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Governing Water, Engaging Community: Indonesian Water Security Roadmap

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Abstract: *Water policy assessment could be multifaceted in nature considering its systemic implications for governance. The context of governing water is constantly changing. Water demand may rise of population growth and economic activities, whilst water service provision may be challenging due to interconnected aspects of water justice, water conflict and water resources management. Policymaking adaptability to change should think about the consequences of the policy design to all stakeholders, including their situation and options and determine the most possible alternative resolutions. Most attention is 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 the environment. To some extent the issue of water security in Indonesia is interconnected with general enabling measures of assessing the existing regulation at the national level. Unambiguous actions may be required at regional and local levels, together with sound socio-economic and socio-cultural institutions and instruments, namely building capacity and advocating partnerships. This primary qualitative research is about providing water security roadmap in West Java as a case in point, contributing to policy discourse on how to govern the complexity of water security issue concerning making model grounded on collaborating local community participation and regional government support.*
Keywords: *Interconnectedness, water, policy, systemic, governance*

Introduction

Research-based policymaking on water resources management has been reinforced by the current President's instruction as a continuum of the law no. 17 year 2019 and National Government Regulation no. 121 year 2015. The reinforcement is about fostering partnership among government-industry-community. As a case in point, water governance in West Java, particularly in Citarum case is unique. The governing is regulated by Presidential Instruction 15/ 2018 about controlling the environmental damage in Citarum water basin areas. The policy response is cross-sectoral shown by the development of task force. The minister of maritime law no. 8 year 2018 aims at achieving 'integrated water

resource management'. The provincial government has done a lot of conservation programs and forums developed showing their Community Engagements. However campaigns of water scarcity by some NGOs in particular areas without understanding that groundwater is very much different from surface water usage. Social media management is the next issue relating water industries to the issue of Water Scarcity happened by nature and perhaps by merely misconceptions of water security.

Governor's decision on the execution of the Citarum taskforces and the working groups on Citarum Watershed Revitalisation. Before 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 permits 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 the 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 although creating gap in decision making.

As a case in point, Citarum is the longest river in Indonesia 297 km coming across 13 different districts and municipalities. The river supplies three major reservoirs in 3 districts which water hundreds of farming surrounding the area. Urban exploitation pollutes the river. Increasing numbers of textile industry waste, domestic waste, coming together with floating nets from fishery have contributed to the critical condition of the river. 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 Watersheds are in critical conditions (Peta Lahan Kritis Nasional 2018). The problem becomes complicated when the critical areas are under different regional authorities concerning Indonesian Regional Autonomy. State-owned enterprises and Regional Government agencies have conflicting interests to solve the watershed damages. A quick response estimates 836 billion rupiahs to fund the action. Co-financing among different agencies is needed to fund. 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 a 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 paradoxical with the factual condition of the river as waste disposal. Domestic waste along with agriculture and industrial waste. The involvement of military groups results in

both positive and negative impacts. A systemic intervention is needed to redefine water security understanding. Governing water security comprises interconnected aspects and thus call for greater understanding. 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. The paper aims at: 1) Exploring the complexity of water security issue concerning community groups having vulnerable access to water supply, as to what extent the groups could talk into policy decision-making model grounded on collaborating local community participation and regional government support; 2) Contributing to policy discourse on the existing practice of water usage at community level and the existing perceptions about accessibility and needs of water; 3) Investigating the availability, enforcement, and usefulness of regulations concerning environmental sustainability, especially with regards to sustainable water management and justice.

The paper is based on collaborative research conducted by Indonesian, Australian and South Australian scholars under the endeavour research scheme of the Indonesian Ministry of Higher Education. Universitas Padjadjaran is heading toward World-Class University and thereby the collaborative research contributes to the sustainable development goals, with regards to achieving water security requires an effective water management system that involves all parties who have interests in water use, distribution and protection. A leading role of university is to contribute to intellectual discourse in engaging government agencies, industry and community organisation. Arguably, government sectors today are no longer market regulator merely. The role of government shifts from regulating to promoting the market domain to providing space for public affairs. This role is also facilitating and accelerating partnerships between business entities and community entities in terms of water security and water justice towards water sustainability. "[…] there has been a decisive shift from government to governance, encouraging private actors, such as corporations, communities and NGOs, to address social and environmental concerns themselves" (Maher et.al 2019, p.1). Maher's argumentation could explain the interrelationship of government agency, business entity and community organisation in politics, economy, and socio-culture. Discourse of digital governance also influences the interrelationship.

