Model for development of capture fisheries-based Minapolitan Area in Molawe Village, North Konawe Regency

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Abstract. The fishery business area in Molawe Village is a minapolitan area for capture fisheries and fish processing products it has been declared by the North Konawe district government. Existing fishery businesses are expected to be able to serve and encourage fishery development activities. However, until now there are still some obstacles that cause the development of the Minapolitan area is not optimal. The purpose of this research is to develop the concept of developing the Minapolitan Area, Molawe Village. The analytical method used includes qualitative descriptive analysis. The problems that exist in this area are that there are still facilities and infrastructure that are not utilized according to their functions, there is still a lack of types of processed products, existing institutions have not played an active role such as cooperatives and counseling and lack of market information. Through the development of minapolitan activities, it is hoped that these problems can be minimized. There are several sub-developments, namely upstream, downstream production chain systems and supporting facilities. Determine the location of the Minapolitan area development center so that it is more focused and integrated into the fisheries business system that can increase employment and business opportunities for the community.

1. Introduction

The fisheries and marine sector are still one of the main sectors that are able to contribute significantly to the formation of Indonesia's GDP. The development of the Indonesian fisheries and marine sector which has been carried out by the central and local governments and their supporting stakeholders for several decades has shown results in the form of increasing fishery production which will further increase fish consumption and demand, exports of fishery products, fishermen's income, employment opportunities that are able to absorb a large number of workers, support for industrial and development, as well as resource and environmental conservation [1].

Based on the potential and value of the fishery sector, the government through the Ministry of Maritime Affairs and Fisheries in 2010 launched a sustainable fisheries development model with the aim of increasing marine and fishery production through an intensive, efficient, and integrated national minapolitan program [2]. Minapolitan is a model of fishery activity located in a rural area in which there
are activities from upstream to downstream which are supported by adequate facilities and infrastructure like in urban areas [3-5].

Molawe Village is located in North Konawe Regency, Southeast Sulawesi Province. Molawe Village is one of the areas designated as a strategic Minapolitan area. This is because it is supported by the conditions and potential of the area which is the center of activities in the field of fisheries, especially capture fisheries [6]. Like other coastal areas, Molawe Village has high potential and fishery activities, especially capture fisheries. This encourages the government to provide various kinds of supporting facilities in the field of fisheries in this region. These facilities include a fishing port, wharf, fish landing site and an ice block factory.

The Minapolitan program in North Konawe Regency has been running since 2016. This is in accordance with the Phase II Regional Medium-Term Development Plan (RPJMD) of North Konawe Regency for 2016-2021. One of its missions is to encourage economic growth to improve community welfare with the aim of increasing utilization natural resource potential. The policy direction refers to the development of fishing ports through the development of the Minapolitan strategic area [7]. Although this region already has a policy direction that refers to the Minapolitan concept, but until now its implementation is still not optimal, even though the development of the Minapolitan area can be used as an alternative solution in developing rural areas to eliminate development gaps with urban areas, create new jobs and businesses and even be able to support demands and demands of urban needs. Therefore, a regional arrangement model is needed which is one of the policy references for the development of the Minapolitan area in Molawe Village. Besides that, this village is expected not only to function as a supplier of catches, but also to be able to become a processing, storage and sales area. Based on these problems, the purpose of this research is to develop the concept of developing the Minapolitan area of Molawe Village through analysis of physical and non-physical aspects and provide recommendations to improve the quality of the Minapolitan area.

2. Material and Methods
This research was carried out from June 2020 to June 2021 located in Molawe Village, North Konawe Regency. The method of collecting data is obtained from primary data by using field survey techniques or observations that focus on the physical condition of the environment as well as the condition and availability of facilities and utilities. In addition, through interviews with relevant agencies and local residents. While secondary data sourced from literature review study data. The method of analysis used descriptive qualitative analysis.

