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Water Transport Development Strategy to Support Development of Regions MIFEE in Merauke

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Abstract:- Merauke district is as an area MIFEE (Merauke Integrated Food and Energy Estate) and Region Production Center Food (RPCF) in Eastern Indonesia is farming activities scale plants spacious committed to the concept of agriculture as an industrial system that is based on science and technology, investment and modern management involving the community. The concept of development of water transport in Merauke include: development of river transport lines carried along the Maroo, Kumbe River, Bian River, River Buraka, Muli River / Strait Kimaam, and river Digul / Muting District; development of river transport node in the form of port infrastructure / pier / jetty, planning vertices as a rest area with an integrated transit functions include support facilities; the development of each node movement of goods / passenger with themes userspecific. Development of water transport in Merauke of land in the form of logistics centers in coastal rivers and beaches as the entrance to South of Foreign Affairs (Asia-Pacific). Water transport service network is the development of a logistics network of collectors Maro River up to the Bian River. The development of river traffic service network (main and collector), the construction of the dock / pier on the river network traffic services (primary & collector), and the manufacture of gas stations and banks (public service) floating. Network infrastructure is the development of water transportation services Merauke New Port (MNP), the revitalization of the Port of Port of Merauke long been PELRA, and the use of the floating dock. from the aspect of water transportation service facilities in the form of river transport revitalization that berkesalamatan increase in the number of river transport development Belang Rapid Transit (BRT) as a reliable means of river transport.

Keywords: -Strategy Development, Water Transport, MIFEE & RPCF

I. INTRODUCTION

In Government Regulation No. 32 Year 2011 on Master Plan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI) 2011-2025, in anticipation of the food crisis and the energy so Marauke District designated as barns and energy in eastern Indonesia. The activities are realized in a hierarchy area development MIFEE (Merauke Integrated Food and Energy Estate). It is as business activity cultivation wide scale is done with the concept of agriculture as an industrial system that is based on Science and Technology (ST), the capital, as well as the organization and modern management.

Merauke region has many rivers and swamps in coastal areas directly adjacent to neighboring Papua New Guinea and Australia, so the role of economic, social, and environmental, political role of transport in the area is very large. Land transportation, especially road more widely used community for everyday motoring, but for the people who live around streams allows the use of river transport as the main mode of transportation. Big rivers namely: Maro, Kumbe, Bian, and Buraka, besides being a potential source of fresh water for irrigation, as long as it is also used as the transport medium between the districts and villages.

Considering Region MIFEE set forth in 10 Region Production Center of Agriculture (RPCA) and spans a region of corners in the District Marauke is almost entirely within the Watershed large rivers, the revitalization of river transport in supporting the development of the region MIFEE in District Marauke becomes very important to investigate, in order to provide access to transport and the welfare of the whole community in its activities.

Based on the description above, the problem can be formulated in Merauke Regency about how the performance of the transport system in the development of water transportation in Region MIFEE in Merauke to support the smooth running of passenger and freight transport system in MIFEE Region.

II. RESEARCH METHODES

Analysis and evaluation methods used in this study is to present a device or tool for analyzing data and modeling will be done as in Figure 1.

