

ANALYSIS OF RAILWAY STATION DEVELOPMENT POTENTIAL IN MADURA WITH RAILWAY REACTIVATION

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ABSTRACT

The reactive plan of the Madura railway line received a favorable response from four regents in Madura. As the plan can improve economic development and facilitate human and goods movements easily. In its development, the potential for the development of the island of Madura needs to be noticed in terms of both the economy and its infrastructure. The potential for development on the island of Madura itself is still impressed as not well developed compared to the city of Surabaya which is directly adjacent to the island of Madura. Notable in economic development is a condition of accessibility and support and complementary facilities such as the existing transport on the island of Madura. The purpose of this study is to analyze the potential for the development of a railway station in Madura by reactivating the railroad. the method used is a qualitative approach with a descriptive analysis method by conducting interviews/questionnaires to the Madurese community, regulators and transportation practitioner experts. Based on the results of the analysis of the existing Madura train stations, it can be concluded that there are 7 major stations with potential for station development in Madura. The potential for the development of a railway station can increase economic, tourism and industrial value. In the development of the station area, it is also necessary to pay attention to supporting facilities and tie them well with various sectors such as tourist sites, industrial locations and trade locations.

Keywords: development; madura railway reactivation; railway station

INTRODUCTION

Regional development has a significant role in various aspects such as economic, social, cultural, environmental and tourism. The economic aspect plays a big role in regional income with gross domestic product (GDP). For example, tourist visits, both domestic and foreign, can also contribute to the country's foreign exchange. In the socio-cultural aspect, for example, it plays a role in opening local job vacancies, introducing traditional and cultural traditions as the identity of the Indonesian nation. East Java Province is a province that has experienced quite a large economic increase in Indonesia. In 2018 East Java's gross regional domestic product contributed 14.67% to the national level. Madura Island is one of the largest islands in East Java province whose area is included in the economic zone area, namely GERBANGKERTASUSILA. This area is a highly developed strategic area in terms of economic affairs in East Java.

Madura Island with an area of 5,168 km² which is approximately 10% of the land area of East Java. The land length of the archipelago from the western end of Kamal to the eastern end in Kalianget is about 180 km with the width of the island of Madura being around 40 km. Madura Island is divided into 4 districts, namely Bangkalan Regency, Sampang Regency, Pamekasan Regency and Sumenep Regency. The geographical conditions of the island of Madura in the southern part of the topography are relatively flat and in the northern part there is a relatively slightly steep height difference. The current condition of the economic area on the island of Madura is agriculture, fishing and limestone mining. In its development, the island of Madura which is included in the area, especially Bangkalan district. The government needs to pay

attention to the good infrastructure and economy of Madura Island. One of the important route infrastructure is transportation. The transportation route to the island of Madura can now be passed by land via the SURAMADU bridge.

The potential for development on the island of Madura itself still seems not to be well developed compared to the city of Surabaya which is directly adjacent to the island of Madura. Madura Island has a salt commodity in Indonesia which must be the result of large and abundant natural resources. What needs to be considered in the economic development of Madura is the condition of accessibility, supporting and complementary facilities such as transportation on the island of Madura. The better the transportation access point is able to attract tourist attractions and the development of the area. Madura Island has good transportation routes, previously having an active train line from Kalianget port in Sumenep district to Kamal port in Bangkalan district. The railroad track currently has some of its construction remaining, both the sleepers and the rails. The development of rail transportation at this time is very possible to activate the Madura railway line.

The Ministry of Transportation with the Directorate General of Railways has conducted a study on the feasibility and discourse to reactivate the railway line in Madura. From the study, the potential demand for trains in 2015 is around 844,920 pnp/year (optimistic scenario), 675,936 pnp/year (moderate scenario) and 506,452 pnp/year (pessimistic scenario). While the estimated demand for goods travel in the first year of operation (2015) is 796,954 tons/year (optimistic scenario), 637,563 tons/year (moderate scenario) and 478,172 tons/year (pessimistic scenario). In 2020, in accordance with the National Ripnas, Indonesian railways will realize the implementation of national railways throughout Indonesia. The development of the rail network and railway services throughout Indonesia needs to be accelerated. The development and evaluation of existing Indonesian railroad tracks must be maximized. PT. KAI, which is an Indonesian train operator, was assigned to record the concession of track and station assets in Madura.

