

THE IMPLEMENTATION OF INTEGRATED POLICY CONCEPT IN SUSTAINABLE PORTS-CITIES DEVELOPMENT: A CASE STUDY ABOUT LAND USE IN SEMARANG

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ABSTRACT

In globalization era, the role of ports is significant as the frontline of global trade. A port, as starting place of a port-city, delivers various impacts to city, not only positive impacts but also negative impacts during its operational activities and development. To deal with these port impacts, the port-city government should implement integrated policies to achieve sustainable development. This integration will cover land use, transportation and environment aspects. The existence of port-cities is important for Indonesia because as a big archipelagic state, Indonesia has over 294 ports which are located in port-cities. Semarang port-city, one of major port-cities in Java Island, is chosen as a case study because of its history since 1775 as a port-city and as a capital of the province in the colonial period in Java. The aim of this research is defining the role of integrated policy making in achieving sustainable development in Semarang port-city. The research design is a case study using qualitative data analysis and con/text analysis methods. Field work has been conducted in 2018 for 2.5 months by conducting observation and in-depth interviews. This paper discusses land use policy of Semarang and its response to impacts of port in Semarang only. The preliminary results indicate a complexity of authority among key stakeholders and a time constraint in process of making land use policy so that policy integration process will be more challenging. In addition there are involvements many policy makers who come from cross-sectoral and even stakeholders with different authority. Ultimately, the paper observes that to come to integrated policy making a framework for sustainable land use in port-cities relation needs to get a priority to realize the desired policy outcomes.

Keywords: integrated policy, sustainable development, port-cities, port impacts, land use, Semarang.

1 INTRODUCTION

Coastal areas are attractive regions that are preferred by many people to live in. In 2000 there were almost 634 million people (10% of world populations), including around 360 million people (13% of global urban inhabitants), living in coastal areas [1]. This trend is predicted to grow in the following decades, with major population is in Asia [2]. Other figures show similar upward trend that in the US there were 123.3 million people (this number increased by about 39 % from 1970) or around 39 % of the US inhabitants living in coastline counties in 2010 [3], while in Europe, there were about 206 million people (41% of EU inhabitants) living in coastal areas in 2011 [4]. The latest figures reveal that there were almost 37 percent of global inhabitants living in coastal areas in 2017 [5].

There are extensive use of coastal areas in various functions such as housing/urban settlement, tourism/recreation, industry, trade and port. Management of these functions must be carried out comprehensively so that the sustainability can be maintained [6]. The last two functions, trade and port activities, have a crucial role in the globalization era. Currently, companies can have access to international markets easily which encourages international trade which is mostly relies on sea transportation. The growth of e-commerce

also encourages international trade, particularly for traditional goods that cannot be sent digitally, so goods must be sent physically by using sea shipping [7], so ports become important infrastructure in the marine transportation system as the backbone of globalization. Ports are the center of transportation networks which encourage international supply chains and support international trade. The volumes of international seaborne trade in 2015 are appraised for around 80 % of overall international merchandise trade [8] and the trend of increasing volume continues to grow, even until 2018 [9].

Port and its city have the related history. A port is a city origin then this city began as a trade node that used a port as a natural entry point for loading/unloading and transportation of goods by ship. Then this trade node grew into a small town that continued to develop into a major port-city [10]. Port-city serves both the port and the city which affect each other. The presence of port may drive government to build related infrastructure for instance highway and railway that encourage economic development of port-city [11] so that in general the port-cities are crucial part of globalization as the frontline because there are many world ports, which are located in the cities, are involved in the shipments at huge volume almost 90% of external trade [10]. Port development and operations improve significantly to economic development of the city and its hinterland cities by means of job creation and tax generation [12]. However, on the other side, port also has negative impacts to the city, mainly in the field of land use, urban traffic congestion and environment [10].

As a big archipelagic state which almost 54,716 km of coastline, the second longest in the world [13], Indonesia has 294 ports which are managed by Indonesia Port Corporation in 2015 [14]. Most of these ports are located in either small or major port-cities. Semarang City is selected as a case study because currently, it is one of the major port-cities on the Java Island, the most populous island in Indonesia with three major ports such as Jakarta, Surabaya and Semarang respectively. As the capital city of the Central Java Province, Semarang plays a crucial role to the growth in this province. Semarang's strategic position has the function as the main entrance for loading/unloading and shipping of goods and people by sea transportation in order to serve the entire province. Other consideration is a long history of Semarang City as a port-city since 1775 and as the capital of the province in the colonial period in Java. The role of Semarang as a port-city has begun to escalate when the Dutch colonial authority determined Semarang as the center of the Northeast Coast of Java in the 18th century [15].