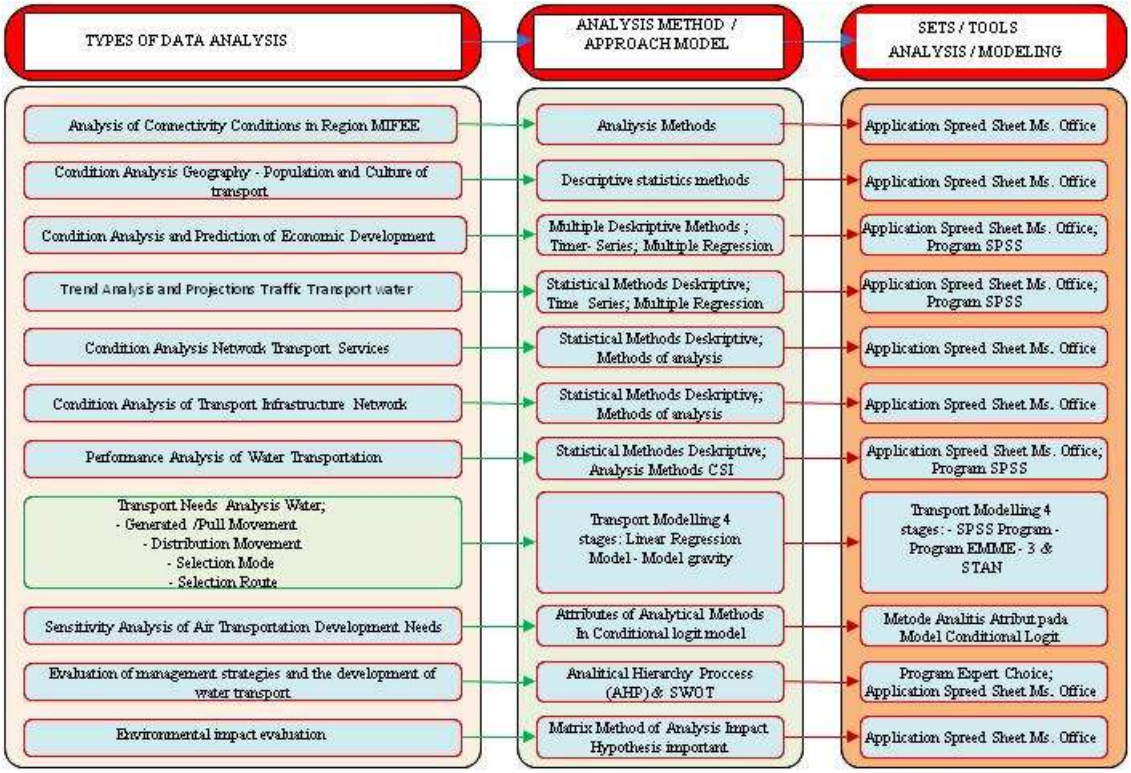

Figure 1. Methods of Analysis and Evaluation Research

III. RESULTS AND DISCUSSION

Merauke district lies between 137 ^{o}-141^{o} East Longitude and 50^{o}-9° South latitude, has an area of 46791.63 km^2 or 14.67% of the area of Papua province and is the largest district in the province of Papua. Divided into 20 districts, which Waan District is the largest district, reaching 5416.84 km^2, while Semangga district is a district with the smallest area, only reached 326.95 km^2 or 0.01% of the total area of Merauke. Marine area of Merauke reached 5089.71 km^2, or 10.88%. The concentration of the population relies largely on five watersheds major in Merauke, the watershed Maro, the watershed Kumbe, the watershed Bian, the watershed Buraka, the watershed Muli, or at the edges of the beach. In addition, the superimposition between the concentration of the population with 10 districts and regional RPCF indicated MIFEE investment shows that most of the concentration is at a watershed area from the upstream to the estuary and coastal shores of the sea.

The performance of services in the road transport network Bian River crossings are considered good (quadrant I) is an indicator of safety, capacity, smooth and fast, and secure. Indicators have low performance and a priority to be improved (quadrant IV), namely accessibility, affordable tariffs, integration, easy, convenient. While indicators of performance tend to be excessive (quadrant II) that is orderly, timely, efficient, and orderly. Then the performance indicators have low priority (quadrant III), namely pollution. The distribution level of performance has not approached the main axis Cartesian diagram shows some indicators of performance is still not satisfactory so that people have a great desire to improve the performance of this transportation. Indicators Accessibility far enough away from the axis kartersius means low levels of satisfaction and desires of the community so high as to increase one of these indicators, as in Figure 2.