The history of the railroad on the island of Madura used to be the main route of transportation for transporting natural resource commodities, especially salt. The railway line on the island of Madura stretches from the Kamal station on the western tip of the island of Madura which is adjacent to the Kamal port. Meanwhile, the Kalianget station is at the east end which is directly connected to the Kalianget port. In the Bangkalan district, Sukolilo to be precise, there are several branching lines of the train line including the Kwanyar station which connects the city of Bangkalan directly to Sampang district. Furthermore, Telang Station made a direct branch to Sukolilo Station so that it could be connected to Pamekasan. As in picture 1 of the railroads of his time.



Sumber : Overzichtskaart van de residentie Madoer

Figure 1. Trace the existing train track on the island of Madur

In 1984 land transportation by private car developed rapidly and resulted in the train not being the main mode of transportation. And finally PJKA as the operator that runs the train closed the train line on the island of Madura. In research conducted by (Astuti, 2019) the reactivation of the railway line on Madura Island pays more attention to concerns about the emergence of social conflict in the community because the existing alignment lines have now changed many functions into buildings and roads. The research did not review the potential for economic development that would occur if the railway line on the island of Madura could be activated. The economic potential in Madura from a creative economy perspective is very potential, such as the development of tourism, the agricultural sector, crafts, culinary and performing arts. However, limited access to financing for business development has slowed down the development of the creative economy. (Herman Palani, & Handoko, 2018). Interactions between regions in an area will complement each other and work together to increase the growth rate of each region with healthy competition (Nur Azmi Faiz, & Nuraini Ida, 2011).

Currently, transportation on the island of Madura on the Bangkalan – Sumenep route is dominated by AKDP land public transportation. AKDP bus public transportation is the transportation used by Madurese people today to travel to other cities (Gilang Satrio, at all, 2014). Apart from the AKDP bus serving passengers from Sumenep, Bangkalan also serves the city of Surabaya by land route via the Suramadu bridge. In addition to buses on the island of Madura, there is also an airport that serves airplanes flying from Trunojoyo Airport in Sumenep district with the aim of Juanda Airport in Surabaya, this is very significant as an increase in the regional economy. The area development plan was developed using 3 methods, namely KKJSS, KKJSM and KKM. KKJSS areas that are developed and focused on economic development in the field of services and tourism. KKJSM is a strategic area that supports the development of industry and services. Regional KKM which acts as a regional transportation node for Madura Island which supports integration areas between modes to move goods and people such as Kamal Port - Tanjung Perak Harbor in Surabaya and Kamal Station (Effendi Mohammad & Hendarto R. Mulyo, 2014).

The plan for the area of economic improvement that will be prepared and made must be based on the development of superior commodities in the Madura area (Romadhon Agus & Sucipto, 2010). Regional economic growth is more emphasized on the effect of differences in space characteristics on economic growth. Factors that are of primary concern in regional economic growth theory are strategic locations, migration agglomeration, capital flows between regions (Suprijati Jajuk & Yakin Ainul, 2017). In the rail cross reactivation plan, the regional potential which is the potential for agriculture, industry, growth, trade and tourism is the highest criterion in determining the priority of reactivation of non-operational railroads (PT. Zonation Konsultan, 2012). The significance of this research is how the reactivation of the railway line can maximize the development of the station area which will be passed by trains on the island of Madura. Through easy access to rail transportation, it should be able to revive the economy on the island of Madura. Through economic development on the island of Madura, it can add to tourist attractions and offer local products. The preferred mode of rail transportation is more efficient than buses and trucks in terms of energy consumption and costs. Trains only consume 0.002 bbm/km/org for passenger transportation and 0.0025 bm/km/ton for freight transport (Zulkarnain Akbar, at all, 2017).

The existence of a railway line on the island of Madura will also increase connectivity between districts on the island of Madura. The existence of a railway line between districts on the island of Madura will facilitate transportation to the area. The railway line can also revive the island of Madura which is known as the salt island. The purpose of this study is to conduct an analysis

to determine the potential analysis of the development of a railway station in Madura with the reactivation of the railroad. With the development of a train station on the island of Madura, it is also expected to avoid economic inequality with the city of Surabaya.

