It is presented as follows (Sulistiyono, 1997:79) :

"The Land of Cherimon is next to Sunda....This Cherimon has a good port and There must be three or four junks there. This place Cherimon is about there leagues up the rivers; junks can go in there"

There is no doubt that what Tome Pires meant is the river Kesunean or Kriyan, which can be sailed by junks (a type of boat) to Cirebon Girang. Cimanuk River in the north and Losari river in the south also played a role in connecting the coastal area with its interior in the Cirebon region. The rivers were used by farmers to transport agricultural products and forest products that were sold in markets in coastal areas or become export commodities (Sulistiyono, 1994:43).

Cooley also revealed that there was a river channel used for various community activities connecting the coastal area in Cirebon with its interior. However, the existence of cities in the coastal area is also located in river estuaries. This is proof of the relationship between the beach and the interior and the role of the river as a transportation route. Some examples are the city of Indramayu which is located near the Cimanuk river estuary, and the Pekik river estuary is located near the Kingdom of Singapore and Muhara Jati. Meanwhile the rivers in the city of Cirebon are; Sukalila, Kasunean (Kriyan) and Kali Jaga river (Kali Jaga). But among those mentioned by Tome Pires and Cooley, only the Cimanuk River is the

longest river to the interior of Sumedang and Garut.

The existence of coastal and inland areas, indicating the position of mutual need and support to each other. For this reason, the existence of rivers has become a social infrastructure, both from the port and to the port which is certainly supported by inland areas that can be relied upon as agricultural suppliers. This shows that Cirebon is not only the Islamic Kingdom but also the Maritim Kingdom.

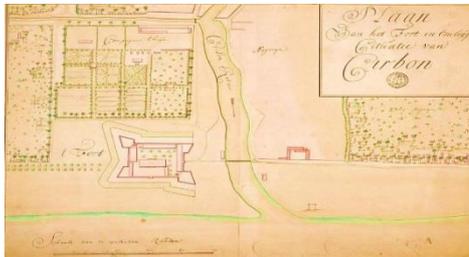
In subsequent periods (in the era of Western/European colonialism) the river was also an attractive and important for colonial officials (Asnan, 2016). This interest is due in part as follows: (1) the ports in the coastal areas they visit are generally at the mouth of the river so that the river on the coast in the shape of the earth that they encountered relatively early; (2) Human settlements, both those located in coastal areas or inland that they visit (then they control) are generally located in the area (estuary and flow) of rivers; (3) The river is a "highway" that they used relatively early to enter the interior; (4) The river is part of the process of political expansion and economic exploitation.

In connection with the above reality, there was the VOC (Vereenigde Oostindische Compagnie) which was followed by the Dutch East Indies. Everyone talked about the Dutch and the Chinese who built houses on the riverbank to the west of Customs facing the palace and also overlooking the Pacinaan Talang village (Bambang Irianto dan Ki Tarka Sutarahardja, 2013).

In 1686 the VOC built a fort in the port area of Cirebon named de Fortress de Beshermingh. The construction of the fort as a center of activity as well as a residence for the Dutch people in Cirebon such as the Cirebon resident,

secretary, and Dutch employees and soldiers. Near the fortress was approved by a moat and was equipped with warehouses and prisons (Molsbergen, 2010).

During the VOC the center of the city moved to De Beshermingh Fortress which was located on the banks of the old Sukalila river estuary or the Cirebon River bounded by river canals. The fort is also supported by other buildings ranging from houses, control offices, assistant resident offices, even resident offices, post offices, fortifications and supported by several warehouses (commodity trading) which can be seen in the picture below.



Picture 1: De Beshermingh fortress built in 1686 (Source: Cirebon History, <https://www.hitoryocirebon.id>, 2018)

The placement of the residency capital located on the banks of the Sukalila or Cirebon River estuaries, supported by a resident's office, a controlling office, a fortress and other official offices of colonial officials, thus representing a hierarchy of the colonial government. Meanwhile, infrastructure facilities such as ports and warehouses (trade commodities) represent commercial activities. The selection of the location of De Beshermingh fortress which is located on the bank of a river estuary is very appropriate for the Company, viewing Cirebon as an area with abundant agricultural and marine economic potential, and supported by strategic geopolitical aspects.

