Potential and Problem for Development Coastal Zone in Kendal, Central Java

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Abstract - Kendal coastal area has a beach along the 43.5 kilometers. In the coastal area there are also many excellent potential but has not been used optimally. And also have not been indentified community needs for development in the coastal area of Kendal. So it needs to be studied further. The final result of this study that there is a potential for coastal fisheries sector in Kendal such as the amount of land on the embankment in District Brangsong and District Cepiring. In addition, there are also 4 (four) Fish Auction Place (TPI), that is TPI Tawang, TPI Bandengan, TPI Sendang Sikucing and TPI Tanggul Malang. To the potential of the tourism sector that has been managed well is a tourist attraction Beach Sendang Sikucing and Curugsewu. Problems found in coastal areas Kendal such as silting up the harbor pool in District Rowosari, breakwater already there yet function optimally in District Kendal. Besides not optimal utilization of fishery production caused undeveloped fish processing business and marketing of fisheries products in District Cepiring and the low level of income of small fishing and fish farmers. Thus, the development should be concentrated on two sectors that is the tourism sector, fisheries and marine sector.

Keywords: Potential, Problems, Coastal Zone and Coastal Development.

1. Introduction

Coastal resources plays an important role in supporting the local economy to increase foreign exchange earnings ,employment and income population. The coastal resources has more advantages because it is available in large quantities and diverse and can be used with relatively low exploitation costs , so as to create a competitive bidding.On the other hand needs a very big market is still open because of the tendency of global market demand continues to increase.

Along with the development of social and economic activities, people use to share the benefit of coastal areas such as workplaces, settlement, urban, industrial area, port, as well as a place of recreation. thus, the consequences of rapid coastal development is the issue of providing land for social and economic activities and disruption to the environment.

Kendal as one of the districts in Central Java is located at 109 ° 40 '- 110 ° 18' east longitude and 6 ° 32 '- 7 ° 24' South Latitude. Kendal regency in the north bordering the Java Sea, on the east by the city, south by the County Waterford, and on the west by Batang.

Viewed from the ground surface elevation of the water surface of the sea, Kendal Regency is located ranging from 0 m to 2,579 m. The total area of Kendal is 1002.23 km^2. Which includes coastal areas Cepiring Subdistrict, Kaliwungu Subdistrict, Brangsong Subdistrict, Rowosari Subdistrict, Kangkung Subdistrict, Patebon Subdistrict and Kendal town with long beach about 43.5 km.

The 2nd International Conference
Integrated Solution to Overcome the Climate Change Impact on Coastal and Delta Areas
Semarang, Indonesia – November 19th, 2015

1

2. Purpose

The purpose of this study was to identify the potential and problems of coastal area of Kendal, and formulate the development programs of coastal areas.

3. Aim

The aims of this research include: Identify the potential and problems of coastal areas Kendal.

4. Approach

The method used is descriptive qualitative method, which makes a picture in a systematic, factual, and accurate information on the facts, nature and the relationship between the phenomena investigated the entire coastal area of Kendal. Methods of data collection are:

1) A literature review, aims to collect data and information as well as the study of the theory related to the study conducted. Obtained from the literature review of relevant literature and some kind ever undertaken, to support the capacity and the quality of data and information obtained;

2) The data collection, aiming to get the data, both secondary data and primary data. Secondary data is data / information from the parties concerned. While primary data obtained through observation or direct interviews and visualization / image capture field.

5. Theoritical Review

Coastal is Unique territory, because in the context of the landscape, the coastal area is a meeting place of land and sea (Kay and Alder, 1999).Coastal areas is an important area in terms of various viewpoints planning and management. Regarding restrictions on coastal areas as yet raw,However, there is general agreement that the coastal areas of the world is a transition region between land and sea. When viewed from the shoreline (coastline), then a coastal region has two kinds of boundaries (boundaries), namely: the boundary parallel to the coastline (longshore) and boundary perpendicular to the shoreline (cross-shore).For management purposes,determination, the boundaries of the territory which is parallel to the coastline is relatively easy (Purwoko:2009).

