Local Coastal Governance in Addressing Climate Change Issues: A Case Study at North Pekalongan, Central Java, Indonesia

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Abstract. This study aims to seek how North Pekalongan Governance responds to the climate change as well as keeping their accordance to the higher government policy. Using qualitative method by interviewing several government actors, the results shows that in restrictive bureaucracies, the non-government actors play significant role in tackling climate change issues by acting outside government bureaucracy system while keeping close relations with local government.

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1 Introduction

Indonesia, like any other country around the world, is impacted by climate change. Many attempts to reduce, mitigate, and/or altogether avoid the impacts of climate change were taken by the Indonesian Government. For example by initiating National Action Plan for Climate Change Adaptation (RAN-API)[1]. This particular report was then adopted by every sub-national government, in the form of a Sub-National Action Plan for Climate Change Adaptation (RAD-API). According to Mukhlis and Perdana [2], several cities prioritized implementing action plans for climate change. There were eight cities in total; Semarang City, Bandar Lampung City, Blitar City, Tarakan City, Malang Regency, Batu City, Malang City, and Pekalongan City.

Among those cities, Pekalongan City sits in a somewhat unusual position in facing climate change. First, the Adaptation Fund report [3] stated that governance-wise, Pekalongan City does not yet have a comprehensive climate risk assessment. Second, in terms of geographical position, Pekalongan City is located in the northern part of Java Island just below the Java Sea, this makes Pekalongan City vulnerable to sea level rise (SLR), historical trend shows that Northern Pekalongan facing 0.6-0.8 cm rise in sea level annually, in 2030, the number is projected to increase up to 1.5 cm annually, in the business-as-usual scheme it is projected that in the year 2100 will affect 913.8 Ha area within 1.63-2.01 km distance from the city coastline [3]. Moreover, the impact of climate change not only comes in the form of sea level rise, but there was also land inundation caused by river flooding, and low precipitation levels that could lead to an increase in prolonged drought and water scarcity. Third, Pekalongan City has been recognized by UNESCO as part of Creative City Networks in 2014, thanks to its well-known “batik” traditions. The tradition of batik as a process as well as a cultural product is also recognized as World Intangible Cultural Heritage by UNESCO in October 2009. This cultural significance, therefore, is facing uncertainty by the effects of climate change field [4].

This article then, will focus on how Pekalongan City governance operates at the city and sub-city level to hinder, or at least respond to the projected impact of climate change. We are using the Anthropology of Policy approach to uncover the interplay between policy implementations and institutions, cultural norms, or local practices. We also analyze the

ways policies are contested, resisted, or negotiated by various stakeholders [5].

2 Research Method

This study adopted a qualitative approach to examine how Pekalongan City as well as its sub-city unit governs climate change problems. As for the data gathering process, we interview related government units such as Regional Planning Agency (BAPPEDA), sub-city government unit (Kelurahan Kandang Panjang), and local stakeholders. We also observe how local citizens responded to several policies implemented by the government. In addition, we also gather insights from government planning documents.

3 Results and Discussion

3.1 Pekalongan City Climate Governance: From Central to Local

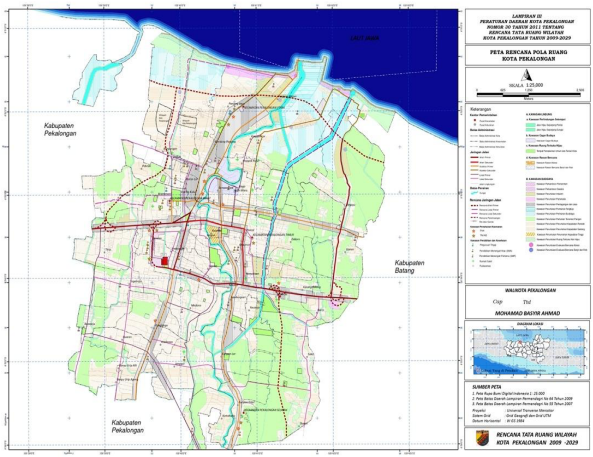

Fig. 1. Pekalongan City Spatial Plans (BAPPEDA Kota Pekalongan, 2010)

In general, Pekalongan City's climate governance is shown in its spatial plans (fig. 1). This spatial plan refers to the mid-term development planning document that prepared by City Government every five years[1], that also should refer to the long-term development planning document

[1] Rencana Pembangunan Jangka Menengah Daerah (RPJMD)

called *Rencana Pembangunan Jangka Panjang Daerah* (RPJPD) that is prepared every 20 years. Every single city in Indonesia should create its development planning documents, both every five, and 20 years. In addition, they also should refer to its provincial development plan, which also refers to the national development plan (fig. 2).