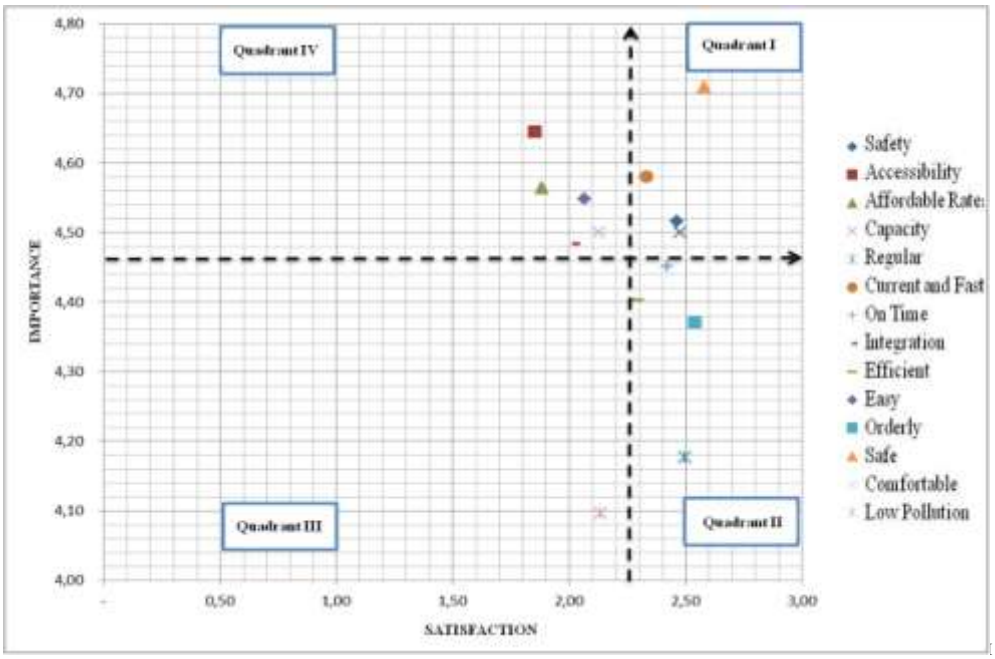

Figure 2. Diagram Cartesian Road Transport Performance

Road infrastructure performance, especially on networks Wamanggu Terminal- Muting District by performance level CS-Index Score of 45.685%. This indicates that the level of service of transportation road network of Terminal Wamanggu towards Muting District is in the interval <64%. Road transport network service performance on Trans Papua Strip location is considered good (quadrant I) is an indicator of regular, smoothly and fast, timely, efficient, and orderly. Indicators that have low performance and a priority to be improved (quadrant IV) that is affordable and convenient rates. Indicators of performance tend to be excessive (quadrant II), namely the capacity and secure. Then the performance indicators have low priority (quadrant III), namely safety, accessibility, integration, easy, and low pollution like Figure 3.