However, defining the limits of the territory which is perpendicular to the shoreline, so far there is no agreement. In other words,limit coastal areas differ from one country to another. This is understandable, because each State has the characteristics of the environment, resources and its own system of government. (*Pedoman Reklamasi Pantai Wilayah Pesisir, Departemen Kelautan Dan Perikanan*).

In some coastal areas there are one or more environmental systems (ecosystems) and coastal resources. Coastal ecosystems can be natural or artificial. Natural ecosystems are coastal region, among others: Coral reefs mangroves forests, seagrass beds, Sandy beach estuary, lagoon, and delta. While the artificial ecosystems such as: pond, tidal rice fields, tourism region, industrial area, agro-industrial areas and residential areas (Tarigan, 2003)

Resources in coastal areas consist of natural resources that can be recovered and the natural resources that can not be recovered. Resources that can be recovered include: fishery resources (plankton,benthos, fish, mollusk, crustaceans, marine mammals), kelp (seaweed), seagrass beds, mangrove forests, and coral reefs. While the resource that can not be recovered are: oil and gas, iron ore, sand, lead, bauxite, mining and minerals and other ingredients (Bambang, 1999).

The 2nd International Conference
Integrated Solution to Overcome the Climate Change Impact on Coastal and Delta Areas
Semarang, Indonesia – November 19th, 2015

2

The coastal area has the potential to be a regional economic activities. Planning and development of coastal areas should be supported by the existence of supporting data and data superior to retain and preserve the potential of marine resources so as to minimize losses incurred due to wrong planning. These data include: resource potential, coastal land use, conflict management, institutional capacity, monitoring of biophysical and socio-economic parameters, observation of indicators of program success and feedback on the management process to form a pattern of a new and better management. One of the environmental changes as a result of a development in coastal areas is the problem of erosion and sedimentation (Departemen Energi dan Mineral, 2006).

6. Study Area Overview

Kendal is a region that is administratively belong to one district in Central Java province. This region is located in the northern coast of Central Java, and includes one of the areas in Java are passed by the path North Coast of Java (north coast), so the area is very busy with traffic which is quite dense. Geographically, Kendal is located at 109° 40'- 110° 18' east longitude and 6° 32' - 7° 24' South Latitude, with boundaries as follows:

- North : Laut Jawa
- East : Semarang
- South : Kabupaten Semarang dan Kabupaten Temanggung
- West : Kabupaten Batang

Kendal has 20 districts, 265 villages, and 20 villages with a total area of 1002.23 km^2. Twenty subdistrict include Plantungan, Sukorejo, Pegeruyung, Singorojo, Limbangan, Boja, Kaliwungu, Brangsong, Pegandon, Ngampel, Gumuh, Ringinarum, Weleri, Rowosari, kale, Cepiring, Patebon and Kendal.

In the coastal areas along the coast Kendal has a 43.5 km, is administratively divided into seven (7) Subdistrict of coastal areas, Kaliwungu Subdistrict (47.73 km2), Brangsong Subdistrict (34.54 km2), Rowosari Subdistrict (32.64 km2), Cepiring subdistrict (38.98 km2), Kangkung Sub-district (30.08 km2),Patebon subdistrict (44.30 km2) and Kendal (27.49 km2).

7. Results and Analysis

7.1. Land use

The dominant land use in coastal areas Kendal is in the form of paddy fields, iewith a total area of 10.757 ha. Concession farms in coastal areas Kendal located on an area of 3,143 Ha. In 2010 the area of agricultural land in seven districts wet coastal areas Kendal is 9993 hectares, but in 2011 reduced to 9762 hectares. Conversion of land also makes the water catchment area is reduced so that the impact on the flood. Inconsistency utilization of space also occur in the coastal area of Kendal. Allotment of land to settlements in the RTRW in use as agricultural land and or trade and services, industrial, and plantations. Negative Externalities is the negative impact of the development on the surrounding conditions. Negative Externalities in coastal areas Kendal can be seen in the following table:

The 2nd International Conference
Integrated Solution to Overcome the Climate Change Impact on Coastal and Delta Areas
Semarang, Indonesia – November 19th, 2015

3

Table I. Land Use Negative Externalities in Coastal Areas District Kendal

No	Land Use Type	Location	Surrounding Land Use	Negative Externalities
1	Industry	Kaliwungu (ring road)	Settlement, school, agriculture	Air pollution, Environmental pollution by industrial waste, flooding
		Brangsong	plantations and rice fields	
2	Education	Cepiring	agriculture	Access to the area of education (SD Kalirandu) hard
3	Health	Kota Kendal	Industry, agriculture	environmental degradation by hospital waste and industrial
4	Embankment	Rowosari	Plantation, funeral	The garden is not very productive, location funeral not appropriate

Source: Analysis, 2013

In the table above can be seen the use of land that is not appropriate to give a negative impact on the surrounding environment.
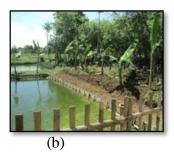

(a)   (b)

Image (a) is one of the industrial land near settlements and agriculture while
Image (b) is a cemetery near farms and plantations in the District Kendal.

Figure 1. Incompatibility Coastal Land Use Kendal
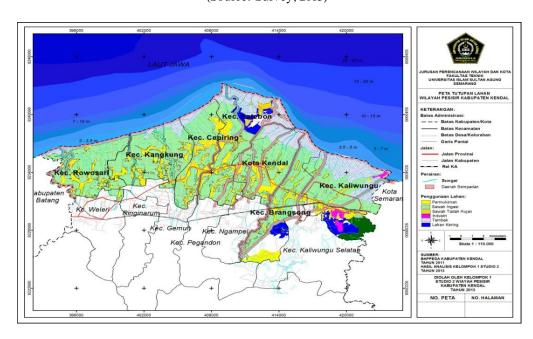(Source: Survey, 2013)

Figure 2. Land use maps

The 2nd International Conference
Integrated Solution to Overcome the Climate Change Impact on Coastal and Delta Areas
Semarang, Indonesia – November 19th, 2015

4

7.2. Fishing activity

In order to support the activities of fisheries, supporting facilities such as the fish auction place (TPI) should be available in the District Coastal Kendal. Currently TPI facility or infrastructure located in coastal districts Kendal is as much as 5 TPI. From 5 to TPI, TPI is only four are in operation, namely TPI Bandengan, TPI Tangggul malang, TPI Tawang and TPI Sendang Sikucing. Whilethe TPI were no longer in operation which TPI Jomblom. Fish processing can be done in a modern and traditional. Modern way done using machines, and usually fish processing with this model in large quantities. While the traditional way of processing the fish is done traditionally and what the person or people by using simple tools. Examples include fish processing Fish Pindang, Salted Fish, Shrimp paste and Anchovy.

Figure 3. Processing Shrimp paste in TPI Tanggul Malang
(Source: Survey, 2013)

The catch and aquaculture of Kendal absorbed by the market in fresh and processed forms. Processing techniques so should be noted that the fish is not easily damaged. In Kendal, the type of processing that is performed is still largely traditional, in the household. Fish processing activities, among others, drying, curing and fermentation. However, based on the results of the field survey, activity is not optimal utilization of fish production. This was due not fish processing business development and marketing of fishery products in District Cepiring, Rowosari sub-districts and surrounding areas, resulting in low levels of income for fishermen and fish farmers citizens.

7.3. Fisheries infrastructure

Infrastructure to support fisheries are fish auction place (TPI). This infrastructure is one of the supporting infrastructure in the smooth supply and marketing of fresh fish. Conditions to four TPI in Kendal Regency generally been pretty good, but the distance between the mouth of the river with a relatively remote location (example TPI Tanggul malang in Cepiring), so fishermen often have difficulty to get to the TPI at the lowest tide (due to silting and sedimentation). Shallowing pool also occurred in Rowosari, Besides that, breakwater existing with a length of ± 200 meters, yet function optimally in Kendal even interfere with fishing boats in the area.