Semarang faces both benefits and negative impacts from port. The main benefits are increasing economic development and accommodating social and cultural assimilation. Port of Semarang has been able to contribute to city growth by providing a number of jobs, which able to generate economy growth through multiplier effects. The blending of cultures among various ethnicities enriches the city with new social ambiances that attract more people to come. The port benefits usually spill over easily to other neighboring cities. In the perspective of regional development, the port-city can induce economic growth of other adjacent cities.

On the contrary, negative impacts of port often limited to local area of port-city only. Semarang also suffered from negative impacts of port, particularly on land use, urban traffic congestion and environmental degradation aspects. The economic attractiveness of Semarang increased the population of the city that led to more densely particularly in areas around port. This causes many high density settlements and increases criminal rates in areas around port. Another impact is the increase of traffic congestion because of high flow of traffic that passes through the city. The qualities of environments are also decrease such as water and air pollution, seawater intrusion, land subsidence, tidal flood, rainy season floods and noise. All of disadvantages of port will not spread widely to neighboring city areas.

This study conducts research on the implementation of integrated policies (particularly in land use, traffic congestion and environment aspects) that need to be considered by the key stakeholders of Semarang port-city (including the Semarang City Government as the holder of the local government authority, the KSOP as the port authority holder and Pelindo III as the port operator holder) in order to deal with positive and negative impacts of ports to ensure the sustainable development in Semarang port-city.

This research was carried out to answer the research question: "how can integrated policy contribute to the sustainable development of port-city?" Then this research is expected to contribute significantly to the planning of public policy development in the future in port-cities of Indonesia, an island nation with hundreds of port-cities.

This paper was prepared as part of the research, so it only discusses the implementation of policies in land use aspect within the framework of an integrated policy towards sustainable development in the Semarang port-city. Paper begins with an elaboration of the conceptual framework of ports, port-cities, sustainable development and integrated policies in section 2. Then sections 3 and 4 will discuss methodology and findings respectively, which are followed by conclusions in section 5.

2 CONCEPTUAL FRAMEWORK

The conceptual framework is an elaboration of various related theory building blocks which are employed in this research, such as ports, port-cities, sustainable development and integrated policies, which are arranged into a conceptual framework that guides this research. This conceptual framework is written in order to respond to research question which is then derived in to several sub research questions as follows: how are relationships between port and city?; how can be understood and operationalized the role of sustainable development in relationship between port and city?; how is the role of integrated policy making in achieving sustainable development in port-city?

2.1 Relationship between port and city

Section 2.1 and 2.2 are responses to relationship between port and city. Conceptual framework starts from relationship between port and its city (see Fig. 1). Alderton [16], Talley [17] and, Stopford [18] describe port in the similar tone that port is an interface between ship and sea which is equipped with facilities for ship berths as well as maintenance, and equipped with several equipment for moving goods from ship to land and vice versa. In addition there are terminal facilities for the movements of goods and people.

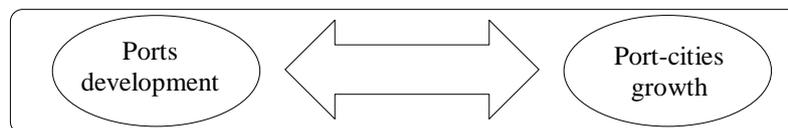


Figure 1: Relationship between ports and port-cities.

Most ports are located around cities to facilitate access to sellers, buyers, factories and manufacturers [19], so that there is a close historical relationship between ports and cities. In general, many cities arise and come from ports. Many cities begin as inter-regional trade nodes that use ports as natural gateways and use the sea as interconnected regions. Further developments of these trades encourage small towns to grow and develop into cities that further grow into major cities. That is the origin of port-cities.

During its development, relationship between ports and cities are mutually influence. Ports development will affect the growth of port-cities, and vice versa, the growth of port-cities will affect ports development. The conceptual framework of this research only emphasizes on port development impacts on the port-cities's growth.