METHOD

A. Research Locations and Time of Research

The research locations are in 4 regencies, namely Bangkalan, Pamekasan, Sampang and Sumenep regencies on the island of Madura, East Java province. The research survey was conducted on 6-13 October 2019.

B. Data Collection Methods

The research method used was a field survey of the location of the existing train station, literature study and interviews/questionnaires with stake holders, the Madurese community and expert practitioners in the fields of economics and sustainable transportation. Data collection techniques were carried out by taking documentation by looking for report data about railroad tracks at PT. KAI DAOP 8 Surabaya UPT Madura Asset Management and field survey of existing stations.

C. Data Processing

The Sukendar data is in the form of a topographical map and a map of the Madura area with the old railway lines and stations. Supporting data relating to economic data at the district central statistics agency (BPS) on the island of Madura. Primary data collection was carried out with the help of interviews/questionnaires with respondents who were deemed competent in relation to the object of research.

D. Data Analysis

The profile of the respondents was determined using a purposive sampling technique, namely by directly appointing parties who were considered to be involved and competent in determining policies and techniques including PT KAI, BTP East Java Region, Bappeda Bangkalan, academics and affected communities with a total of 13 respondents. The analytical method that will be used is a qualitative approach with a descriptive analysis method, namely a simple analysis to describe the conditions of a field observation and interview presented in the form of tables, graphs and narratives by interpreting the observations.

RESULTS

Existing Station Evaluation

In selecting the reactivation of the railroad line, initially the old line stretched from Kamal Harbor to Kali Anget Port. The length of the old train from Kamal Harbor towards Bangkalan City to Tanah Merah is 255 km and passes as many as 25 stations with 7 major stations. In the period from 2009 to 2019, PT. KAI, which is an Indonesian train operator, has been assigned to record the asset concessions for tracks and stations in Madura, and it has been recorded that 221,210 km of railroad tracks in Madura still exist physically and several station locations are still there, as shown in Figure 2.



Sumber : PT. KAI Daop 8 Surabaya

Figure 2. Trace of the railroad track on the island of Madura

Existing Conditions of the Madura Economy

Economic growth is one of the most important things in the economic activity of a region, economic growth is a measure of the success of economic activity in an area, when an area has high economic growth, economic activity in that area can be said to be successful or developing. One way to measure the economic growth of a region can be seen through the regional per capita income. According to BPS data for 2018, Madura Island as part of East Java Province which consists of four districts namely Bangkalan, Sampang, Sumenep and Pamekasan is included in the 4 districts with the lowest economic growth compared to other northern corridor districts in East Java when viewed from regional per capita income.



Sumber : BPS Tahun 2019

Figure 4. Income Per Capita of North Corridor Regency/City of East Java Province in 2018

The graph above shows that the per capita income of districts in Madura is still far from the average per capita income of districts/cities in the northern corridor of East Java, which is Rp.

62,795,912.69 or 64% less than the average per capita income of districts - other northern corridor districts of IDR 62,795,912.69. On the other hand, in general, the economic potential of Madura Island is not inferior to other regions in East Java, the four districts on Madura Island have quite promising economic potential, Sumenep district is supported by the fisheries and plantation crops sub-sector, Pamekasan district excels in the livestock sub-sector, Sampang is in the fisheries and forestry sub-sector, while Bangkalan district excels in the food crops and forestry sub-sector.

Potential Development of Madura Island Region

By mapping the economic potential in Madura so that it is easier to determine policy directions and determine the location of Madura's economic development. The low economic growth on Madura Island is due to the low development growth, especially the infrastructure supporting the accessibility of the supply chain of goods. In the context of developing the economic area, industrial and warehousing areas will be built and a tourist area for the construction of an Islamic science park. This project is planned to be an integrated part of the Madura side of the Suramadu Bridge area. In order to create efficiency and equal economic equity, the East Java Provincial government plans to carry out area development on Madura Island, such as the establishment of a CBD (Central Business District) area and warehousing in the Sukolilo area with an area of ± 98 hectares with a total cost of ± 2.27 trillion (with a PPP scheme), in the northern part the Tanjung Bulu Pandan Port area will be built with an area of ± 280 hectares with a cost of ± 17.25 trillion (with a PPP scheme). cultural and natural tourism in the Sumenep area (Palace, Asta Tinggi, Lombang Beach), batik tourism in Pamekasan and religious tourism in Batu Ampar.

