



The regulation and policy models of Pekalongan Local Government toward mangrove conservation

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Abstract. Offshore developments increasingly threaten coastal ecosystems, and the mangrove forest is one of the tropical ecosystems possessed by Indonesia in most offshore areas. This study aims to identify and analyze the Pekalongan City government's policies and principles related to mangrove conservation. The method used is empirical with descriptive-analytics interpretation. This study uses primary and secondary data and analyses them using qualitative methods. Research objects include data and information on regulations and policies concerning mangroves conservation accompanied by other legal materials. The results are expected to provide a framework outlook for policymakers, both the local government and communities engaged in mangrove conservation. The results of the qualitative analysis show that the provincial government regulates the damage prevention of coastal activities by establishing conservation areas. The Pekalongan Government established a mangrove forest conservation area in Kandang Panjang that was initially an unproductive shrimp farm owned by the Office of Fisheries and Marine Affairs. Mangrove forests are managed by the Department of Tourism, the Office of Fisheries and Marine Affairs, and the Office of the Environment. Functionally, the coordination team sets responsibilities and capacities to build collaboration and encourage community involvement together with the Tourism Awareness Group and the Community Monitoring Group.

Key Words: coastal ecosystem, local government, mangrove, conservation, Pekalongan City.

Introduction. Based on the Law of the Republic of Indonesia No. 1/2014 concerning the Management of Coastal Zones and Small Islands, Article 1 paragraph 7, coastal waters are the seas bordering the land as far as 12 nautical miles measured from the coastline; this area connects beaches and islands, estuaries, bays, shallow waters, swamps, and lagoons. As regulated in Law Number 24/1992, Article 9 paragraph 2 concerning Spatial Planning, the control policy of coastal areas (both the sea and air) is organized by the central government.

Law Number 23/2014, Article 27 (1, 2, and 3) concerning the Regional Government states that the provinces are granted the local autonomy to govern natural resources in their respective sea territories. Provincial regions are given authorization in the management of marine resources (excluding oil and gas), administrative organizations, and spatial arrangements by performing exploration, exploitation, and conservation. In managing these resources, the local government can reach the area as far as 12 nautical miles measured from the coastline to the open sea and/or towards archipelago waters.

According to Law Number 23/2014 regarding Regional Government, regional governments are obliged to maintain Government Affairs related to Basic Services such as the implementation of spatial planning. As pointed in Article 21 (2), Law Number 3/2010 concerning Environmental Protection and Management of Pekalongan City, the local government is commanded to establish instruments to prevent pollution and monitor the quality of the coastal ecosystem.

Cities located in coastal areas have independence in the management and utilization of the coastal regions. Coastal areas are rich in marine and waterfront resources and have the potential to be developed as a tourism site. Areas with extremely high levels of biodiversity (natural biodiversity) are the source of ecotourism activities.

Therefore, coastal areas in tropical countries are widely promoted for the tourism industry (White et al 1997).

One of the coastal ecosystems that can be utilized as an ecotourism site in Indonesia is mangrove forests. According to the United Nations, the Implementation of Sustainable Development Goals expects countries to set aspirations for protection, conservation, or restoration of coastal ecosystems for mangroves by 2030 (Liao et al 2019). Mangrove forests have capacities in controlling coastal abrasion, reducing wind velocity, accelerating the sedimentation rate, controlling seawater intrusion, reducing pollutants, as well as breeding sites for shrimp, crustacean, wild animals, and other marine biotas. Mangrove planting activity also impacts food production and increases the existence of Green Open Space.

Studies in Egypt showed that economic diversification in coastal cities is further effective than any development that only relies on one commercial sector, especially if the growth of those sector variations is excellent and significant (Tarek et al 2012). As much as 5.7 hectares of mangrove forest on the north coast of Pekalongan City continues to grow, and a public plaza deemed as a conservation zone can benefit Pekalongan citizens and its surroundings. By considering the multifunction potential of mangrove forests, the government is required to preserve mangrove areas so that they can be utilized for the welfare of the people. This article identifies and explains local government policies in mangrove conservation attempts, especially in the Kandang Panjang mangrove area, Pekalongan City.