2.2 Impacts of ports to port-cities

Ports may contribute crucial advantages for economic development in coastal areas through job creations, generate tax [12], generate more revenue [20], both directly and indirectly [21], as well as stimulating new businesses opportunities [17]. Port also delivers significant contribution for economic development in hinterland areas because port connected sea and land by using ships transportation [22]. These activities generate first contribution of ports to cities namely cargo handling business. It is the earliest economic activities that will be a driver to local jobs creation, tax revenues and other indirect economic activities [23]. In general, the activities of ports development have two major influences on port-cities growth (see Fig. 2). The first impacts are considered as positive impacts which subsequently transformed into port-related benefits of port-cities. These port-cities advantages consist of several dimensions as follows economic development and social development. These positive impacts tend to be spill over to surrounding cities. It means that the cities around the port-cities can benefit from these positive impacts.

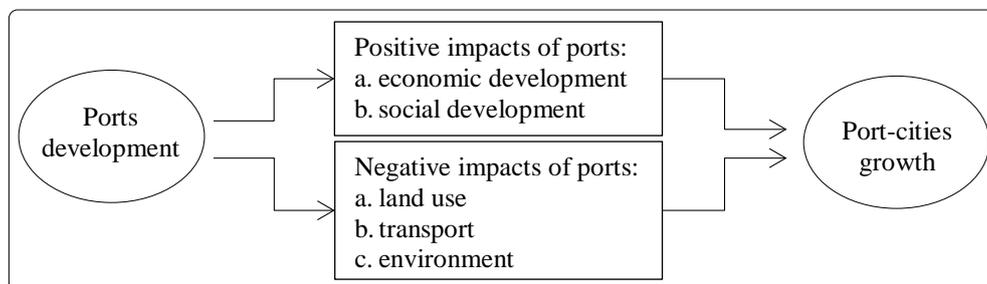


Figure 2: Impacts of ports to port-cities.

Port is a complex system since during construction period many activities involved such as engineering, civil, architecture, mechanical, electrical and management etc. Negative impacts on the environment occur in periods of construction and operation such as water and air pollution, contamination of soil and generation of either solid or liquid waste [24]. Water pollution may come from disposal of vessel ballast water, vessel antifouling paints, oil spill, and the dredging of waterways to maintain channel depths as well as waste. Then air pollution may result from vessel emissions, cargo-handling and port equipment, railroad locomotives and trucks while in port [17]. While the second major impact is considered as negative impacts of ports which consequently converted into port-related problems of port-cities. These port-cities disadvantages affect to several aspects such as land use, transport, and environment. Usually, these negative impacts tend to be localized inside the port-cities.

2.3 Sustainable development of port-cities

Section 2.3 is a response to the role of sustainable development in port and its city relationship. Sustainable development term was introduced by the United Nations World

Commission on Environment and Development in its report in 1987 namely “*Our Common Future*” [25]. Diesendorf [26] reveals that sustainability is for the long term and establishes moral value of fairness and balance between current and upcoming generations. In addition, United Nations [27] implements the definition of sustainable development and its three dimensions in the description of development in the Agenda for Development as follows: “Development is one of the main priorities of the United Nations. Development is a multidimensional undertaking to achieve a higher quality of life for all people. Economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development.” In 2015, UN established the “2030 Agenda for Sustainable Development” that includes “17 Sustainable Development Goals” [28].

In dealing with several impacts of ports, either positive or negative impacts, port-cities need to employ sustainable development concept to maintain sustainability of their roles in the globalization period as the frontline. This conceptual framework will focus on classic aspects of sustainable development such as economic and social as well as environmental aspects only. All of these dimensions will deal with all port-related benefits and port-related problems of port-cities comprehensively (see Fig. 3).

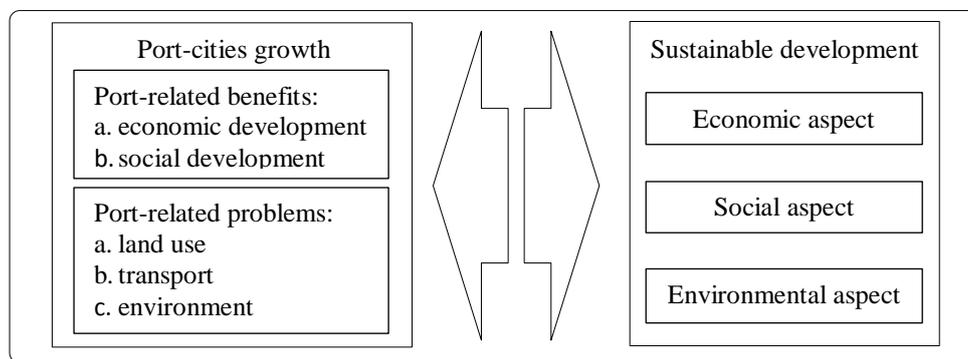


Figure 3: Sustainable development of port-cities.