In terms of accessibility between areas, it is planned to use rail facilities by reactivating the line from Kamal Station to Kalianget Station, the train was chosen because in the medium distance of 500 – 1500 km, travel by rail mode has the lowest cost function compared to bus/car or ship mode. In this case the potential of the area on the island of Madura is as shown in Figure 5.



Sumber: Dishub Provinsi Jawa Timur

Figure 5. Potential area of Madura Island



Sumber: <https://wikimapia.org>

Figure 7. Location of Sukolilo Station

Sampang Station

The potential of the Sampang district itself is abundant including trade, tourism, agricultural products, animal husbandry, manufacturing industry, mining so that it requires good infrastructure to support transportation. With the reactivation plan for this train line, the Sampang station can be an alternative for the community as an entrance to the Sampang area. Tourism in the Sampang area, such as natural beach tourism, karapan sapi cultural tourism, is an annual attraction that tourists can visit. And also religious tourism of Trunojoyo heritage sites. The development of agropolitan and animal husbandry in the Sampang area also supports a large economic potential.

Pamekasan Station

The railroad track that spans the Pamekasan area is still in good condition, so that if the Madura railroad reactivation plan can be easily realized in the Pamekasan area. So that the potential for station development in Pamekasan Regency is also found from several aspects including trade potential, plantation products, salt industry potential, batik industry, and tobacco processing factories. Tourism potential in Pamekasan itself consists of culture, religion, nature and man-made. Products from Pamekasan district SMEs have also developed rapidly such as batik, processed fish to seaweed which already have competitiveness in the international market. The salt industry in Pamekasan is also the prima donna of supporting the Pamekasan economy. The location of the Pamekasan station itself is located in Pamekasan sub-district, the southern region of Pamekasan district so that access from other areas is easy to reach. The population distribution in Pamekasan district is highest, residing in Pamekasan sub-district, the same as the location of the Pamekasan station, so that transportation routes to the Madura area will be easier.

Sumenep Station

Sumenep Regency is a district with the largest per capita income on the island of Madura, so the potential for station areas in Sumenep Regency is very large. The potential of the station area to increase the economy is obtained from various sectors including the mining sector in the form of oil and gas which is quite large and has been exploited by production sharing contractor companies. The tourism sector has exotic marine tourism, white sand beaches that can attract tourists. Another potential is the cultural potential which is the arts and customs of Sumenep. Meanwhile, the potential of Sumenep's human resources has attractions that can be made into local tourism. To increase the potential of the Sumenep district itself, it must improve adequate infrastructure and support these activities. The reactivation of the railroad track in

Madura was welcomed by the Sumenep Regent to support the 2020 Sumenep visit. Sumenep Station is a large station that has been owned by Sumenep for a long time and is still in good condition. Integration of rail transportation in Sumenep will also be carried out considering that Sumenep already has Trunojoyo Airport. Trunojoyo Airport opens flights from Juanda International Airport back and forth every day using ATR aircraft. In 2018, the number of passengers departing and leaving the airport was 31,914 passengers. The load factor on each flight in 2018 is also around 78.13%. Trunojoyo Airport has a relatively increasing number of passengers from 2016 to 2018 as shown in Figure 8.