Method. The method for the research approach is juridical and empirical analysis (Rosendo 2018) by describing the stipulations of Pekalongan City Government Laws. Primary and secondary data are collected and analyzed using qualitative methods (Eisma et al 2005). The research targets include data and information regarding the condition of the mangroves forest, government's regulations and policies toward mangrove conservation, legal materials, and other supporting data related to Pekalongan City.

Results and Discussion

The role and management of mangrove forests in Kandang Panjang, Pekalongan City. Coastal development deserves adequate care since coastal assets and resources have great potential in supporting national development (Waluyo 2014). Coastal areas have significant potential advantages: 1) renewable resources (mangrove forests, coral reefs, seagrass, seaweed, and fish); and 2) non-renewable resources such as mineral and geological resources, protected forest areas, tourism, transportation, and energy sources (Harahab 2010). The environmental degradation of coastal habitats (mangroves and coral reefs) due to coastal abrasion has become a pressing problem in the coastal environment (Effendi 2009). The disproportion between supply and demand such as overfishing resulting in scarcity; furthermore, the pollution from industrial activity, household wastes, agricultural, and vessels cleaning garbage in coastal areas also worsens water quality for fish farming (Ariyanto 2013). Beaches and coastal environments are quickly deteriorated due to human activities; therefore, conservation is vitally needed (Rahardjo 2006). For an illustration, the Solomon Islands are rich in natural resources but threatened by population growth and improper exploration of natural resources (McDonald 2006).

The advantage of potential coastal resources for human good has limitations (Rahardjo 2006). Any human activity in coastal areas such as converting mangrove ecosystems for aquaculture purposes causes coastal destruction and abrasion. The research results upon the conversion of the mangrove ecosystem in Kedungmalang Village, Kedung Subdistrict in the Jepara Regency, showed a declining amount of catch by fishers (Redjeki 2013).

The mangrove ecosystems destruction in the northern coastal region of Central Java Province causes physical and biological harm, which results in a weakened ability for the coastline to support marine life. Those practices endanger the sustainability of the coastal area conformity and the survival of coastal communities in economic, social, and

environmental aspects (Zikra 2009). Mangrove forests are a standard label used to describe tropical ecosystems dominated by several unique species of trees or bushes that can grow in saline waters along tropical to subtropical coastlines (Arief 2001).

Mangrove ecosystems have a variety of advantages both in ecological and economic aspects since they play an essential role in the sustainability of coastal and marine resources (Rusdianti 2012). In restoring the functions and benefits of damaged mangroves, supervision efforts are needed through mangrove rehabilitation and conservation. In a situation where mangroves are destroyed, anyone that manages, owns, and/or uses severe or unproductive mangrove forests must take rehabilitation actions for a conservation purpose (Law Number 41/1999 on Forestry, Article 43.) Mangrove forest restoration is practiced throughout subtropical areas to reduce deforestation and degradation, which can threaten coastal ecosystems and biodiversity (Thompson 2018).

The central government, according to the Forestry Law No. 23/2014 concerning Regional Government must carry out the special-purpose management of forest areas, rehabilitation, forest reclamation, and the implementation of plant conservation. A case study of mangrove restoration in the Central Coast of Vietnam showed that the central government and local communities had different viewpoints in mangrove restoration. The central government sees mangrove restoration as ecological services, while local people perceive them as part of their culture and livelihoods. State policy in handling the problem of mangrove restoration can not only be understood from the conservation aspect only but also from the social, economic, and cultural perspectives (My & Takeda 2015).

Mangrove forest in Kandang Panjang, Pekalongan City. In Presidential Regulation No. 73/2012 on national strategies for managing mangrove ecosystems, mangroves are coastal wetland resources, life support systems, and highly valued natural resources. Therefore, efforts to protect, conserve, and utilize the mangroves wisely for community welfare is a must.