2.4 Integrated policy conceptual model in sustainable development of port-cities

This section is a response to the role of integrated policy in achieving sustainable development in port-city. Several port-related benefits and port-related problems of port-cities will be addressed by implementation of integrated policy to achieve sustainable development (see Fig. 4). An integrated policy is crucial for port-cities in dealing with the interaction between ports and port-cities, since they are closely interconnected and support each other so that port-cities have to ensure the implementation of policy integration among economic, social and environment aspects which are important to keep sustainable development [29]. These sustainable developments of port-cities will sustain the leading roles of port-cities in the globalization age as integrated parts of worldwide supply chain system of logistic [30]-[31]. Geerlings and Stead [32] emphasize that the integration is significant for sustainable development, particularly in land use fields and transport, as well as environmental aspect. Integration is the key of sustainable development. It is a valuable approach of development of cross-sectors by crossing border and even across generations. Every decision should concern the prospective influences on the environment, the society and economical effect in the future [33].

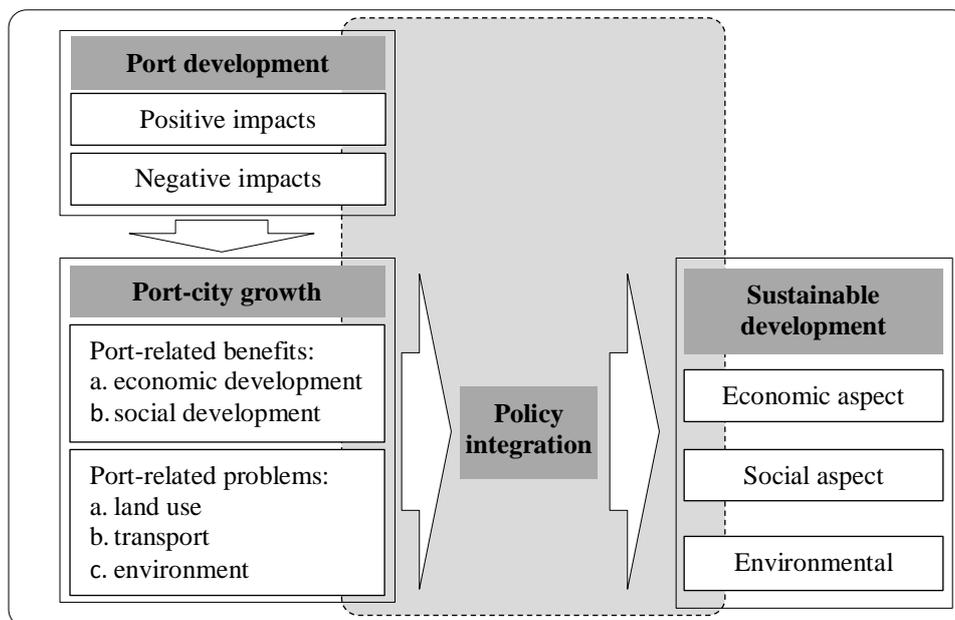


Figure 4: Integrated policy in the sustainable development of port-cities.

Policy integration sequence [32], [34], [35] can be described as follows: co-operation which involves dialogue and information, each organization works concurrently to realize their-own targets so that output is efficient sectoral policy. Then coordination (similar policy term with consistency and coherence) that includes co-operation as well as openness to prevent conflicts. Mutual decisions may be not the same from their original outcomes. Policy coordination is more far-attaining than co-operation. The output is adjusting sectoral policies that are mutually enforcing and consistent. Lastly policy, integration or joined-up policy, which involves co-operation elements such as dialogue, discussion and information; includes co-ordination elements such as clear and transparent concept to prevent conflicts; and contains joint working, as efforts to build synergies among policies and use similar objectives to formulate policy. Policy integration is better than co-ordination with one joint policy as the new output related to sectors.