During the waning power of the VOC in Cirebon which was later taken over by the Dutch Colonial government,

the river's existence in Cirebon began to fade. This happened because Governor-General Daendels at the beginning of the 19th century, the Javanese cities began to build transportation networks for military and economic purposes. The construction of the highway in 1808-1811 by Daendels, known as Grote Posweg (highway post) from Anyer to Panarukan for more than 1000 kilometers, is one of the important infrastructures for the development of modern cities in Java. This postal highway was built by shrinking the north coast of Java, so cities in northern Java including Cirebon were increasingly connected, and a very important influence on the development of cities. With the postal highway, the development of the city is also supported by a network with other cities (Hendro, 2014:25).

To improve the export-oriented economy of Cirebon, since the mid-19th century, the Dutch government tried to improve transportation facilities and infrastructure. Road and bridge facilities that connect Cirebon with other areas in the interior, seem to be a top priority for the colonial government. Since the 1840s the colonial government hardened the road between Cirebon-Karangsembung, Cirebon-Talaga-Ciamis, Cirebon-Kuningan-Ciamis, and relations to the Priangan region and its rural. Besides, the ecological condition of the fort's environment was seen as unhealthy, poor sanitary conditions, swamps and full of standing water. This condition of Cirebon happened since the late 18th century, Cirebon earned the nickname as an unhealthy city in Indies Nederlands and a bad Karasidenan city. In 1772 and 1805 there was a great epidemic such as vomiting that killed $\frac{1}{4}$ inhabitants (Molsbergen, 2010).

Moreover, the condition of the fort of De Beshermigh was long broken and was very bad, in 1835 the castle

exploded and caught fire (Tambunan, 2004). The canals around the fort including downstream of the Cirebon River were buried by the fragments of the fortress building. As a result, the drainage became congested in the lower reaches of the Cirebon River. The congestion of this river area had made the dirty and unhealthy environment so that Colonial officials finally left the port area. Then, the Dutch government built a new Resident Office in Lemahwutut (now razed to the ground in front of the Cirebon Post Office) in 1841 and the official residence (now Krucuk near Sungai Tangkil / Kedung Pane) in 1865 (Masduqi, 2010).

The Changes of River Existence year 1900-1942

In the VOC period, the river was still maintained as the main means of transportation, where the river was used as a transportation route from inland to the port or vice versa. The river mouth was also used as an export and import port. But, in the Dutch East Indies period, from the end of the 19th century until the beginning of the 20th century, the road in Cirebon received serious attention.

The attention arises in line with the need for transportation of crops from the interior such as coffee, sugar cane, rice, indigo, and others. The problem faced by the government for the transportation of agricultural products was facilities and infrastructure, considering the river channel transportation which used to be a "highway" cannot reach all the interior of Cirebon. It was also followed by the efficiency of time and the amount of agricultural production and the increasing market needs. Therefore, building roads and railways were essential. With the development of roads and mass transportation systems, the distance was no longer a problem for the distribution of goods, despite the

abundance of goods that must be distributed.

The information above gives a picture of a change of the river, where transportation begins to build leaving the river. This also indicates a network transition, from water (river) mode to land transportation. Other factors related to the environmental conditions of the city are irregular, dirty, muddy, full of mud and do not have household sewage. During the rainy season floods often occur with a height of one meter and the smooth flow of river water is highly dependent on the tides of the sea air so that the compilation of tidal air, garbage, and dirt enter the river and then accumulate at the river mouth. These circumstances cause various diseases such as cholera, malaria and other diseases (Amelia, 2016). These were reasons the Dutch East Indies government to make changes to the river morphology in the city of Cirebon to overcome the problems. The change of river forms existence such as land transportation in the river area, closure/backfill of the Kali Bacin River, normalization of the Sukalila River, normalization of the Sipadu River and drainage construction will be explained further.

Transportation in River Areas

Along with advances in science and technology, since the end of the 19th century and early 20th century, Java began to recognize the means of land transportation. Since then, the colonial government introduced trains and cars. These two modes of transportation immediately attracted the interest of transport users, and within a few decades, their existence was able to shift water transportation. The construction of railroad facilities was intended to accelerate the mobility of goods and passengers whose pioneering had been



carried out since 1893 (Hendro, 2014:18).