Mangrove forest in Pekalongan City is situated in Kandang Panjang Village, North Pekalongan Regency. Kandang Panjang Village has an area of 150,150 ha, and 90 ha will be allocated for mangrove expansion. Mangrove forests that have been developed covering an area of 5.7 hectares and will be further developed to 84.3 hectares. Kandang Panjang Village has a potential mangrove space of 83.5 ha, which is equivalent to 13.56% of all beaches in Pekalongan City. The mangrove area was initially a shrimp pond belonging to the Department of Agriculture and Maritime Affairs of Pekalongan City. Since its location is very close to the sea, shrimp ponds are becoming vulnerable to abrasion. When shrimp ponds are no longer productive, the government has developed them as conservation areas, educational sites, and tourist areas.

Besides the purpose of preventing abrasion that frequently erodes the soil, Pekalongan Mangrove Park also functions as a tourist attraction since 2018, and visitors are allowed to enter the ecotourism area.

The establishment of the Mangrove Information Center will provide a positive impact on the social and economic aspects in the neighborhood of the Mangrove Information Center itself. Coastal tourism produces substantial economic benefits for the local and national economies (White et al 1997). The growth of tourism boosts people's income in the tourist sites, triggers employment opportunities, develops public infrastructure/facilities, and provides significant benefits to all levels of the community.

Ecotourism in the mangrove area is a manner of conservation implementation. Ecotourism should exist side by side with conservation as it brings extra income to local communities while also conserves mangrove ecosystems. This kind of activity will reduce stress from anthropogenic damage to the mangrove area. One of the least advantages for the community to enjoy around the area is the collection of parking fees and daily admissions to the park (Meriana 2016). The tourism industry that relies on ecological status needs to acknowledge its long-term impact (Dvarskas 2017).

The management of tourist attractions, strategic tourist areas, and tourist destinations are the responsibility of the City Government as regulated in governmental

functions in tourism (e, f, and g) according to Law Number 23 of 2014 concerning Regional Government. In mangrove management, the regional government provides a Regional Budget as stipulated in the Decree of the Mayor of Pekalongan No. 556/267/2018, stating that all costs consumed are on the bills of 2018 Regional Budget of Pekalongan City. According to the Decree of the Tourism, Culture, Youth and Sports Office No. 556/086/2017, all costs in mangrove management shall be borne by the Regional Budget from the Ministry of Tourism, Culture, Youth and Sports of the Republic of Indonesia.

The structural management concepts of the mangrove ecotourism development team. The management of Coastal Areas at the city level is regulated by Article 55 (1.3) of Law No. 27/2007 concerning Management of Coastal Zones and Small Islands. The Mayor monitors implementation activities since overexploitation can lead to the depletion and destruction against mangroves. Local governments implement planned policies and regulatory efforts to restore the damaged environment due to mangrove conversion. In implementing the National Strategy for Mangrove Ecosystem Management as referred to in Article 1 of Indonesia's Presidential Regulation No. 73/2012 on the National Strategy for Mangrove Ecosystem Management, efforts and policies to accomplish sustainable management of mangrove ecosystems for the community's prosperity are an integral part of the national development planning system. In Article 10 (1), the Mayor is commanded to establish a City Level Mangrove Ecosystem Management Strategy and set a City Mangrove Ecosystem Management Coordination Team.

Pekalongan Mayor, with the Decree of Pekalongan Mayor No. 556/267/2018 concerning the establishment of the 2018 Forest Eco-Tourism Park Coordination Team, has set the 2018 Mangrove Park Eco-Tourism Development Coordination Team with the following organizational structure:

Counselor : Mayor;
The person in charge : Development Associate;
Chairperson : Head of the Pekalongan City Tourism Office;
Secretary : Head of Tourism (local government for tourism operations);
Members : Heads of several agencies (Environment Agency, Office of Maritime Affairs and Fisheries, Office of Labor, Department of Trade Service, Office of Cooperatives and SMEs, Office of Communication and Information System, and Office of Education).

The responsibilities and roles of the Coordination Team are as follows:

- a. to improve cooperation between the Coordinating Team to develop the Mangrove Park;
- b. to allocate costs facilitating activities based on time, goals, and needs;
- c. to promote the Mangrove Park to students, community, institutions, and government;
- d. to encourage the engagement and participatory of Tourism Awareness Group (Pokdarwis) and the Community Monitoring Group (Pokmaswas) in the development planning process at the village, sub-district, and city levels;
- e. to coordinate and collaborate with Pokdarwis and Pokmaswas Mangrove Park in Pekalongan City;
- f. to solve problems related to the implementation of Mangrove Parks;
- g. to monitor and evaluate Mangrove Park implementation activities.