3. Result and Discussion

3.1. Physical Aspect Analysis
The general condition of the minapolitan area generally does not meet the standard requirements that are appropriate to be used as a minapolitan area. From the observations found problems in the provision of facilities, among others:

3.1.1. Minapolitan area accessibility
The analysis of the accessibility of access to the minapolitan area of Molawe Village is intended to examine the affordability of this area to regional accesses that are around the Molawe Village area. The planning area is located in Molawe Village, Molawe District, South Konawe Regency, Southeast Sulawesi Province. Molawe Village has an area of 3,416 Ha, with a percentage of 9.36% of the total villages in Molawe District [8]. Meanwhile, the distance from Molawe Village to the Capital District, Regency and Province is 0.0 Km, 17.0 Km and 110.0 Km respectively.

This minapolitan area is located on the trans-arterial route of Southeast Sulawesi-Central Sulawesi (Morowali). In this planning area there is also a Fish Landing Place. Access in this area can be reached by land and sea routes. The land route can be accessed by car for three hours to Kendari City and the sea route can be accessed for two hours by fast boat.
3.1.2. Physical condition
Physical conditions in Molawe Village, found data on the length of the road (km) and the type of road surface, namely asphalt along 2.6 km, gravel 3.1 km and soil 0.7 km with a total length of 6.4 km. The number of concrete bridges is 1 (good condition) and 1 wooden bridge (light damaged condition). For the number of public transportation and types of vehicles, there are 25 minibuses, 18 pick-ups/trucks and 73 motorbikes [9].

3.1.3. Facilities and infrastructure
Analysis of regional infrastructure is carried out by taking into account the increasing needs due to population growth and activities. The development of the utility network is carried out by utilizing the existing utility network, improving services to the community, and paying attention to environmental aesthetics and safety based on the standards of the relevant agencies.

The facilities and infrastructure currently available in the Molawe Village include fishing vessels, fishing ports, concrete construction docks, wooden construction docks, fish landing sites, ice block factories, fish markets, smoking houses, workshops, hotels and road facilities, leasing institutions and banks [9].

3.2. Non-Physical Aspect Analysis

3.2.1. Population
The population of Molawe Village is 1,323 people, with details 674 men and 649 women, all of whom are Indonesian citizens, with a population density of 38.73 people/Km2, of which there are 272 households with an average of 4.86 people per household. The ownership status of the residents' residences consists of 248 self-owned, 4 rented, 1 contract and 19 free/service/other rentals, with a total of 272. Meanwhile, 55% of the population is employed in the agricultural sector (fishing, plantations, animal husbandry, forestry), 16.20% in the community service sector, government and others, and some make a living in the mining/excavation sector; processing industry; electricity, gas, clean water; building construction; trade, hotel, restaurant; transportation and warehousing; information and communication; finance and insurance, with percentages ranging from 0.15% to 8.45% [8].

3.2.2. Social
In the social sector in Molawe Village, there are 2 PAUD schools and an equivalent kindergarten, with a total of 6 teachers, 36 male students and 39 students (a total of 75 students). There are 1 primary school/equivalent, with 13 teachers, 165 male students and 176 female students (341 students in total). As for junior high school/equivalent, there are 1 school, 23 teachers, 151 male students and 167 female students (318 students in total), and for high school/equivalent there are no schools. In the health sector, in Molawe Village there are 1 Public health center with 38 health workers, 1 Posyandu with 5 health workers. For worship facilities, there is 1 mosque, with 1,323 adherents of Islam. Then for sports facilities there is 1 soccer field and 1 volleyball field.

3.2.3. Economy
In the trade sector, in the Molawe Village there are 8 houses/food stalls, canteens and the like, as well as 1 traveling merchant, there is also 1 public market and 29 kiosks/grocery stalls. There are also 3 car/motorcycle workshop trading businesses. For the information and telecommunications business, there are 1 television program broadcasting business, 1 communication equipment trading business and 3 telecommunications pulse sales businesses.