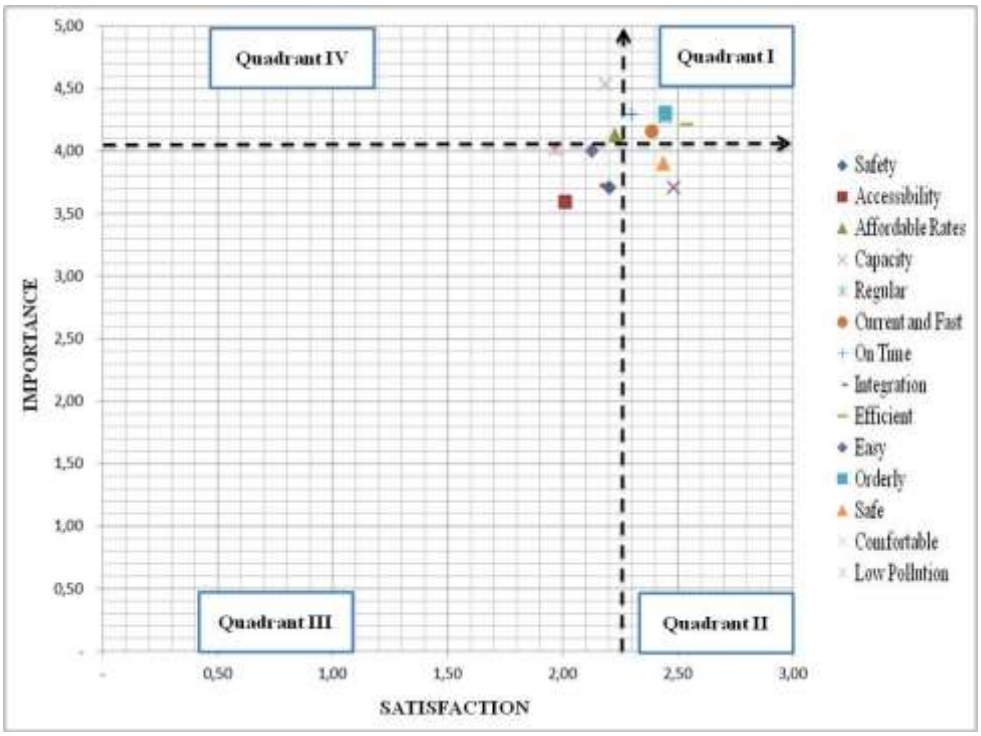

Figure 3. Performance Cartesian Trans Papua Road Transport (Terminal Wamanggu - Muting District)

The transport network crossings shows that the service levels of network transport Bian river crossings is in the interval <64%. The performance of services in the road transport network Bian River crossings are considered good (quadrant I) is an indicator of safety, capacity, and orderly. The indicators that have low performance and a priority to be improved (quadrant IV), namely accessibility, affordable tariffs, integration, easy, and convenient. While indicators of performance tend to be excessive (quadrant II) is smooth and fast, timely, efficient, and orderly. Then the performance indicators that have lower priority (quadrant III) are a safe and low pollution. Distribution of transportation performance level crossings have not approached the main axis Cartesian diagram which shows there is some performance indicators that can still be said to satisfy the community do not have a great desire to improve the performance of this transportation.

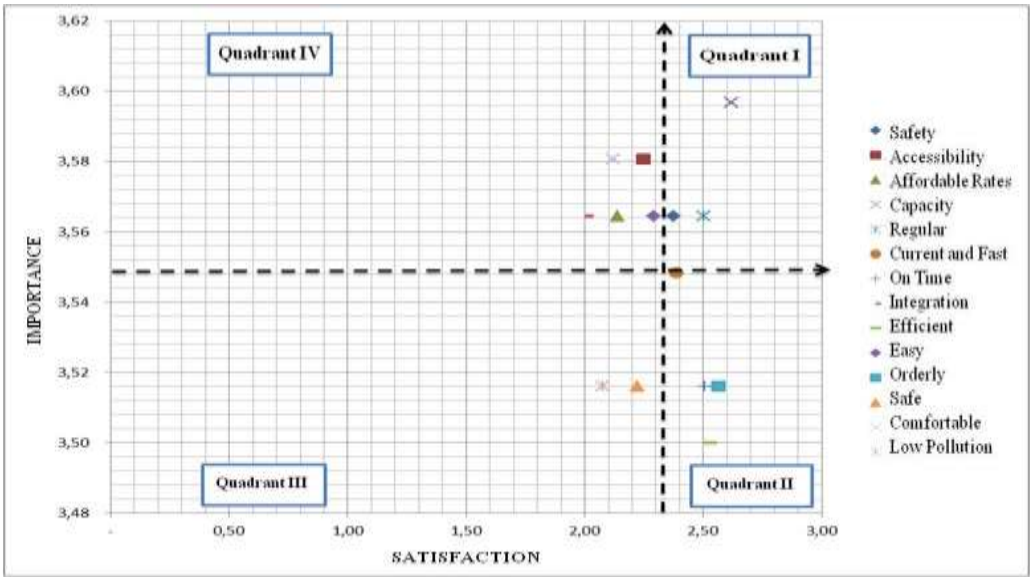

Figure 4. Diagram Cartesian performance Bian River Transport

Road transport network service performance at locations that are considered good Wamanggu Terminal (quadrant I) is an indicator of regular, smoothly and fast, efficient, easy, and orderly. Indicators that have low performance and a priority to be improved (quadrant IV) are safety, timely, convenient, and low pollution. Indicators of performance tend to be excessive (quadrant II) is safe and indicators of capacity and performance with low priority (quadrant III), namely accessibility, affordable rates, and alignment, as in Figure 5.