The team is responsible to the Mayor of Pekalongan. Considering the role of the Mangrove Park Manager is needed to support the smooth running of activities and ensure the success of ordered administrations as on target, punctual, and excellent, the organization needs to share tasks and authority based on Pekalongan Mayor Decree No. 556/266 on May 30, 2018. The Mayor of Pekalongan has formed the Managers of the Pekalongan City Mangrove Park. Mangrove Park Manager is an Officer in the Regional Apparatus Organization and has the responsibility to the Mayor.

The managers of Pekalongan City Mangrove Park:

Counselor : Mayor;
The person in charge : Regional Secretary;
Coordinator : Development Associate;

Chairperson of Ecotourism Destinations	: Office of Tourism, Office of Culture, and Office of Youth and Sports;
Members	: Head of Tourism Affairs, Head of Section, Head of Tourism Marketing, Head of Tourism Development, and Head of Tourism Business Development;
Head of Fisheries Education	: Ministry of Maritime Affairs and Fisheries;
Members	: Head of Fisheries Division, Aquaculture Division, and Coastal Region Infrastructure Division;
Head of Green Education	: Environmental Agency;
Members	: Head of Environmental Pollution, Pollution Control Environmental Damage, and Recovery Management Division.

The duties and roles of the organization are as follows:

- Tourism, Culture, Youth and Sports Services: improve and develop Mangrove Park destinations;
- Maritime and Fisheries Services: improve and develop pisciculture in the Mangrove Park;
- Environmental Agency: manage mangrove and mangrove ecological information.

The management of Coastal Zones and Small Islands at the city level, as stated in Article 55 (1.2) Law No. 27/2007 concerning Management of Coastal Zones and Small Islands, is carried out in an integrated manner coordinated by the department that is responsible for marine and fisheries operations. The types of coordinated activities include:

- a. provide an evaluation of each proposed plan for each stakeholder by following an integrated Coastal and Small Islands Management planning;
- b. set plans between government agencies, entrepreneurs, and the community; and
- c. give recommendations for activity permits under the authority of each service autonomy in the regional body.

Community involvement in the mangrove forests management. Tourism Object Development is expected to actualize an integrated plan related to coastal disaster prevention through the planting scheme to create high-quality tourism spaces as it brings a positive impact both directly and indirectly (engagement and economy.) Three local government service organizations have managed Pekalongan Mangrove Park since 2018 in Pekalongan City: the provincial government for Tourism Affairs, the Marine and Fisheries Agency, and the Environment Agency in collaboration with the Tourism Awareness Group and Community Monitoring Group acting as fisheries cultivation managers.

One of the distinct zoning systems in the mangrove forest ecosystem, according to Nuryanto (2003), is a utilization zone through mina activities (silvofishery.) The Mina forest system that can be applied is the ditch pond system and the core pond system. The ditch pond system sets the mangrove forest in the middle, and the pond is on edge circulating the forest. Oppositely, the core pool system puts the pond in the middle, and the forest surrounds the pond. The implementation of this activity enables farmers to continue their work in the concerned area without destroying the forest; thus, it can provide a fair distribution of land to the community.

Based on Article 2 of Law No. 41/1999 concerning Forestry, mangrove forests are a vital ecosystem to the country; therefore, the government is responsible for performing sustainable management with democracy, fairness, togetherness, openness, and long-term integration. Since the management of forest areas is the primary responsibility of the government, its implementation must involve the participation of the local community. As regulated in Article 70 (1) of Law No. 41/1999, the community must participate in the forestry sector development; furthermore, paragraph (2) states that the government is obliged to encourage community participation through various activities efficiently and effectively.

The success of conservation projects in managing mangrove forests is strictly related to the embroilment of people who live around mangrove forests so that they benefit directly or indirectly from it. The design and management of coastal areas are carried out by combining four long-term aspects: a) ecological integration in the concerned area; b) integration between sectors; c) integration of scientific disciplines; d) integration of stakeholders (government sector, private sector/investors, NGOs, and coastal communities) (Waluyo 2014). Local government, as mandated by the Local Government Act, is obliged to empower coastal communities.

