

Rural-Urban Linkage and Local Government Capacity in Coping With Water Crisis: A Brief Note From Indonesia

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Abstract— This article discusses rural-urban linkage and local government capacity in coping with water crises in Indonesian context. Water security problems often connect with flood, drought, and other catastrophes that occur globally. These issues closely relate to multiple problems, including economic burden, urbanization, other health and social related problems that mostly affect the life chances of women, children and vulnerable groups. This research refers to the work of Darian-Smith and McCarty (2017) who argue that development perspectives ought to place rural and urban areas in a bounded entity as an integrated development approach. The integrated approach is in line with the Global Agenda for Sustainable Development. This study focuses on the complexity of the needs of the vulnerable community groups concerning water insecurity and how local government address the issues in Citarum Watershed, West Java.

Keywords— *Rural-Urban Linkage, Water Security, Local Government Capacity, Citarum Watershed.*

I. INTRODUCTION

The recent global phenomenon highlights water security as the most prominent agenda in development policies and programs. Water is not only a resource to support human health and well-being, but also a manifestation human rights fulfilment [3; 6; 7]. The term of water security often associated with the quality and the quality of water. General assumption of water security ensures that every individual has secure access to safe water at affordable cost [23;24].

The strategy for water security aims to manage the water at a balance level, too much water could cause unprecedented disaster. Whilst lack of water would threaten the food production cycles and the quality of life of human and other being [19].

In the last 20 years, Indonesia economic progress shown by the improvement of average individual income growth and annual economic growth. However, as one of the most populous countries, 264 million Indonesia inhabitants exposes to water vulnerability. It is recorded that almost 28 million Indonesians has a minimum access to safe water, and 71 million have no appropriate sanitation facilities [2; 20].

Access to safe water even more critical in urban area due to high urbanization pressures. According to Indonesian Statistical Bureau, the number of urban populations keep increasing at a fast rate. It was recorded that in 2015, 53.3%

population live in Urban Area and it is projected to reach 60,0% in 2025, and stay at 66.6% in 2035 [21; 25].

The evaluation result on Urban Water Supply in Indonesia shows that average access to clean water in Indonesian cities stood under 50%. Most of Indonesian Local Government Water Company (*Perusahaan Daerah Air Minum* , PDAM) that operating at district and municipality levels are underperformed [4;5].

Furthermore, the World Bank states that water problem in Indonesia, is not only limited to water accessibility. There are some bigger problems could occur due to water insecurity. For this, the World Bank's research found that 40% of Indonesia's population is facing water-related disasters [9]. Some part of Indonesia reveals a high level of mortality risks that is caused by water-related disasters, such as tsunamis, floods, landslides, droughts, and earthquakes [9].

Indonesian government has been trying to address the problem of water crisis through various policy and programs interventions. For example, maintains the availability of sufficient clean water quality by encouraging the provision of basic infrastructure in urban settlements. One particular concern is the government infrastructure procurement of drinking water and sanitation. Indonesian government also concerns that in order to close the gap and to build a reliable infrastructure, there is a need to build commitment of the Government at all different levels. The commitments should be proven by local budget allocation [1].

However, in reality, development policy and program often initiate and execute partially by different ministries and institutions which led to fragmented program implementation. The lack of coordination also resulted in the ineffectiveness of the program. As well, the 'leviathan bureaucratic behaviors' cause the practice of 'wrong doing' where the programs are only implemented in certain preferable areas with big successful chances rather than executed in the most needed regions. This typical bureaucratic-behaviors and the *business as usual* approach has long been considered as a normal value in public sector [1].

On the other hand, the transition towards a more effective decentralized governance structure are challenged by local government capacity in addressing strategic

problems. Most of local government officials are being trap within the old centralistic regime that operated for more than three decades [16, 20].

In addition, centralized development is strongly characterized by limited attention to the diversity of socio-economic conditions of the area. In the centralistic regime, local governments are heavily rely on central government's resources. In Indonesian context a long centralistic regime could weaken the capacity of local government to achieve its highest performance. Low performing local government could lead to ineffective local government services [20].

This article highlights preliminary findings from the research conducted in Upper stream Citarum watershed. Labelled as the most polluted River in the world, Citarum watershed reveals complex water-related problems, including drought, flood, land slide, and highly polluted water [13].

We would argue that, at some points both rural and urban areas are facing similar stances on water security issues. The recent long dry season in Upper-Stream Citarum for example, expose the villagers to some conflicts over water usage. We further examine that the lack of water in Bandung Metropolitan Region has a significant link with multiple rural-urban development issues generated by environmental problems. This perspective is in line with the work of Darian-Smith and McCarty (2017) who believe that urban and rural areas could not be seen as a separate entity, they are both interconnected and share causal problems [8].