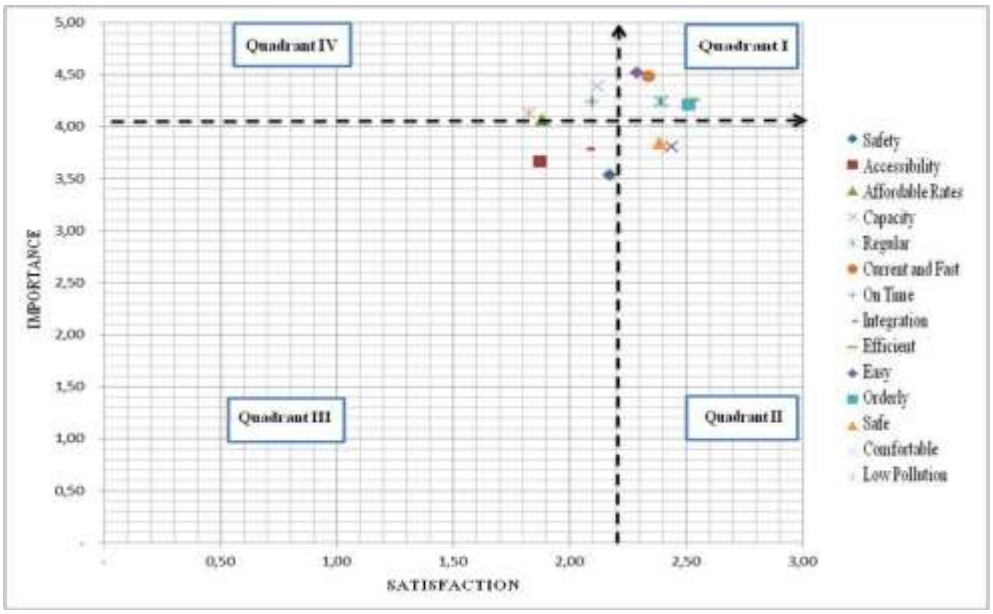

Figure 5. Cartesian diagram Terminal Performance Wamanggu

Based on this, to do a SWOT analysis with weighting method. This weighting method performed by internal and external factors in order to determine the quadrant layout development strategies that are considered urgent to be implemented. Calculation of the weighting factor based on the translation of the intent and scope of the description of the indicator by making tabulating scores IFAS - EFAS (Internal / External Strategic Factor Analysis Summary). Development of transport infrastructure is in Quadrant III (External Opportunities - Weaknesses Internal). This will affect the determination of the development strategy that will be done, as in Figure 6.