The government should be aware that optimal community support, simultaneous role, and interactive participation should be done through the Tourism Awareness Group. Improving tourism understanding in all elements of society can trigger economic growth and tourism development. Therefore, the government formed a Tourism Awareness Group for coordinating and spreading awareness about tourism to their people based on the Decree of the Tourism, Culture, Youth and Sports Office No. 556/086/2017.

In performing their duties, the Tourism Awareness Group works under the supervision of the Tourism, Culture, Youth and Sports Office. All costs are charged to the Regional Budget of the Ministry of Tourism, Culture, Youth and Sports of the Republic of Indonesia.

Management Board: Mayor of Pekalongan City. Counselor: Head of Youth and Sports Culture Tourism Office, West Pekalongan Regent, West Pekalongan Police Chief, Military Rayon Commander in West Pekalongan District of Bendan-Kergon, and Head of Tourism Office. Management Supervision: Chairperson, Deputy Chairperson, Secretary, Treasurer Division (Environmental Management, Public Relations, Promotion Coordinator, Youth Coordinator, and Arts and Culture.)

Following the provisions of the Regional Government in Article 37 (3) of the Regional Regulation of Pekalongan City Number 3/2010 concerning Environmental Protection and Management of Pekalongan City, the government uses the regional regulation as the basis for determining business areas and/or activities in coastal areas. As defined in Law No. 23/2014, communities living around mangroves, coasts, and small islands should be equipped with conservation and green education by the government.

The regulations and policies of the Pekalongan Government towards the conservation of Kandang Panjang mangrove forest. Mangrove forest's definition based on the regulation of coastal zones and small islands constitute transition areas of coastline and marine ecosystems which are still affected by the fluctuations of seawater level. This area includes land and sea: the ground is covering the administrative area of the sub-district, and the sea is reaching as far as 12 nautical miles measured from the coastline. The management of coastal resources in South Asia and Southeast Asia is mostly carried out by local institutions in several countries (Ramesh et al 2011). According to Article 52 (1) of Law No. 27/2007 concerning Management of Coastal Zones and Small Islands, the management of Coastal Areas is carried out by the Central Government and Regional Government. In Florida, coastal management must involve a significant planning and regulatory role by local governments, regional institutions, and states (Finnell 1980). In many countries, regulation of any activity and development system in the marine environment has begun to evolve from being compartmentalized, fragmented, sectorial, and uncoordinated to a more strategic, comprehensive, integrated, and transparent (Turner & Essex 2016).

The management of coastal areas following Article 6 (a) of Law No. 27/2007 must be carried out by integrating activities. Most of the difficulties experienced by the state of Florida in achieving integrated coastal management are due to substantial disagreement on two fundamental points: Florida's unique ecological characteristics that cannot be separated from land management that has sectorial-ego and considerable regional diversity within the state itself (Finnell 1980).

Coastal Area Conservation, as determined by Article 28 (1) of Law No. 27/2007, does exist to maintain the sustainability of the Coastal Ecosystem. Various activities that can generate damage against coastal areas are regulated by Article 36 (1) of Pekalongan City Regulation No. 3/2010 concerning Environmental Protection and Management. This

regulation states that any individual who does business and/or activity in Pekalongan City is prohibited from conducting forbidden activities by destroying mangroves and other activities that could endanger the coastal zone, as referred to in paragraph 2. In doing any kind of activities in Coastal Areas, everyone is directly or indirectly prohibited from performing disservice according to Article 35 (e, f):

- using methods that can damage the mangrove ecosystem and incompatible with the characteristics of the Coastal Zones and Small Islands Regulation; and
- converting the mangrove ecosystems that do not comply with the sustainability of the ecological features.

The stipulation of Panjang Wetan as a green open space and mangrove tourism area. Following Article 21 (1) of Pekalongan City Regulation Number 3/2010 concerning Environmental Protection and Management of Pekalongan City, the Regional Government regulates the restriction of coastal and sea pollution. The prevention of destruction to coastal and marine areas is also regulated in Article 35 (1) which includes the stipulation of conservation areas for coastal and marine areas, identification of damage sources, the establishment of licensing mechanisms, and the establishment of tools for damage control, monitoring, and recovery instruments.