The number of businesses providing financial services by type of business in Molawe Village, recorded 1 leasing institution and 2 other financial institutions. For the average retail price of staple foods (carbohydrates) by type, namely rice (kg) for Rp. 8,500; sago (kg) Rp 4,000; corn (cob) Rp 2,000
and sweet potato (kg) Rp 5,000. While the retail price of other foodstuffs, namely peanuts (dried already peeled) (kg) Rp 22,000; purebred chicken eggs and free-range chickens (grains) each Rp. 2,000; fish (kg) IDR 25,000; cooking oil (liter) Rp 9,000; granulated sugar (kg) Rp 12,000. Meanwhile, the retail price of fuel by type and oil, namely premium gasoline (liters) is Rp. 9,000; diesel (liter) Rp 10,000; kerosene (liters) Rp 12,000; 3 kg LPG gas (tube) Rp 21,000; charcoal (sack) Rp. 35,000 and motor oil (Top 1 brand) (800 ml) Rp. 35,000.

3.2.4. Fishery Commodity Condition

a) Capture Fishery Commodities
Fisheries activities in Molawe Village consist of fishing activities at sea and processing and marketing activities. The planning area which is part of the Molawe Village area has 3 superior capture fisheries commodities, namely shrimp (*Penaeus monodon*), sardines (*Sardinella aurita*) and mullet (*Moolgarda seheli*). These commodities have been able to supply the demand and consumption needs of the people of other regions or districts.

The structure of the shrimp, tembang and mullet catching fishery business in Molawe Village is generally still a small-scale business which is still largely determined by local preferences. Fishing activities use small-scale fishing technology using a fleet of fishing vessels under 5 GT, with a fishing range up to Labengki Island waters, about 100 km. The fishing gear used varies, ranging from those using nets such as purse seines, bagans to types of fishing rods such as hand lines, adapting to the diversity of fish species. Various fishing gear used by fishermen have their own characteristics according to the type of fish being the target of catching and the conditions of the waters [10].

b) Processing and marketing activities
Fishery product processing activities carried out in Molawe Village are smoking tembang or smoked mullet and drying salted mullet or mullet. The processing of tembang smoked fish is carried out using a smokehouse system that uses firewood. There are about 5 smokehouse units that are actively operating in Molawe Village. Smoked fish production is still very dependent on the supply of fresh fish obtained from fishermen, if the weather is bad or not supportive then there will be no supply of fresh fish due to the limitations of fishermen who do not go to sea. The smoked fish processing activity takes one day. Under normal conditions, a smokehouse business can produce 20 kg of smoked fish [11].
c) Marketing activities for fishery products
Marketing activities for fishery products or commodities in Molawe Village are quite important aspects. This is because there will be quite a lot of people who work as fishermen, collectors and processors of fishery products. The location of the planning area which is in the economic center of the Molawe sub-district can be a potential and opportunity to develop supporting facilities in the planning area. The potential of existing household scale businesses can also be increased. Therefore, it is necessary to develop supporting economic activities such as shops or supermarkets and market arrangements so that they can provide more promising economic activities. The marketing scheme of fishery products can be seen in Figure 1.

![Marketing Scheme of Fishery Products in Molawe Village](image)

**Figure 1. Marketing Scheme of Fishery Products in Molawe Village**

d) Fishing Port Facilities
Basically, the facilities owned by fishing ports are the same as those owned by fish landing bases, only the capacity of the facilities is different [12]. Facility requirements aim to determine the size of the facilities needed according to the existing activity conditions [13]. The operational success of a fishing port cannot be separated from all the supporting factors, one of which is the availability of fishing port facilities. These facilities consist of basic, functional, and supporting facilities. Many ports do not have adequate facilities so that they do not carry out their functions optimally. [14], [15],[16] stated that the optimal implementation of the functions of a fishing port will indicate the level of success of the management of a fishing port good. Furthermore, based on its importance to the needs of operating a fishing port ideally, there are 9 elements that are included in the category of facilities that are "absolutely necessary" or "vital" namely: 1) fish landing and loading docks, 2) port ponds, 3) sign system -signs, 4) Fish auction place (TPI), 5) ice factory, 6) Tank and water installation, 7) Place for supplying fuel, 8) Ship repair workshop, 9) Administration office [11]. The profile of fishing port facilities in Molawe Village based on the condition of the facilities is shown in Table 1.