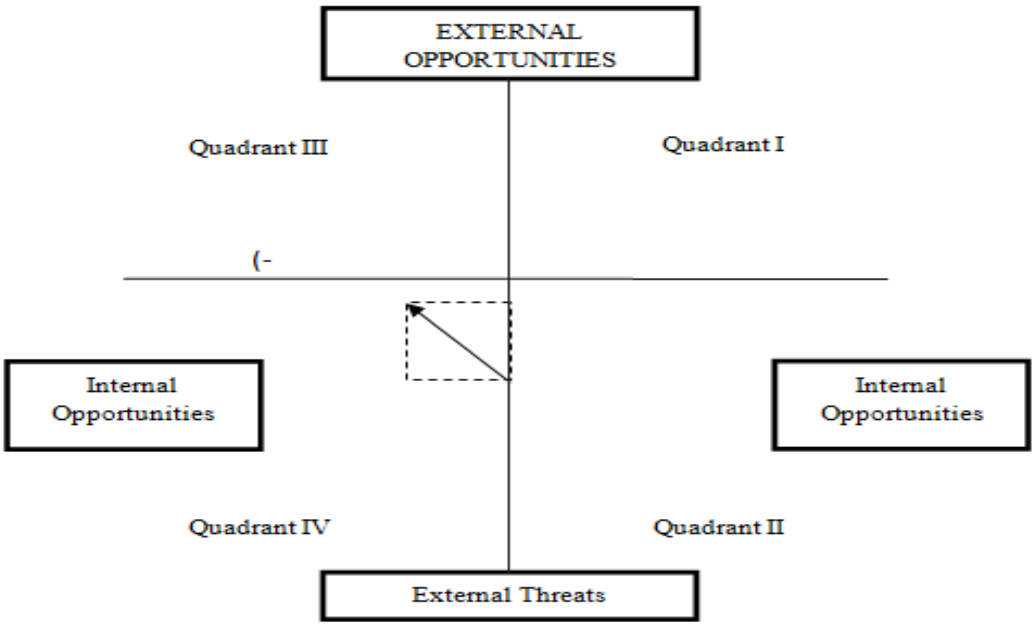

Figure 5. Location of Quadrant SWOT Analysis to Improve Accessibility of Transport Infrastructure Hinterland region of Merauke

Based on the development strategy in the previous section, the approach to the concept of development of water transport in Merauke proposed in this study is the concept of the development of integrated transport system and an integrated system with other modes of transport, particularly for the development of the network system of roads that are being and will be conducted in the district Merauke. Visually, the concept of development of water transport in Merauke shown in Figure 7.

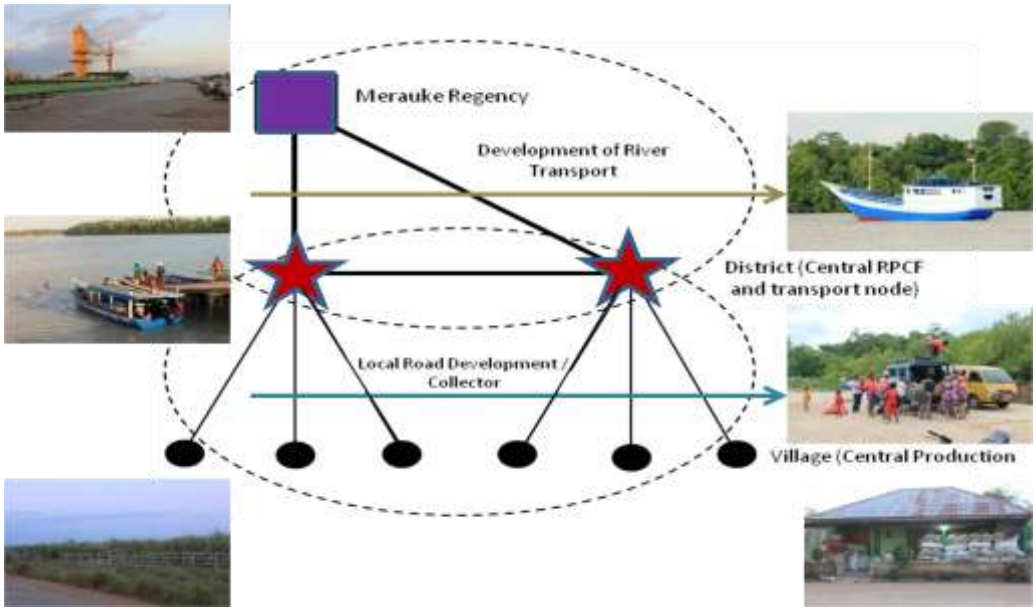

Figure 7. The concept of Integrated Water Transport Development in Merauke

In more detail, the concept of development is described as follows:

- Development of transit lines along the Maroo River, Kumbe River, Bian River, River Buraka, Muli River/Strait Kimaam, and river Digul/Muting District.
- Development of the vertices of river transport in the form of port infrastructure / pier / jetty, carried out at the location indicated production centers in the area of food and energy MIFEE, and the knots intersection with the road network based on the highway.
- Planning the vertices as a rest area with an integrated transit functions include supporting facilities (parking, travel, commercial, parks).
- Each node movement of goods / passenger was developed with the theme userspecific respectively, for example Node Maroo with the theme "Culinary Merauke", Knots Kumbe with the theme "Cultural Tourism Boat Builders Pinisi", Node X with the theme "Crocodile Skin", and knot Y with theme "ICT Hotspot".