Furthermore, Article 37 (1, 2) states that the Regional Government is obliged to prepare spatial planning for coastal, marine, and small islands, which become an inseparable part of local urban spatial planning. Arrangements regarding zonation for coastal areas and small islands will have an impact on the preparation of regional long-term development plans and regional mid-term development plans. Coastal areas understanding can be employed as a framework to understand the development's status in coastal areas and can also be used as a foundation for controlling spatial management in coastal areas. The Regional Government provides further provisions in Article 37 (3) concerning the stipulation of the area for business and/or activities in the coastal zone.

As mentioned in Article 38 (1 & 2) of the Regional Regulation of Pekalongan City Number 30/2011 concerning Pekalongan City Spatial Planning for 2009-2029, green open space consists of public and private spaces. The public green open space consists of a city park of 27 ha and is bordered by a beach on the north coast covering an area of 61 ha. This coastal conservation area (mangrove) is located on the north coast of the city with an area of 60 ha.

According to Article 48 (3), this open space is located in Krapyak Lor Village and Panjang Wetan Village as beach tourism. General Provisions regarding Zoning Regulations for tourism areas are determined by Article 73:

a. The activities allowed are as follows:

1. tourism activities: natural tourism/cultural tourism/human-made tourism which is compatible with resources and environmental carrying capacity and does not damage the preservation of natural resources and cultural assets; and
2. all facilities deemed as supporting activities: recreational, sports, performances, lodging, meetings, and trade service activities that support the main events of the region.

b. Conditional activities are housing activities, as long as they are part of the main events in supporting the concerned area;

c. Limited license activities such as exploration and exploitation of nature for research purpose only;

d. Forbidden activities are activities other than those mentioned in points a-c;

e. All activities listed in points a-c are required to provide green open space of at least 10% of the land;

f. All activities mentioned in points a-c shall be:

1. limiting the exploitation of water from underground water sources/deep wells;
2. implementing a zero delta Q policy, which is a licensing policy for activities by not generating impact on existing drainage in the area to prevent flooding; and
3. provide an adequate parking space.

g. All activities mentioned in points a-c can be executed after permission has been secured from the responsible agent.

The coastal border as local protected forest area and mangrove conservation.

The management of coastal areas comprises the planning process, spatial analysis, integrated supervision, and control regarding interactions between humans and the coastal regions for improving the community welfare and maintaining the integrity of the Republic of Indonesia. The zonation plan based on Law Number 1/2014, amendments to Law Number 27 of 2007 concerning Management of Coastal Areas and Small Islands, is a program set to determine the regulation of resource control. Each planning unit is equipped with a spatial model that regulates both forbidden and permitted activities; in some cases, specific exercises can only be performed after obtaining a permit. The Regional Government of Pekalongan City, as referred to in Article 37 (1) on Pekalongan City Regional Regulation Number 30/2011 concerning the Regional Spatial Planning for 2009-2029, must organize spatial planning for the Coastal Zone, Marine, and Small Islands.

Article 35 (1) of Pekalongan City Regulation Number 3 of 2010 concerning Environmental Protection and Management of Pekalongan City stipulates the damage prevention against coastal and marine areas, including the arrangement of coastal conservation areas. Subsequently, Local Government in Article 37 (3) regulates the mechanism for business areas and/or activities in coastal and marine zones based on environmental proof of concept, expert appraisals, and local community views. According to Article 60 of Pekalongan City Regulation No. 30/2011 concerning Pekalongan City Spatial Planning 2009-2029, zonation arrangement is a stipulation on spatial requirements, and each zoning block is determined in a comprehensive spatial plan. Furthermore, Article 59 declares the general provisions regarding zoning regulations besides its control. Regional Government, accompanied by the approval of the Regional Council (DPRD), can suggest businesses and/or activities closings in the coastal area based on environmental feasibility studies according to Article 37 (4.5). This regulation oversees the threats that can be generated by tides, seawater intrusion, siltation, sedimentation, abrasion and accretion, and loss of mangrove forests since they can impact local communities.

