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

Ida Widianingsih  
Executive Director of Center for Decentralization and Participatory Development Research  
Faculty of Social & Political Sciences  
Universitas Padjadjaran  
Bandung, Indonesia  
ida.widianingsih@unpad.ac.id

Riswanda  
Senior Researcher at Center for Decentralization and Participatory Development Research  
Faculty of Social & Political Sciences  
Universitas Padjadjaran  
Bandung, Indonesia  
riswanda@untirta.ac.id

Caroline Paskarina  
Senior Researcher at Center for Decentralization and Participatory Development Research  
Faculty of Social & Political Sciences  
Universitas Padjadjaran  
Bandung, Indonesia  
caroline.paskarina@unpad.ac.id

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 of human rights fulfillment [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 municipal 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
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 initiation, 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 worst 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 incompetent 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 rupiah 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 in West Java (law no. 01 year 2017) Water permit regulation in West Java (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.

ACKNOWLEDGEMENT

The writers would like to thank the Ministry of Research and Higher Education of The Republic Indonesia for funding our multi-years research funded by entitled: – Rural Urban Linkage and Local Government Capacity Building to Address Water Security Issues: Comparative Analyses on Disaster Prone Regions in Indonesia, South Africa and South Australia” (2019-2020).

REFERENCES

[1] Abai & Samekto, 2014, A Strategic Road Map to Implement Eco-Sustainable Water Infrastructure in Indonesia, Bappenas and UNESCO.

[2] ADB, 2016, Indonesia: Country water assessment. Mandaluyong City, Philippines: Asian Development Bank, 2016.

[3] Adeel, Z., 2017, „Water Security as the Centerpiece of the Sustainable Development Agenda’ in Devlaeminck, D., Adeel, Z., & Sanford (eds.) Water Security in a New World, Springer International Publishing, Switzerland, pp. 25-44

[4] Arsid, I Widianingsih, H Nurasa, EA Muhtar., 2019a, Public Value in Clean Water Management at the Local Water Supply Utility (PDAM) Tirta Kerta Raharja (TKR), Jurnal of Government and Civil Society, Vol 3, No 2 (2019)

[5] Arsid, I Widianingsih, H Nurasa, EA Muhtar., 2019b, Implementasi master strategi dalam memecatkan nilai publik pada PDAM TKR Kabupaten Tangerang, Publisia: Jurnal Ilmu Administrasi Publik 4 (1), 45-62 http://journal.unmer.ac.id/index.php/pkp/article/view/2411/pdf

[6] Avila-Garcia, P., 2017, „Water as a Human Right in the Global South: Ethical, Legal and Sociopolitical Dimensions” in Devlaeminck, D., Adeel, Z., & Sanford (eds., ) Water Security in a New World, Springer International Publishing, Switzerland, pp. 45-71.

[7] Biswas A.K., Tortajada C. (2016) Water Security, Climate Change and Sustainable Development: An Introduction. In: Biswas A., Tortajada C. (eds) Water Security, Climate Change and Sustainable Development. Water Resources Development and Management. Springer, Singapore

[8] Citarum Research Center (CRC Unpad), 2018, Pendekatan Pembangunan Transformatif, unpublished meeting materials

[9] Darian-Smith, E., & McCarty, P. (2017). The Global Turn: Theories, Research Designs, and Methods for Global Studies. Oakland, California: University of California Press. Retrieved from www.jstor.org/stable/10.1525/jvol1xx

[10] Dickin & Luca Di Mario, 2017, „Water Security Is Job Security: Water as an Enabler for Livelihoods” in Devlaeminck, D., Adeel, Z., & Sanford (eds.) Water Security in a New World, Springer International Publishing, Switzerland, pp

[11] Jaja Raharja S., 2010, Pendekatan Kolaboratif dalam Pengelolaan Daerah Aliran Sungai Citarum, Bumi Lestari; Journal of Environment, VOL 10 NO 2 (2010)

[12] Netherlands’ Ministry of Foreign Affairs, 2019, Climate Change Profile: Indonesia. April2018., https://reliefweb.int/sites/reliefweb.int/files/resources/Indonesia_2.pdf

[13] Oki T. (2016) Water Resources Management and Adaptation to Climate Change. In: Biswas A., Tortajada C. (eds) Water Security, Climate Change and Sustainable Development. Water Resource Development and Management. Springer, Singapore

[14] Parikesit, Takeuchi, K., Tsunekawa, a. et al. 2005, Kebon tatangkal: a disappearing agroforest in the Upper Citarum Watershed, West Java, Indonesia

[15] Agroforest Syst (2005) 63: 171. https://doi.org/10.1007/s10457-004-1182-x

[16] Sandford, R., 2017, „The Human Face of Water Insecurity” in Devlaeminck, D., Adeel, Z., & Sanford (eds., ) Water Security in a New World, Springer International Publishing, Switzerland, pp.1-25

[17] Satgas PPK Citarum, 2019, Rencana Aksi Pengendalian Pencemaran dan Kerusakan Das Citarum 2019-2025, Bandung.

[18] Waughray, Dominic, 2011, Water security: the water-food-energy-climate nexus : the World Economic Forum water initiative

[19] Water. org, 2019, Indonesia’s Water and Crises, access in 28th August 2019, https://water.org/our-impact/indonesia/

[20] Widianingsih, I, McLaren, H., & McIntyre-Mills, J., (Feb 2018), Decentralization, participatory planning and the Anthropocene in Indonesia, with a case example of the Burugak Dese, Lombok, Indonesia, Chapter in book, Janet McIntyre-Mills & Yvonne Corcoran Nantes (Editors), Contemporary System Thinking: Balancing Individualism & Collectivism to Support Social and Environmental Justice, Springer, London

[21] Widianingsih, I, & Paskarina, C. (2019). Defining Inclusiveness in Development. Jurnal Bina Praja: Journal of Home Affairs Governance, 11(2), 137-147. https://doi.org/10.21787/jbp.11.2019.137-14

[22] Widianingsih, I, & Mertens, D., 2019, Transformative research and the sustainable development goals: challenges and a vision from Bandung, West Java, International Journal of Transformative Research, The Gruyter (Forthcoming).

[23] McIntyre, J, Corcoran-Nantes, Y., Widianingsih, I., & Wirawan, R., 2019, „Aam Endah: Rural Camelot in West Java—A Case Study of Empowerment and Integrated Rural Development” in Democracy and Governance for Resourcing the Commons: Theory and Practices of Rural-Urban Balance McIntyre, J, Romm, NR. A., Corcoran-Nantes, Y. (Eds.), Springer, Switzerland. Pp. 181-194 https://www.springer.com/gp/book/9783030048907

[24] Widianingsih, I. and Elizabeth, M, 2007, „Participatory Planning in Indonesia: Seeking a New Path to Democracy”, Journal of Policy Studies, Vol. 28, No.1, 2007, Routledge, Taylor & Francis Group
[25] McTyre-Mills, J., Wirawan, R., Widianingsih, I., & Hardini, N. (–Feb 2017). Living Virtuously and Well: Addressing the Low Carbon Challenge to Address Wellbeing and Climate Change Through Participatory Design and Education on Mitigation, Governance and Accountability, Chapter in book, Janet McIntyre-Mills & Yvonne Corcoran Nantes (Editors), Contemporary System Thinking: Balancing Individualism & Collectivism to Support Social and Environmental Justice, Springer, London.

[26] Wuysang, J.E., Triweko, R. W., & Yudianto, D. 2018, Theoretical Framework of Urban Water Security in Indonesia, Journal of Civil Engineering, Science and Technology, Volume9 Issue2, September 2018