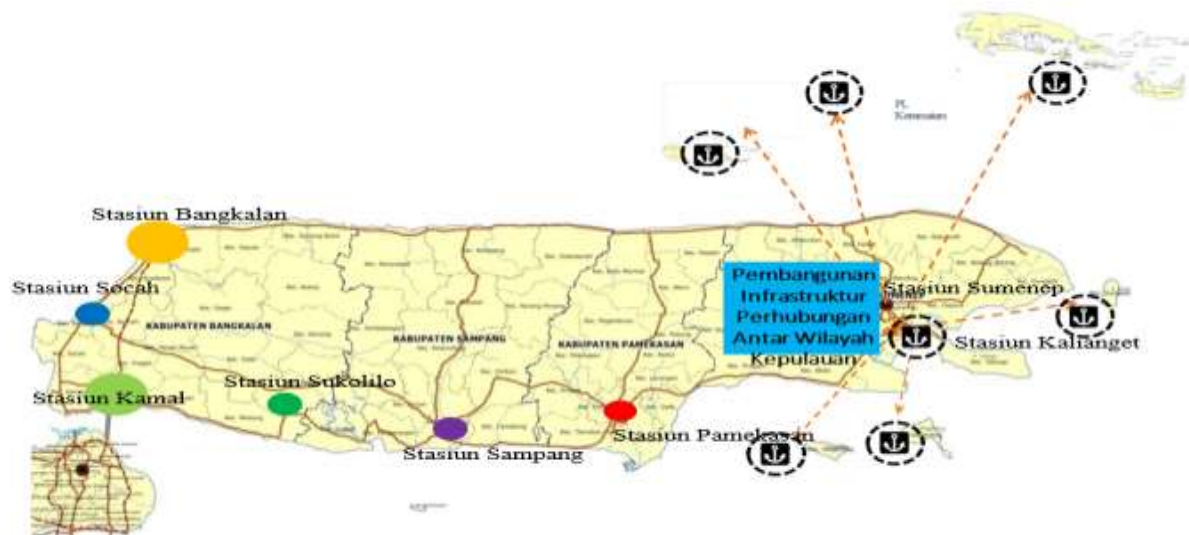
Sumber: Dishub Provinsi Jawa Timur

Figure 8. Number of passengers at Trunojoyo Airport, Sumenep

Reactivation of the railroad line can also be a choice of transportation for the Madurese who will use the air mode via Trunojoyo airport. And can increase the ease of carrying out Madurese community activities in traveling to other cities with easy access to transportation.

Kalianget Station

Kalianget station is the easternmost station in Madura. The integration of Kalianget station is very well developed with Kalianget port. Bearing in mind Kalianget port is a transit port for the island Madurese community around Sumenep district. Kalianget Port is a sea transportation facility that serves passengers from the mainland of Sumenep to the Islands and vice versa. The existence of Kalianget Station will greatly assist the movement of people around the port and islands so that it will become a reliable mode. In choosing the location of the station, it is also necessary to consider the potential of the surrounding area so that it will maximize the movement of goods and people. The location of the station also needs to be considered in the intermodal concept which is related to commercial activity transportation facilities, green open spaces, and connected transit access within an area. Need to consider the criteria of convenience, access to effective movement of people and goods with good service. Station locations are also easy to reach to facilitate integration with other modes. In this case the location of the old station that can be developed in Madura is as shown in Figure 9.



Sumber: Analisis

Figure 9. Selection of stations on the island of Madura as an economic area development

DISCUSSION

Based on the data obtained from the results of this study, there are several important points that need to be considered in the construction of stations for the reactivation of railway lines in Madura :

1. to increase gross regional domestic product (GRDP) in madura island districts, the need for the development of madura region to match the development in other regions of East Java
2. The potential for the development of train stations in Madura with the reactivation of railway lines is very large because later the station can become a developed economic area for the surrounding area
3. The railway line that was originally used for goods should be used in reactivation to be used for goods and people, considering that the Madura region also has the potential for industrial development in each region
4. Accessibility in the construction of railway stations is needed to become a connectivity between other modes such as highways, mode transportation, sea mode and air mode so that later it will be easily accessible by prospective passengers (Soimun & Leliana, 2021)

CONCLUSION

Based on the results of the analysis of the existing Madura train stations, it can be concluded that there are 7 major stations with potential for station development in Madura. By reactivating the train line, it is necessary to develop the existing train station area so as to facilitate its accessibility. With the reactivation of the railroad tracks on the island of Madura, it can increase the economic potential from several aspects, such as the rise of the industry, the tourism sector in Madura will increase and the movement of people will be more accessible. With the reactivation of the railway line, it can increase the integration of other districts with ease of transportation. Judging from the Gerbangkertasusila area, the regency on Madura Island is still relatively below average compared to other regions. With the reactivation of the railroad track in Madura it is hoped that it can increase the potential of the area such as the mining sector, the tourism sector, agricultural and fishery products. From the results of observations in the field of the Madura train station, there are still remaining and well-recorded, this can be an indicator that the rectification process will also improve the local economy of the community with the location of the station construction. In the construction of the station, it is also necessary to think about the area around the station to make it easier for the community to carry out their

activities. Of the 7 major stations that are recommended to be built to increase economic potential and ease of access to advanced modes of transportation. The station area must also be well connected with locations that are regional superiors such as tourist sites, industrial locations, transportation node locations and trade locations.

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