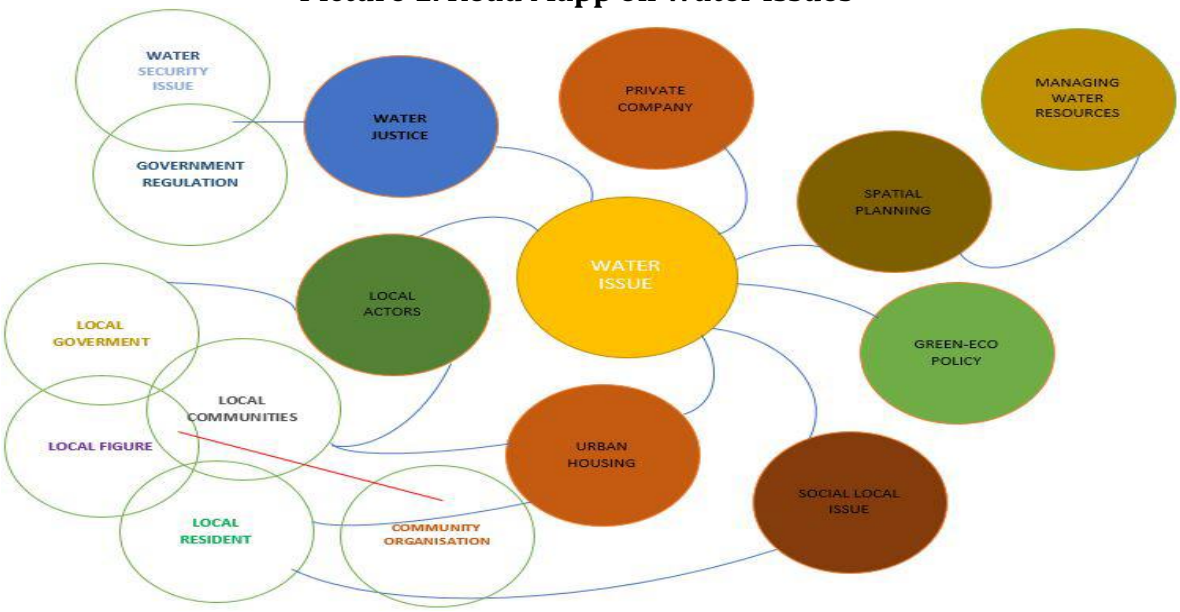
The term water security can be viewed in differing perspectives that are grounded on the community's ability to preserve proper access to acceptable quality water (UN Water 2013). The differing perspectives are likely to do with fulfilling various demands for varied purposes of water, which then comes to the importance of managing water resources including those at river basin. Studies on water security today discuss also water-related disaster. Most attention 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 the environment.

There is an increased need to balance the competing demands for commercial and non-commercial use of water resources. International studies confirmed many environmental problems including water use and conservation have their roots in human behavior. The internalization of proper pro-environment or environmentally responsible norms and behavior are

crucial for a sustainable environment (McKenzie-Mohr, 2002; Steg & Vlek, 2009; Jepson, Budds, Eichelberger, Harris, Norman, O'Reilly, Pearson, Shah, .Shinn, Staddon, Stoler, Wutich, and Young, 2017) and this study argues for the need to understand the norms, perceptions and practice related to water use and conservation in society become as an important step in managing water resource sustainably. In similar vein, regulations are needed to promote and ensure water equity, efficiency and sustainability (Harrington, Krupnick, & Peskin, 1985; Rogers, de Silva, & Bhatia, 2002). In Indonesian context, Cavelle (2013) highlighter that industry accounts for almost half of Indonesia's GDP but externalizes environmental costs through the discharge of chemical wastewater including heavy metals, detergents, and dyes directly into the river despite environmental laws that ban such practices.