Furthermore policy integration can be distinguished [32] as follows: vertical integration (among various levels of government), horizontal integration (among various sectors or professions inside an organization), inter-territorial integration (among different authority with common interests such as resources and infrastructure), and intra-sectoral integration (combining among various sections or professions in a department and among fields of environment). Preferably, the role of policy integration is as the catalyst and integrator in managing various complications that arise in implementation sustainable development concept in port-cities.

3 METHODOLOGY

In this research, the case study is employed as the research design. Furthermore, the empirical studies is conducted by observing and analyzing phenomena in the real-world context in depth and specifically. The deliberation in deciding a single-case study is a

tendency of optimizing the limited available time to conduct field work by exploring and exploiting access to related documents and files and conducting semi-structure in-depth interviews with different kinds of relevant sources.

Before field work, preparation stages are carried out such as making the list of questions as the guidance in conducting interviews. This list is a description and derivation of the related theory building blocks and conceptual framework.

Next is making field work permits and appointments with the interviewee candidates that are representatives of the main stakeholders including the Semarang City Government as the holder of local government authority including the Mayor, Regional Development Planning Agency, Spatial Planning Office, and Transportation Office as well as Environment Office, the KSOP as the port authority holder and Pelindo III as the port operator holder. The secondary data collection stage was done before field work by data searching on the internet to provide the preliminary overview of each above key stakeholders such as profile of each stakeholder, official policies documents, and regulations related to land use, transportation and environment. Important data that has not been obtained can be completed when doing field work.

The fieldwork was carried out in October until mid-December 2018 in Semarang by conducting observations and interviews that are recorded sound and visuals in order to observe phenomena and focus on understanding ongoing process. Interviews are conducted with the appropriate and capacity-based sources to clarify and confirm all empirical findings from understanding of secondary data and empirical observation. Interviews are conducted with the person who has sufficient capacity and knowledge regarding integrated policy by in-depth interview and using open-ended questions as well as semi-structured format. Normal bureaucratic procedures are passed to make appointments and determinations interviewee candidates. Then Government office gives the persons in charge designated as an interviewee. When the designated person in charge did not have the appropriate capabilities and knowledge to answer the questions, then the snowball sampling technique is applied to find and ensure an appropriate interviewee, as well as to enrich the data in a limited time. After interview, collect important data which are discussed such as minutes of meetings, policies, and regulations as well as planning documents. The qualitative data analysis approach is implemented in this research as well as method of con/text analysis to analysis the results of interviews and related policy documents.

4 FINDINGS AND DISCUSSIONS

4.1 The complexity of authorities among key stakeholders

There are three main stakeholders in Semarang related to policies in port-city which are responding to various impacts of port development on the city particularly in land use, transportation and environmental aspects. Each of stakeholders has their own authority over their own territory as well as has their own separate lines of command and responsibility (see Fig. 5).

Semarang City Government as the holder of local government authority including Mayor, Regional Development Planning Agency, Spatial Planning Office, and Transportation Office as well as Environment Office. City Government has the authority in area of Semarang City with regional autonomy authority. Regional Development Planning Agency is a body that has a coordinating function among sectors, while Spatial Planning Office, Transportation Office and Environmental Office are the bodies that deal with the related sectors.

KSOP, Syahbandar Office, as a port authority holder has an authority only within port area. KSOP is an extension of Ministry of Transportation through Director General of Sea Transportation which is structurally part of Central Government that authorized to regulate in port area.