Substantial efforts to improve the government's ability to handle coastal and marine areas in Europe and around the world are currently advancing as regionalization is now used as a new entry point (Bavinck et al 2015). Conservation, according to its purpose based on Article 27 (2) of Law No. 27/2007, states that some Coastal Areas can be designated as Conservation Areas. The Conservation Area Plan under Article 11 of Pekalongan City Regulation No. 30/2011 regarding Spatial Planning for Pekalongan City in 2009-2029 must be included in the Coastal Zone Regional Master Plan. The zone for local protected areas, as referred to in Article 62, is a coastal border. On the other hand, according to Article 1 (2) of Presidential Regulation No. 51/2016 concerning Beach Border, the border is an area along the edges whose width is proportional to the shape and physical condition of the coast (at least 100 meters from the height of the tidal point towards the land.)

Every city with a beach border is obliged to determine the management of the coastline boundary in the regional regulation as governed in Article 2 of Presidential Regulation 51 of 2016 concerning Beach Border. Furthermore, Article 36 (1) is intended for coastal protection from erosion and abrasion, together with the protection for mangroves and coral reefs. The beach which borders 100 meters from the highest tidal point with an area of about 120 in North Pekalongan Regency per Article 36 (1.3) of the Regional Regulation of Pekalongan City Number 30/2011 concerning Spatial Planning for the Region of Pekalongan City 2009-2029 is covering:

- a. Bandengan Village;
- b. Kandang Panjang Village;
- c. Panjang Baru Village;
- d. Panjang Wetan Village;
- e. Krapyak Lor Village; and
- f. Degayu Village.

The coastal border of Pekalongan City is part of the City Forest Protection Area as it is next to the protected forest. According to Article 38 (1), the city green open space

next to the city park is a coastal border on the north coast with an area of about 61 hectares. The coastal conservation area (mangrove) is located on the north coast of the city, with an area of around 60 hectares. Zoning provisions for coastal borders are further explained in Article 62, where permitted exercises are given to forestry activities/mangroves planting and/or other plants that are not intended for commercialization purposes.

The stipulation of coastal boundaries by the Regional Government under Article 31 (1.2) Law No. 27/2007 concerning Management of Coastal Areas and Small Islands are related to the characteristics of topography, biophysics, coastal hydro-oceanography, and economic and cultural needs. The representation of the coast borderline follows such provisions:

- a. earthquake and/or tsunami protection;
- b. coastal protection from erosion or abrasion;
- c. human-made infrastructure protection from storms, floods, and other natural disasters; and
- d. protection for coastal ecosystems such as wetlands, mangroves, reefs, corals, seagrass, dunes, estuaries, and deltas.

Conclusions. As an ecosystem that plays a pivotal role in the sustainability of coastal and marine resources, mangroves need protection, preservation, and sustainable management for the welfare of society. Under mayor administration, the Mangrove Park Manager and the Mangrove Park Eco-edutourism Development Coordination Team have responsibilities and capacities of managing and encouraging community involvement through the Tourism Awareness Group (Pokdarwis) and the Community Monitoring Group (Pokmaswas.) During executing their activities, any cost incurred is billed to the Regional Budget of Pekalongan City. The mangrove area in Panjang Wetan village was defined as a green open space and mangrove tourism area; they are functioning as borders and protectors from erosion and abrasion. Coastal shores on the north coast of the city are also designated as green open spaces where mangrove planting is allowed. Mangrove management in coastal borders requires a management team to provide budgets for its development and management.

Engendering positive business opportunities surrounding mangrove areas can be done by implementing a conservation strategy. Those who wish to carry out business activities should meet legal provisions in all courses. By doing so, they are expected to clearly understand the legal rights and obligations as a tenant as well as sanctions against misbehaving individuals.

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Received: 17 March 2020. Accepted: 31 May 2020. Published online: 28 October 2020.

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How to cite this article:

Turisno B. E., Mahmudah S., Yunanto, 2020 The regulation and policy models of Pekalongan Local Government toward mangrove conservation. *AACL Bioflux* 13(5):2910-2920.