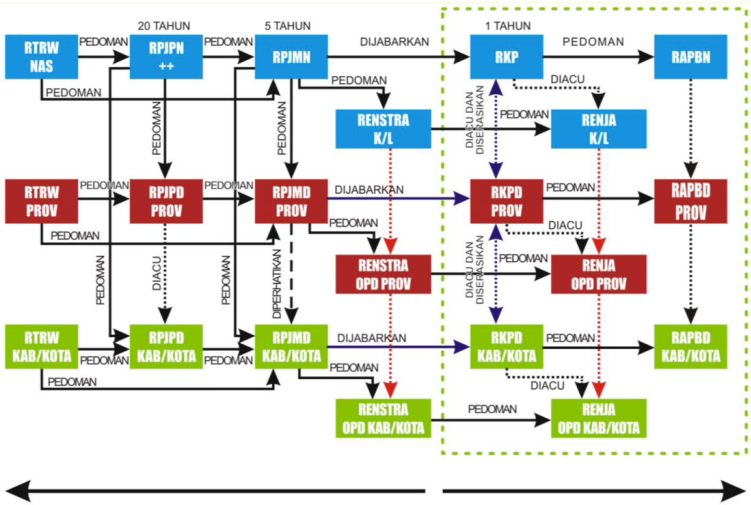

Fig. 2. The Interconnectedness of Development Planning Documents (Source: BAPPEDA Kota Pekalongan)

This established planning and development process is unfavorable, even by internal government officials. Policy analyst in Bappeda Pekalongan City, David (*pseudonym*), said many times that the usual bureaucratic management processes, such as rigid coordination between government units and a hierarchical way of working, limit the capacity of the government itself to be responsive in often tackling immediate and urgent problems. For decades, the Indonesian government has been based on the Weberian bureaucratic system [6], marked by several characteristics, among others: a. Every government worker is organized by a set of policies so that everyone has their scope of work based on written procedures, as opposed to a verbal agreement, b. Government workers are categorized into a set of specializations (horizontal) and hierarchies (vertical), and c. Professionalism is strictly separated from the personal relations [7].

This system has several implications; *first*, as mentioned before, creating a slow decision-making process due to many government units

having a role in a single problem and each unit waiting for their instructions -legally- to be able to contribute to the said problems. *Second*, as many units have a role in each problem, frequently, their authority is overlapped, creating a culture of avoidance or reluctance in their working process. Each worker acts very carefully to avoid working outside their authority, which usually leads to waiting for instructions from their leaders, making the problem take longer to solve. And *third*, this bureaucratic process creates a policy-compliance working habit instead of a solution-based one. Many government workers lost touch with the humanistic aspects of public service, leading to the loss of public trust in government service [7].

As a result, the climate governance in Pekalongan City is centered on infrastructural development as shown in spatial plans. Even infrastructural-based development is centered on economic aspect, rather than climate mitigation. If we look closely at the spatial plan (fig. 1), the northern areas of Pekalongan City were expected to become a tourism and fisheries area. Although several climate-related development planning were mentioned, the details are not mentioned in RPJMD. Again, in their latest RPJMD, climate-related issue is only translated as rob flood, so they specify their development plan to only tackle rob flood in a spatial plan.

3.2 Rendering Technical and Trusteeship as a Way Out Strategy

As mentioned before, the rigid governance in Pekalongan City makes their development plan seems unrelated directly, or unresponsive to, the climate change issues. This is not ideal for Pekalongan City because of its rapid climate change impact, but we also cannot wholly blame the local government because they only "follow the order". A way-out strategy to keep taking actions facing climate change, while still in-the-rules is to open a collaboration with NGO that operate outside "the rules".