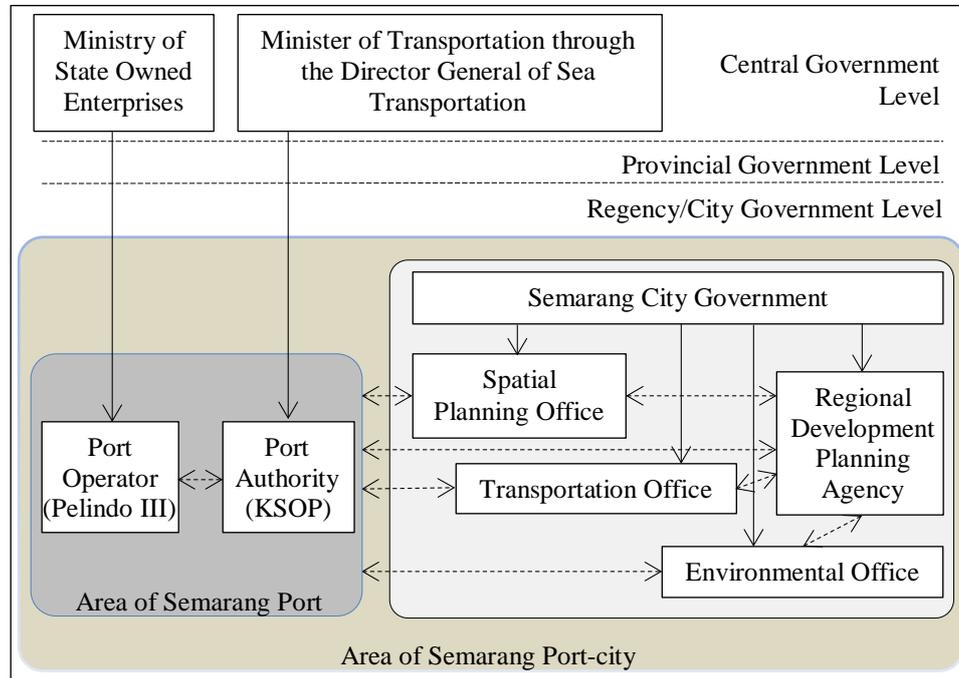


Figure 5: The complexity of authority among key stakeholders in the port-city of Semarang.

Pelindo III as a port operator holder is a state-owned enterprise, a business entity, which is granted an authority as a port operator by holding management and business rights only within port working area (DLKR). This area is granted by Central Government. This company is directly responsible to Ministry of State Owned Enterprises. Both KSOP and Pelindo III are mandatory to comply with all policies and regulations that apply both at the central and regional levels in carrying out their daily activities.

In making land use policy which is regulated in Semarang City Regional Spatial Plan, there are several efforts in carrying out integration. Vertical integration has been carried out involving Semarang City Government, Central Java Provincial Government and Central Government in coordinating and harmonizing Regional Spatial Plans that are carried out in stages from national, provincial and city level. This process supports two-way integrations, not only top-down, but also bottom-up to accommodate regional aspirations. This process tends to be formal communication and time-consuming.

Whereas horizontal and intra-sectoral integration are carried out by sectors under Semarang City Government such as Regional Development Planning Agency, Spatial Planning Office, Transportation Office and Environmental Office, public works, public health, agriculture, communication, etc. In this process, coordinations are carried out among sectors but not only limited to aspects of land use, transportation and environment, but also covering sectors mentioned above. Particular policies to solely respond to positive

and negative impacts of port on sustainable development have not been formulated. Efforts have been made on the policy integration process but cannot be carried out thoroughly because occasionally there is a priority sector which is coming from central government. The process of coordination and integration will be better if it is led by a body higher than the sector bodies. In this process, informal communication is more acceptable and obviously requires time to deal with many sectors.

Inter-territorial integration among KSOP, Pelindo III and Semarang City Government cannot be conducted yet due to the complexity of authority over each different region. As an initial stage, Semarang City Government employs co-operation with KSOP and Pelindo III by adopting the Port Master Plan into the Semarang City Regional Spatial Plan which is accompanied by several adjustments and intense communication bond.

4.2 The time constraint in the process of making land use policy

Pursuant to Law 26/2007 concerning spatial planning, the previous Regional Regulation namely Semarang City Spatial Planning for 2000-2010, must be renewed no later than three years after this Law was enacted in 2007, by using the new rules that were set later. The period of new Regional Spatial Plan is twenty years and can be reviewed once in five years.

In 2008, based on the latest regulatory provisions, the Semarang City Government began making the City Regional Spatial Plan which contained a land use policy by giving assignments to the Regional Development Planning Agency. After the auction process, a consultant was chosen to assist the Technical Team which is formed on an ad hoc basis. The Technical Team consists of competent officers in City Government sectors such as public works, education, public health, transportation, environment, agriculture, etc, with Regional Development Planning Agency as the leading body. The Technical Team is in charge of drafting concepts with the assistance of consultants in data collection. Gathering of community aspirations is carried out intensively with several methods and adapted to the strata of the communities such as dissemination of information with questions-answers for general public in every sub-district and village, while focus group discussions for particular communities such as entrepreneurs, academics, business and professional associations, NGOs, arts communities etc. The collection of community aspirations is carried out documented, both formally and informally, whenever necessary, not only at the data collection stage but also at the stage of drafting policy concepts to ensure that all aspirations can be collected and analyzed within a short time constraint in only one fiscal year.