Cirebon City has two stations, both of which were built simultaneously in 1911. The Prosecutors' Station was built on the initiative of the Staatspoorwegen (Railway Company owned by the Dutch East Indies / SS), then this station was used to stop the southern railroad. While the Parujakan station was built on the initiative of the private Semarang-Cheribon-Stoomtram Maatschappij (SCS) railroad company, then the station was used as a stop for the northern line.

The construction of railroad transportation facilities in the colonial cities along with the establishment of the network was not intended to accelerate the movement of the industry in the colonies, but to facilitate the exploitation and transportation of agricultural products to facilitate the production process in metropolitan cities. Until 1938 the government and private railroad companies had built railways in the Dutch East Indies along 6811 km with 1314 locomotives.

The massive construction of this highway had become one of the reasons for the decline in river transportation in the city of Cirebon. The government not only developed land transportation in areas with a dominant land but also areas with rivers. Moreover, many highways were built in parallel and aimed at reducing the use of rivers as boat/boat "highways." The construction of the highway with this pattern was intended to shorten the passenger's journey or to transport goods that must be forced to use a boat to cross the river area.

In 1930, repairs and construction of public traffic bridges were also held for 139,590. The construction of the bridge was in many rivers such as the Kalijaga River (South Cirebon, Kasunean River estuary (Kriyan), Sungai Baru estuary (Kali Anyar) and Kedung Pane

River estuary (North Cirebon). Then the connecting bridge was also built with funds of f. 22,200 - on the Cirebon-Kadipaten SCS that connects the inland of Cirebon such as Majalengka, Gempol (Palimanan) Sugar Factory and Jamblang to the harbor across the Anyar Kali Estuary.

In addition to the project on the Cirebon-Kadipaten SCS route, the government was also built a bridge on the Cirebon-Cikampek SS line with funds of f. 34,210, - to connect the northern route of Cirebon with other cities that cross the Kedung Pane River / Kali Tangkil (the border of Cirebon city and district) which terminates at the Kejaksan Station. These projects were carried out to expedite the means of mass transportation train readiness and to help Cirebon readiness to accept the nickname as "malaria-free."

Dredging the Old River "Kali Bacin"

Most residents of the city of Cirebon built their houses using bamboo without an arrangement that fulfilled the requirements both in terms of architecture, beauty, and health. This was made worse by the unhealthy condition of the city. Until 1817 Cirebon did not have a drainage system. The bodies and carcasses of animals are buried around the house and not deep enough so that the stench spreads everywhere. Around the city, marshes and sewage are still found. It is not uncommon for fish from the sea to be transported by boat to the city of Cirebon to rot when it arrives, due to the absence of adequate storage equipment which worsens the health condition of the city. Ecological conditions that are not healthy have caused various diseases such as those that occurred in 1772-1773 and 1805-1806 which consumed a quarter of the population of the city of Cirebon. Reported that a series of years of plague and other social unrest

occurred around the years 1719, 1721, 1729, 1756, 1759, 1773, 1776, 1792, 1798, and 1802-1805. Not to mention there are still wild animals that often roam into the city. The condition of Cirebon which was not organized, dirty, muddy, and had no disposal lasted until the beginning of the 20th century (Sulistiyono, 1997:89).

Since 1908 the government has carried out disease prevention and cleaning up villages, hoarding sewage, cleaning ditches around the road, laying down trash bins in each village, and controlling food and drinks by the controllers. However, this prevention has not been significant and does not appear to lead to environmental improvement. In 1911-1912 the planning for the construction of urban waterways had not yet been decided. Even though these waterways are needed to anticipate floods and disease outbreaks.

In 1915 there was still a malaria outbreak in the city of Cirebon, which claimed hundreds of lives. After a study by a team of Government doctors from Jakarta specifically handling this outbreak, it turned out that the cause was "Kali Bacin". River "Kali Bacin" is a river that smells foul and the proliferation of disease so it is not surprising that with this status people call it the name "Kali Bacin" which in Indonesian means river that smells foul or unpleasant. For this reason, repairs and cleansing the "Bacin Kali" River were carried out. The cleaning and repairing of the Bacin River have been carried out, but it is only limited to the downstream area, where the drainage canal is done by making open sewers which are cemented in the densely populated environment of the city of Cirebon (Kampung Cina) which is passed by this small river.