Based on the availability of facilities in Table 1, it is known that the availability of basic facilities has only reached 40% or 2 facilities (piers and port ponds) of the 6 main facilities that should exist, while functional facilities have reached 62% or there are 5 facilities out of 8 functional facilities for a
fishing port. and in supporting facilities it reaches 60% or there are 3 facilities out of 5 supporting facilities which are usually found in an ideal fishing port. The availability of basic, functional and supporting facilities at fishing ports will ultimately lead to the welfare of fishermen. This is because these facilities and the development of other factors can support the improvement of port performance such as improving the quality of human resources and maintaining fish resources themselves [17]. Of the various functions that are so complex, the fishing port as a public organization must meet the needs and protect the public interest [18], [19].

Table 1. Profile of Fishery Port Facilities in Molawe Village Planning Area

| Facilities         | PPI Molawe | Description |
|-------------------|------------|-------------|
| 1. Tree           |            |             |
| a. Dock           | Exist      | Well        |
| b. Harbor Pool    | Exist      | Inadequate  |
| c. Plaster        | There is not any | - |
| c. Break water    | There is not any | - |
| d. Sign System    | There is not any | - |
| 2. Functional     |            |             |
| a. TPI            | Exist      | Well        |
| b. The Fish Market| Exist      | Inadequate  |
| c. Clean Water    | There is not any | - |
| d. Ice Factory    | Exist      | Well        |
| e. SPBN           | There is not any | - |
| f. Electricity    | Exist      | Well        |
| g. Workshop       | Exist      | Well        |
| h. Fish conveyance| There is not any | - |
| 3. Support        |            |             |
| a. Training Center| There is not any | - |
| b. Management Office| Exist   | Inadequate  |
| c. Fisherman’s Housing| There is not any | - |
| d. Shops          | Exist      | Well        |
| e. Mosque         | Exist      | Well        |

e) Minapolitan activity space structure
The Minapolitan area is a fishery area in North Konawe Regency, Southeast Sulawesi. The minapolitan area which was declared by the government of North Konawe Regency is located in two locations, namely in Molawe District and Lasolo District. This sub-district is expected not only to function as a supplier of fishery commodities, but also to become a processing, storage and sales area on a larger scale. As is the case with the function of the Minapolitan area as the main activity center area and several surrounding sub-districts function as a buffer zone [20]. Therefore, the Molawe Village in the Minapolitan activity plan will function as the main center, and the Lasolo sub-district as a buffer zone. To optimize the function of Minapolitan activities, several areas need to be supported with adequate infrastructure. The Minapolitan Area Development Model, Molawe Village uses the concept of upstream to downstream, there are process activities, the processing of the product well down to the consumer to supplement the production value.

4. Conclusion
The Minapolitan area of Molawe Village has good accessibility and physical environmental conditions and is suitable to support minapolitan activities, the Molawe Minapolitan area in North Konawe Regency has prospects in the capture fisheries sector with superior commodities in the form of tembang fish, shrimp and mullet, while in the fishery product processing sector smoked fish and dried fish. The level of income is still low due to the erratic supply of raw materials and the absence of appropriate
marketing and promotion strategies to increase the selling value, Fishing port facilities in general are still inadequate to support the Minapolitan program. The Minapolitan area development model is formed with the concept of a fishery agribusiness system that starting from top to bottom.

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