II. FRAMING RURAL URBAN LINKAGE AND LOCAL GOVERNMENT CAPACITY: POLICIES AND ACTIONS FOR THE RECENT CITARUM RIVER REVIVAL

Having been considered as the national strategic river, Citarum river caters the need of Java and Bali population to sustain their [8]. Geographically, the river stretches across 13 districts and municipalities in West Java province, where 80% of its inhabitants are highly dependence on the river. The Citarum watershed covers at least 721,945.66 acres and provide water to 420 thousand acres of paddy fields in Karawang Regency and horticultural areas in many different regions along Citarum River [8].

Moreover, Indonesian government built three huge reservoirs (Saguling, Cirata and Jatiluhur) as electricity generators to serve Java and Bali islands. The current condition of Citarum river destruction accused as the problem of Java and Bali electricity block out in August 2019 [8].

Citarum river problems have long been discussed Indonesian development, Indonesian government commitments to overcome Citarum river problems can be seen from various development policies introduced since 1989 [10].

The first effort to deal with Citarum problems introduced in 1989. At that time, Indonesian government implement a Clean River Program (*Program Kali Bersih-PROKASIH*) to improve the quality of water. This program designed in response to expanded industrialization along Citarum riverbank in 1980s that regularly causing flood in some areas. Then, five years later, Citarum River Normalization Program started in 1994. During this

program inittistion, Central Government established a Regional Office for the Citarum River Basin (*Balai Besar Wilayah Sungai Citarum-BBWSC*) to support the program and take a full responsibilities in ensuring the good quality of Citarum River [10].

After that, West Java Provincial Government initiated a Clean, Beautiful and Sustainable River program (*Citarum Bergetar*) in 2001 and encourage the development of Eco-village program in selected villages. In 2007, bigger program implemented. The Integrated Citarum Water Resources Management Investment Program (ICWRMIP) also aimed to improve the quality of river, provide quality water supply, and control the flood in approximately 13,000 square kilometres [10].

However, almost 30 years after the implementation of Citarum river improvement policy, the visible results are being questioned. Citarum river is getting worse and attracted international environmental activists to film the worse part of the river and exposed it through social media. Citarum gain its popularity as the dirtiest river in the World.

Apparently, it successfully drew Jokowi's attention to address the Citarum river problems through a quick unusual policy response. Under Jokowi leadership, Indonesian government introduced a Hybrid institutional design to deal with Citarum River problems that involve military personals, central and local government officials, State Own Enterprises, and other development stakeholders [10].

Integration of rural-urban interests becomes necessary to create a policy that can deliver maximum effect in the efforts undertaken. Most of the rural population is still located on the pattern of life and culture of rural areas that rely on source of subsistence agriculture or as farm laborers. Social and economic life of rural communities that are lagging behind, compared to urban areas, due to incompettitive employment and business activities.

Urban water security will help stakeholders in developing strategies for improving urban water service based on its own characteristics, water resources potential, and urban water problems [8]. In urban areas, the problem of urban development is increasingly multi-dimensional a declining social conditions lead to social conflict. A major issue of increasing poverty rate and unemployment in varied sectors come together with environmental degradation in urban life. Related to the conditions in Indonesia, there are various problems that caused the water crisis. For example, floods, droughts, rubbish removals issues and such. Trends in floods event more complex and has a lot going on in the upstream region which should provide examples of successful conservation.

The phenomenon of urban flooding in the evaluation of the role and function triggering stakeholders in the implementation of the arrangement and the optimization of the drainage function. Control is done by applying the concept of micro watershed models (catchment based flood control area).

III. METHODOLOGY

This research conducted in Bandung District as an upper stream area of Citarum River that representing what so called as causal problems in rural and urban areas. The

Upper stream Citarum are mostly positioned as “Water provider” which mainly consists of forest, agricultural and farming areas. While down- stream areas are functioned as users. Both of the areas deal with water associated problems within Citarum River issues.

This article is part of a multi years research that employs mixed methods of qualitative and quantitative approaches. In the first year of the research, literature review processes were conducted to gain a deep understanding of the topic. Since principal investigator has been actively engaged in Citarum Research Center, the nature of this research also emphasized on participatory design. Furthermore, the expected final results and output of the research are not merely academic documents, but also aim to produce a software to support local decision making processes.

Consequently, the data collection techniques range from literature review, observation, in-depth interviews, Expert interviews, Group Interviews, Household and Youth Surveys, and Focus Group Discussion. The researchers build the narratives based on the collected data using qualitative approach.