Strategy and concept development of water transport has been described in the previous section, then the system needs to be developed a plan for river traffic service network in Merauke region. The development plan of river traffic service network in the Merauke area is presented in Figure 8.

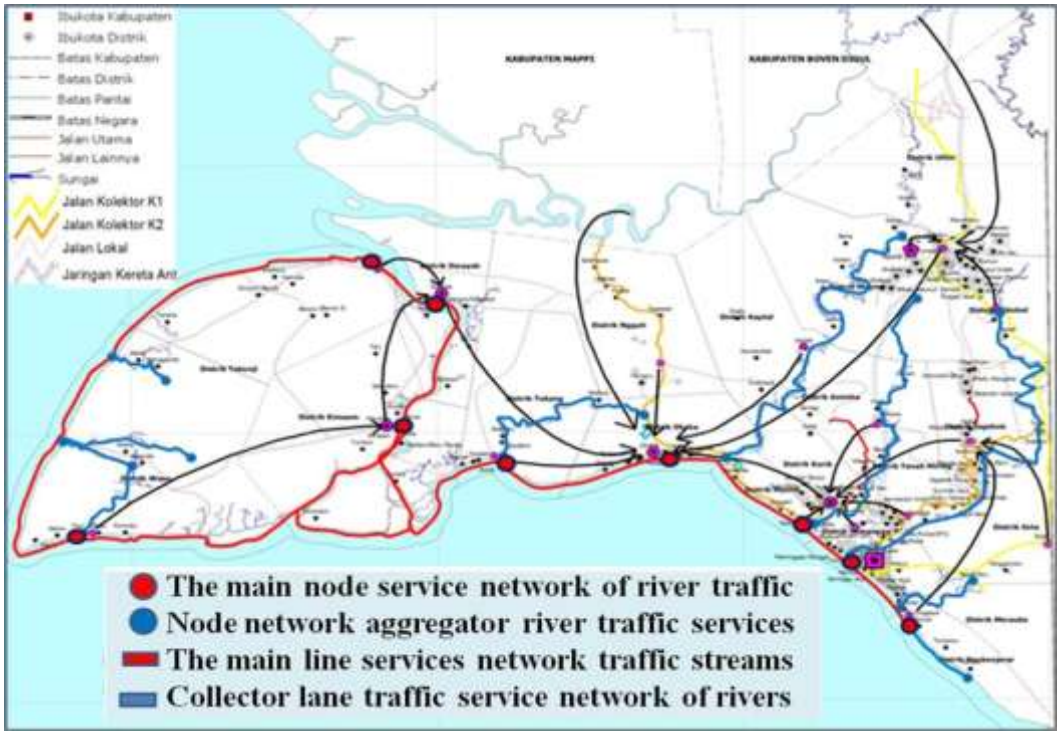

Figure 8. Network Development Plan for Water Transport Services in Merauke

III. CONCLUSION

Based on the analysis and projections on network performance and service water transportation system in particular, and the transport system in general in the area of Merauke and surrounding areas, it is necessary strategic steps in the development of water transport systems that exist today. In this case, the water transport development strategies in supporting development in Merauke MIFEE Region are as follows:

- Physical condition of the river is maintained so as to keep the river meets the physical requirements that can be used as a transportation hub of river transportation.
- Provision Pier River/Berth boat along with its supporting facilities capable of servicing ships according to the characteristics of the river.
- Develop a transport node rivers and river transport lines with large capacity of the nodes RPCF to the Port of Merauke.
- Provision of ship type and size appropriate to the characteristics of the river with a loading capacity sufficient to accommodate the rise of transportation such as the movement of passengers and goods, including the potential winning territory.

- Regulatory and operational management from both the government and the organizers of transportation services that can be incentives for people to use water transport.

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