The Technical Team works intensively in formulating policies which are realized through intensive weekly meetings. There are two types of meetings to build two-way communication such as plenary meeting and certain sectors meeting. Plenary meeting tend to use formal communication while certain sectors meeting can use formal and mostly, informal communication. At this stage, horizontal and intra-sectoral integration occurs among members of the Technical Team, who represent various government sectors. Unfortunately the horizontal integration which is expected to emerge from the formation of the Technical Team did not always run smoothly. There are time delay constraints because the members of the Technical Team are not the people who have the authority or are given the authority to make decisions. So the process will take time because it must be consulted later with their leader as the authority holder. Furthermore the members of the City Regional Spatial Plan Technical Team often also become members of the Technical Team for other programs, so that several obstacles arise such as time to work, focus and concentration are divided, as well as overlapping meeting schedules. The use of informal

communication and working overtime are some of the options used to address these obstacles.

Time frame for making this policy is only one fiscal year. Due to the changes in national regulations in City Regional Spatial Plan making, then this process was repeated in 2009 by following the new latest regulations. It seems that the time for gathering aspirations from the community is increasing, but because they have to follow the new latest rules, the time provided for gathering aspirations for the community remains one year even though the previous year's aspirations data can be used as references.

Vertical integration at this stage occurs when there are coordinations and integrations between City Regional Spatial Plan and Regional Spatial Plan at the provincial and national levels. In addition there was also technical guidance provided intensively by central and provincial governments to ensure that City Regional Spatial Plan compliance with latest applicable regulations. While inter-territorial integration occurs when the Technical Team adopts and coordinates Port Master Plan into City Regional Spatial Plan. This happened because each stakeholder, namely Semarang City Government, KSOP and Pelindo III had their respective authorities so that they could only act within their area of authority.

After draft of City Regional Spatial Plan has been completed, documents such as technical materials, planning documents and draft local regulations are prepared for discussion with Semarang City House of Representatives/City Council. After being included in the list of regional legislation programs, this draft was discussed very intensively article by article by members of the council who were members of the special committee, across commissions, for almost 6 months. After going through tough discussions, then the draft was approved by the Council in a plenary session. The next step is to request the approval of Ministry of Home Affairs through Governor to be ratified as a Semarang City Regional Regulation Number 14 of 2011 concerning Semarang City Spatial Planning for 2011-2031.

4.3 The effects of integrated policy making

There are many policy makers (Technical Team members) who come from cross sectors involved, such as education, public health, transportation, environment, public works, etc. Different stakeholders have their own priorities when it comes to sustainable land use, as a result the efforts did not respond a common framework of sustainable land use. The process needs to be monitored and evaluated once in every five years.

5 CONCLUSIONS

There are complexities of authority among key stakeholders related to policies in port-city. Several integrations have been carried out such as vertical integration among vertical layers of government as well as horizontal and intra-sectoral integration which involving sectors under City Government. While for inter-territorial integration, it is a challenging process due to the complexity of authority over each different region.

There are no clear indicators of what can be considered as a sustainable land use policy. As a consequence the making of City Regional Spatial Plan has not yet formulated particular policies that solely respond to positive and negative impacts of ports on sustainable development, such as land use, transportation and environmental aspects, so it needs to be included in policy revisions that can be done once in every five years.

In the process of making the City Regional Spatial Plan there is a time constraint for only one fiscal year, so to maximize the collection of various aspirations from communities, then strategies are employed by gathering intensive community aspirations both formal and

informal way, at any time when needed, not only conducted at the data collection stage but also carried out at the policy concept drafting stage by using the dissemination of information and focus group discussion methods tailored to strata of the communities.

The involvement of many policy makers who are members of cross-sectoral Technical Team and even include stakeholders with different authorities will be very useful as a policy integration initiation that can be implemented in other fields of policy making.

The formation of a cross-sectoral Technical Team is one of the strategies in conducting horizontal and intra-sectoral integration. Issues regarding overlapping Technical Team members and meeting schedules can be addressed by various informal communication and meetings which is then brought to the recorded formal meetings. Informal communication by using telephone is a crucial because the members of the Technical Team come from various sectors which are located in separate buildings. The best practice of using informal communication and meetings to deal with various obstacles above, can contribute to initiating inter-territorial integration among Semarang City Government, KSOP and Pelindo III so that the complexity of authorities is no longer to be an obstacle.

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