IV. RESULT

Citarum has long been seen as a water security issue but never been a national priority until the issue was blown up massively by social media. 199,514 hectares of Citarum Water sheds are in critical conditions (Peta Lahan Kritis Nasional 2018). The problem becomes complicated when the critical areas are under different regional authorities with respect to Indonesian Regional Autonomy. State owned enterprises and Regional Government agencies have conflicting interests to solve the water shed damages. A quick respond estimates 836 billion rupiahs to fund the action. Co-financing among different agencies is needed to fund in. Community partnership is another challenge to cope with. A source of funding comes from 535 village’s government surrounding the river. Water resource management only is primarily targeting domestic waste (6 trillion), the total estimated cost 16 trillion and 118 billion for funding the national actions during 2019-2025.

The execution of the presidential decree faces the transition of regional election in Indonesian local politics. The Citarum issue reflects rural-urban linkage. The river damage in village influences urban areas such as flood. The new perspective of Hybrid institutional design in Citarum river solution takes into account different stakeholders ranging from military and police agencies to regional government administrators. Water security reflects water quality and water quantity which are paradox with the factual condition of river as a waste disposal. Domestic waste along with agriculture and industrial waste.

Water governance in West Java, particularly in Citarum case is unique. The Presidential Instruction No. 15/2018 on controlling the environmental damage in Citarum water basin areas. The policy respond is cross-sectoral shown by the development of task force. The Minister of maritime Regulation No. 8/2018 aims at achieving ‘integrated water resource management’.

Governor decision on the execution of the Citarum taskforces and the working groups on Citarum Watershed

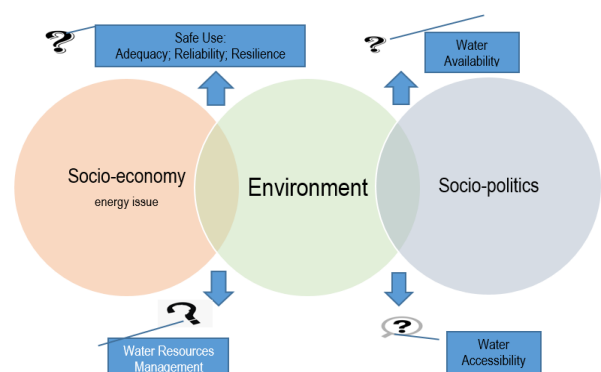
Revitalisation. Prior to the decision, the government had come up with multiple policy solutions on three water security dimensions, namely water regulation, clean water access and water resources exploitation.

Water policing is divided in to revocation regulation of water resources (MK 85/PUU-XI/2013), water permit regulation in West Java (law no. 01 year 2017) West Java Province Water tax regulation (law no. 50 year 2018). Clean water access policy comprises some articles on water permit for community (law no. 121 year 2015). The access policy goes along with policy on water resources exploitation including conservation at recharge area, control of water resources for private use.

However, the policy solutions seem to create bureaucratic issues that are partial perspectives and actions in looking at the issue. Whilst the issue is systemic in nature, the policy solutions are silos. The mixed combination of military force and civil organisations are innovative in value creation though creating gap in decision making. Citarum is the longest river in Indonesia 297 km coming across 13 different districts and municipalities. The river supplies three major reservoir in 3 districts which water hundreds of farming surrounding the area. The urban exploitation pollutes the river. Increasing numbers of textile industries waste, domestic waste, coming together with floating nets from fishery have contributed to the critical condition of the river.

V. DISCUSSION

The term water security can be viewed in differing perspectives that are grounded on the community’s ability to preserve proper access to acceptable quality water (UN Water 2013, Hatmoko et.al 2018). The differing perspectives are likely to do with fulfilling various demands for varied purposes of water, which then comes to the importance of managing water resources including those at river basin. Studies on water security today discuss also about water-related disaster. Most attentions are given to key lessons for development considering the impact of and the need to discuss the issue of water security in a way that could contribute to protecting lives and environment. To some extent the issue of water security is interconnected with governance. Indicating water security can be viewed from various interconnecting aspects that are water accessibility, water supply service provision, water resources management which then lead to measures of water availability.



VI. RECOMMENDATION

The discourse of water security has come to initiatives combining resilient communities and making atypical policy decision, namely creating relationships with key political actors, or valuing community groups and industries. The establishment of a command center to encourage the implementation of the systems of one map one policy, one for handling the data Citarum.

The discourse of sustainable development becomes a strategic global agenda in improving the quality of life for humankind. There are a number of global consensus underlying the shift in the development paradigm to more participatory, inclusive and pro-environment to ensure the welfare and resilience of society.

Democratization also has implications for development practices in Indonesia which are becoming more decentralized and pro-public. The practice of development in the past which tended to be exploitative led to the emergence of problems of environmental damage and social and economic vulnerability, which caused substantial material losses and fatalities both in urban and rural areas.

Thus, the development approach cannot place rural and urban areas as separate entities, but an integrated development area in overcoming the challenges of sustainable development. For further research, it is important to map how the rural-urban development model influence the very concept of water security.

A review is needed to do critical literature on various development policy documents to map policy directions, development approaches, and strategies used to integrate rural and urban areas.

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