Pekalongan City Government then initiated a collaboration with Kemitraan Partnership and Adaptation Fund in 2016. According to David, our informant, this collaboration helps the government to break down the climate change-related problems faced by Pekalongan City. This is useful on two sides: a. the government cannot recognizes problems caused by climate change as the majority of government officials, in terms of qualifications, do not qualify as an ecologist, environmentalist, or any other climate problems related field. And b. therefore, they cannot pinpoint precisely what is the problem, let alone the solution to climate

change problems. This is what Tania Li [8] means by *rendering technical* and *trusteeship*. *Rendering Technical* is the construction of problems in a manner that is amenable to technical diagnosis and solutions while not mentioning parts that do not fall neatly under technical calculations, while *trusteeship* is the commitment by an actor to improve another's capabilities [8].

A set of solutions is then offered by Adaptation Fund to tackle climate change problems (Table 1). They categorized the solutions into three categories: safekeeping, surviving, and sustaining. Safekeeping solutions focused on the protection of local communities facing rob floods by strengthening the infrastructure. Surviving solutions focused on the reactivating the institutional as well as governmental aspects, while "sustaining" solution focused on local livelihood and quality of life aspects. Those programs were seen as a total solution that is successfully integrating infrastructure and social aspect of climate change problems.

Table 1. An Overview of Programs Offered by Adaptation Fund for Climate Change Problems in Pekalongan City

Safekeeping	
Enhancing protection along the coastal line of Pekalongan City.	6 kilometres of Mangrove Ecosystem Established.
	300m Parapet at Slamaran Beach in *kelurahan* Degayu constructed.
	Coastal embankment (geo-tube/sand trap) at Kandang Panjang established.
Surviving	
Enhancing coastal community capacity in developing and implementing Local Climate Change Adaptation Action Plan (RAD-API), climate change information system, and Climate Smart Initiative.	Pekalongan City Climate Working Group reactivated.
	Climate working group established and functioning in each of the 8 target *kelurahan*.
	Enhancing coastal community capacity in developing *kelurahan's* information system and implementing the ensuing climate change adaptation actions.
	Engaging youth groups and building their capacity to become Agents of Change in climate change adaptation actions of Pekalongan City.
	RAD API developed based on Pekalongan City Climate Risk Assessment and Climate Coastal Impact.

	Strategy to integrate CCA into local government planning process (annual work plan or mid-term development plan of city) is developed.
	Innovative and collaboration adaptation actions are implemented in collaboration with private sector, Government bodies and NGO, and also evaluated for future reference.
	Climate change training and knowledge sharing conducted.
	Knowledge product, Advocacy materials published and shared.
	Local knowledge sharing network established.
Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan.	Enhanced provincial capacity to develop RAD API.
	Appropriate strategy to integrate CCA into Provincial government planning process is developed.
Strengthening vertical coordination and collaboration between national and local government in climate adaptation.	Knowledge product in the form of Handbook on how to use SIDIK for risk assessment at coastal city, targeted for local government, NGOs, and civil society organizations.
	Strengthened vertical coordination and collaboration between national and local government.
Sustaining	
Improving community's resilience through initiation of	Aquafarming in mangrove ecosystem developed and implemented by community.
	Mangrove ecosystem improved and involving wider participation of affected coastal community of Pekalongan City.

alternative livelihood and improvement of sanitation facility.	Improved cultural economy through application of ecological batik using mangrove based colouring product.
	Improved food security through the application of urban farming as alternative to conventional agriculture process
	Developed circular economy through initiation of integrated waste management system and processing.
	Improved sanitation facility in 8 target *kelurahan* to mitigate risks of waterborne disease.

At the sub-city level, because there is no climate change governance before, the effort made by Adaptation Fund was seen as an absolutely perfect solution, the locals just trust the process made by the NGOs. When we asked the locals about the specific programs implemented by the officials from Adaptation Fund, they have no idea at all, but they believe all the effort made is for their good.

4 Conclusions

The changing climate narrative from the Government of Indonesia, at the provincial, or even the city level, does not directly translate to action. In general, development action in Indonesia is somewhat rigid and requires interconnectedness from central to local government. The way out, as practiced by the government of Pekalongan City, is by collaborating with NGOs. Pekalongan City government proves that the substantial efforts to tackle climate change issues come from outside the "system".

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