Picture 2. The condition of the river "Bacin River" before it was worsened (Source : Cirebon Kendi Pertula Community Heritage Photo Collection, Cirebon 2018)

In 1916 the malaria eradication service made improvements around the river "Kali Bacin" by narrowing the sewage that smelled foul, dredging the downstream channel with sand, and underneath it was installed culvert as a water reservoir. In 1917 when the assistant resident's term was held by J.H. Eycken (1917-1920), the city government moved the steps. The first thing that was done and was a big change for the City of Cirebon was to close the River / Kali Bacin which was completely dirty, smelled bad and became a den of various diseases. Cause none of the residents survived the disease. There is a kind of slogan (proverb) that develops "whoever lives in the city of Cirebon, must first get acquainted with the heat illness, if it has been struck, then he is recognized as a legitimate resident". This work was completed in 1920. After the famous River or Kali Bacin smelled away, the traces became Laan Eycken or Wilhelmina Laan roads on which the 19A B.TT cigarette factory was built in 1924, the building still exists today. Then the Laan Eyken Street after independence changed its name to Jalan Merdeka (Molsbergen, 2010:18-19).

The Normalisation of Sipadu River

Sipadu River is a river in front of the Kasepuhan Palace. Before the River / Kali Bacin was degraded, the river flow connected with the Bacin River which was famous for an outbreak of disease. At the beginning of 1925, a malaria outbreak occurred again. Then the government conducted a study regarding this malaria outbreak case. After intensive research, it turns out that the mosquito breeding grounds for malaria mosquitoes are no longer the "Bacin River" but the mouth of the Sipadu river. Ecological factors that occur in the river are caused by unhealthy living behavior of the people in Cirebon City such as throwing garbage into the river, disposing of sewage (feces) into the river and animal dung also being thrown into the river so that it accumulates in the river mouth area and the water flow is blocked and polluted. Disposal of rubbish and sewage by the community into the river certainly affects the water quality in this river, so that the color of the water is no longer as clear as it used to be but turned turbid. Especially with clogged and polluted ecology of this river, also encourages malaria outbreaks. This encourages the city government (gemeente) to make various efforts, to overcome these problems by normalizing the Sipadu River channel.

At the beginning of 1925, the river normalization began to be carried out, among others, by clearing waterways, dredging mud in the river mouth, smoothing channel bends, and normalizing downstream canals by making channel walls and making channel dams toward the sea. To expedite the work and completion of the river normalization project, then through government decree No. 15 dated December 6, 1926, a budget of f. 61,210 guilders. In 1928 the government provided an additional budget for the

completion of the entire Sipadu channel project and the provision of reserve costs for supplementary work. The normalization work on the Sipadu river was completed in 1929.

The Normalisation of Sukalila River

Sukalila River is a river that separates North Cirebon and South Cirebon. According to Mustakim Asteja as in Warta Balai Kota, before the construction and normalization were carried out on the Sukalila river, this river had once meandered through the Morning Market bridge to the Asia Hotel or Pamujudan Road to turn south along Jalan Pamujudan, past the Arab settlement (Panjunan) until Jalan Talang (next to the BAT Factory) and ends at the mouth of the Cirebon River - Pintu Pelabuhan I Cirebon (Asteja, 2018).



Picture 3. An ancient map of the city of Cirebon between the 1700s explaining the flow of the Sukalila River before it was straightened out (Source: Hadinoto, 2015)

As illustrated also on the map above, the Sukalila River before normalization does not lead to "Kali Anyar" (now located at the port of Cirebon III) but instead leads to the Cirebon River (Port of I port of Cirebon) close to the neighborhood of De Beshermingh fort. In 1835 the fort was destroyed, leaving behind rubble that fell on the canals around it, as a result, the flow of the river Sukalila in the downstream is incompatible and causes an unhealthy environmental ecology. When the rainy season arrives, this river

always gets a shipment of water from the area within the city and the surrounding area, resulting in villages or settlements in the vicinity such as settlements in Panjunan and Pecinaan experience flooding. This made the Central Government through the City Council spend 20,000 guilders in 1919 to make improvements such as making embankments and normalizing. The construction of embankments is done on the edge of a river using sand mound. While the normalization is done by dredging mud from the riverbed and on the edge of the riverbank built.