However based on the results of the survey, the fish auction in Kendal has been equipped with some supporting facilities that are capable of supporting the activity of the auction and fishing. These facilities include SPDN / POM Fuel (TPI Tawang), a source of clean water, electricity, plumbing/disposal, floor/courtyard of the auction, office manager and other supporting facilities.

The 2nd International Conference
Integrated Solution to Overcome the Climate Change Impact on Coastal and Delta Areas
Semarang, Indonesia – November 19th, 2015

5

Maritime infrastructure and facilities, particularly the number of fishing gear and the number of boats that are in Kendal is expected to encourage community activities that use them. but from the description and field observations visible, that conditions are still very poor fishing equipment, because there are tools that are less well maintained, so that some can not be used anymore.

7.4. Characteristics of Tourism

Tourism in Kendal both nature and man-made is always a concern of government. The infrastructure of the tourism sector that has been managed well in Kendal are:

1) Nature Tourism: Sendang Sikucing Beach, Rowosari and Muara Kencan Cepiring beach

This beach is located in the district of Rowosari or about 22 km from the city of Kendal. Has a sloping beach and contains a lot of sand, the public can witness the natural phenomenon, the sun rises on the eastern horizon and while sinking on the western horizon. While the beach Muara Kencana is located in Cepiring Subdistrict with pretty good shape as a tourist beach. Are easily accessible using either two-wheel or car.

2) Tourism Object Artificial: Tirto Arum Baru Patebon

Tourism is located at the Sukarno-Hatta Kendal, in Patebon subdistrict. Many tourist rides that can be used by the public such as Reflections road, Hotel Family, The game rides Water, Fishing place, Flying Fox, Playground, Swimming Pool Extra Large, Outbound Kids Arena, Test arena guts, Bungee Trampoline, Package marine bridge and flying fox and Outbound Ceramics.

7.5. Development Program of coastal areas

By looking at the potential that exists, it is an indication that the program could be developed in Kendal are:

1. Developing the fisheries sector with a fishing pond and sea-based.
2. Program development of natural resource-based tourism sector of the beach / sea
3. Empowerment of coastal communities in order to support the development of the fisheries sector, through improving the skills of processing of fish or aquaculture.
4. Community empowerment program in supporting the development of tourism, through the formation of groups Awareness
5. Infrastructure development programs in developing fisheries and tourism sectors; include: the development of transport links; clean water; environmental regulation; construction of facilities TPI (the fish auction place) and PPI (fish landing centers).

8. Conclusion

Results of this study concluded that:

1. The Potential coastal area in Kendal include:
   a. TPI infrastructure located in coastal districts Kendal is as much as 5 TPI
   b. The catch and aquaculture of Kendal absorbed by the market in the form of fresh and
   c. Tourism sector that has been managed very well in Kendal is nature tourism: Sendang Sikucing Beach, Rowosari and Muara Kencan Beach, Tourism Object Artificial: Tirto Arum Baru Patebon.

The 2nd International Conference
Integrated Solution to Overcome the Climate Change Impact on Coastal and Delta Areas
Semarang, Indonesia – November 19th, 2015

6

2. The Problems coastal area in Kendal include:
    a. Conversion of land also makes the water catchment area is reduced so that the impact on the flood;
    b. Underdeveloped venture fish processing and marketing of fishery products in Cepiring, Rowosari and surroundings resulting in low levels of income for fishermen and fish farmers citizens;
    c. Sedimentation in Rowosari, and breakwater existing with a length of ± 200 meters, yet function optimally in Kendal;
    d. Fishing equipment conditions are still very concern, because there are tools that are less well maintained, so that some can not be used anymore.
3. Development program of coastal areas in Kendal include:
    a. Developing the fisheries sector with embankment. and sea;
    b. Development program of natural resource-based tourism sector of the beach/sea

9. Recommendations

There are some things that need attention include:
    a. The need for socialization of the government to the public related to natural resource management activities in the Coastal Kendal more modern;
    b. Governments need to establish policies that support for the development of the fisheries sector and the tourism sector.

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Semarang, Indonesia – November 19ᵗʰ, 2015

7