After working on various improvements, the river's condition is still flooding. This has led to the city government evaluating overcoming this problem. To overcome this condition in 1920 the government took the initiative to make a new river channel excavation project "Kali Anyar" (at the port of Cirebon III), in other words, the river was straightened (Straightening). To excavate this new river channel, the government will spend 210,000 guilders.

When examined, the pattern of new river development "Kali Anyar" by the Dutch colonials followed the pattern of river development in Europe, one of which was like in Germany, wherein the 17th century to the mid-20th century Germany had undertaken massive construction towards the Rhine River (Maryono, 2018). The same thing happens in this river as floods occur continuously in the downstream and ecology that is not healthy. This is what raises the awareness of river ecologists in Europe to make efforts to normalize the river by changing the morphology of the river from natural (meandering) to an artificial form with relatively straight grooves. Given this, it is natural that the Dutch colonial efforts to normalize the Sukalila River by changing the morphology of the River from its original

form which is meandered to be straight. In this case, constructing the Sungai Baru River "Kali Anyar" in the eastern part of Sukalila as the mouth of the river as well as the drainage of water leading to the Java Sea.



Picture 4. Anyar River condition after it was built in 1920 is located in the Karang Kanjung Coastal area of Cirebon City (Source: <https://www.radarcirebon.com>, 2019)

Since the construction of the new river channel "Kali Anyar", the flow of the Sukalila river flows to the Northeast or the estuary of "Kali Anyar" (Cirebon Harbor III Gate). At the same time, the flow of the Sukalila River, which had been compressed, was degraded and underneath was installed a roiling. After being depressed and installed roil (drainage water), then the former river flows into a road with the name of Jalan Syarif Abdurrahman or popular after independence with the name Jalan Bahagia. Since the normalization, Cirebon City has been divided into two regions, namely Kota Tua to the south of the Sukalila-Baru river and New City gemeente Cirebon to the Prosecutor's Office to the north of the Sukalila-Sungai Baru River.

Water Tunnel and Drainage

In 1915 the City Council, through the Irrigation Service, planned to make



water tunnels and drainage in the city of Cirebon. Work on the project is planned and made in two regions, North Cirebon and South Cirebon. Through a government decree dated April 27, 1917 No. 58, this project must be implemented immediately with a budget of 455,000 guilders. Work on the water tunnel and drainage project began in 1918 with the first South Cirebon Cirebon stage, which was completed in 1922 (Sub Bidang Pengolahan Dan Pembinaan Kearsipan, 2008). The construction of the southern Cirebon irrigation network has cost 956,825 guilders or equal to 5834 per hectare. Thus the initial estimated cost of 455,000 guilders has gone far beyond the initial cost plan. The Central Government also budgeted the cost of drainage maintaining and pumping station utilization, amounting to 11,500 guilders.

Besides, the city government is still making minor repairs consisting of making cement ditches and non-cement ditches in villages, maintaining dikes, and coating steep areas. At the end of 1929, the construction of drainage and culverts for dirty water disposal in North Cirebon had to be carried out within 5 years. The Central Government has reduced the budget for drainage construction by 86,000 guilders and followed by two additional budgets of 16,400 guilders and 29,038 guilders respectively. drainage construction was also chosen using a separate system, in which a latrine and household sewage system will be constructed channeled through pipes built underground (planted underground), while rainwater is channeled through open gutters which are then discharged into the sea. In the following year, the government also issued funds of f. 33,504, - to repair water drainage in Silayar River, Kesambi road, which includes drainage projects in front of the "Orange" hospital and front of the prison - now the Kesambi

penitentiary building (Sulistiyono, 1994:209).

Eradicating malaria and overcoming floods is an increase in urban infrastructure to avoid this. Many things have been done by the City Government so that the image of the city of Cirebon to be healthy and clean, including hilling and installation of the Old River "Kali Bacin" drainage, normalization of the Sukalila river, normalization of the Sipadu River river, hilling of standing water and wastewater and others. Infrastructure development work will require huge costs so that the presentation of Malaria has come down, flooding can also be gradually overcome from the city of Cirebon.

CONCLUSION

Changes in the existence of rivers occurred because of two factors namely the change of transportation facilities from river transportation modes to land transportation modes, and unhealthy, dirty river ecology that caused often flooded. As a result, the rivers in the city of Cirebon have changed their existence such as; land transportation in river areas, river dredging, Kali Bacin, normalization of the Sipadu river, normalization of the Sukalila river and culverts making.

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