The mapping of water-related stakeholders' perceptions, roles and capacity in water resource management is crucial in preparing for the structure for integrated water resource management. Water stakeholders varied in terms of their entity, roles, and functions. Some of them may also have competing perspectives, values and interests that are not easy to unite or have more power and resources to support their roles than others. The understanding of stakeholders in water resource management can provide valuable information about the weaknesses, strengths, challenges and potentials needed to prepare them to work more effectively and sustainably.

Picture 1. Road Mapp on Water Issues



In Indonesian context, lack of coordination and integration between and among stakeholders; inefficiency, corruption and poor management among government agencies; and poor participation of low level of government's and community institutions in the planning and implementation stages have been documented as barriers to integrated water resource management (Cavelle, 2013). A study about water-commercialization in West Java found that refusal to save water for local people may jeopardize the sustainability of water entrepreneurs' business. On the other hand, the community's supply of water depends on the sustainability of water entrepreneurship. Apart from the

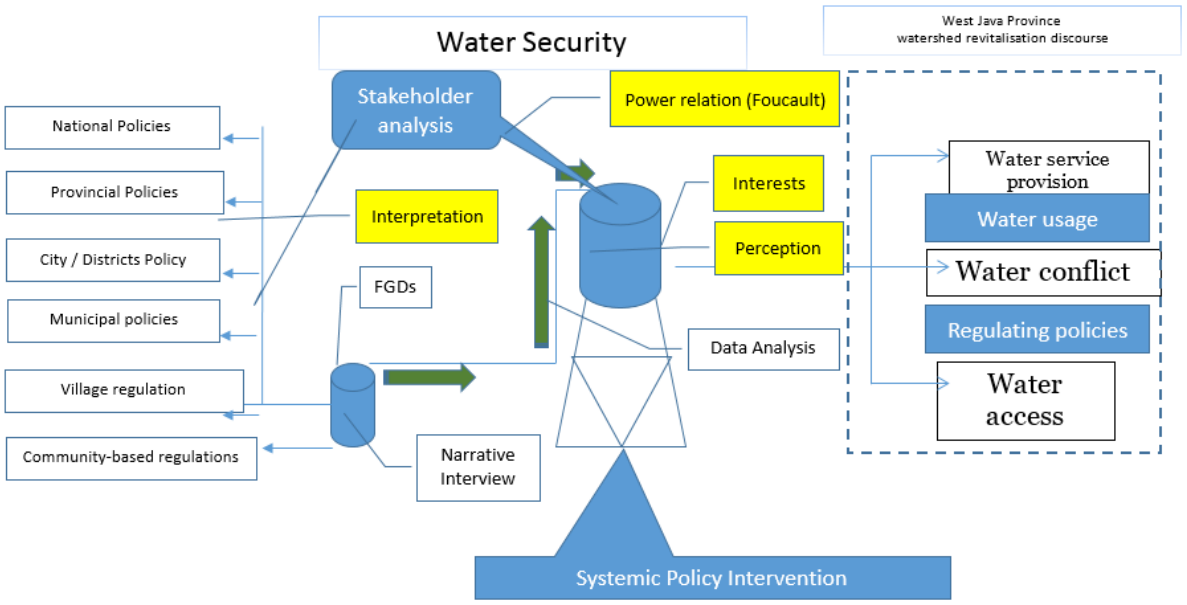
contributions of co-production to the improvement of physical access, quality, and affordability, cooperation between local entrepreneurs and community members extends to conflict management. Potential sources of conflict relating to equity are water disruption, free-riding behavior, and inequalities in geographical distribution of services (Nastiti et al, 2017).

One of crucial issues in assuring long-term sustainability of water resource management is related to water governance. Bakker & Morrinville (2013) argued that adaptive water governance needs to be facilitated through polycentric governance in which "managerial responsibilities are increasingly borne at the local scale as well as with a redistribution of decision-making power among the various scales and social actors" (p.6). This means that such governance enables actors outside government entity including community to take a greater role in the management of environment. The realization of water management needs to consider the complexity and wide array of values, knowledge, experiences and perspective shared by different stakeholders. This will call the importance of participatory water management that applies 'collaborative decision-making process" for modeling, planning and implementing the decision (Korff, Daniell, Moellenkamp, Bots, & Bijlsma, 2012).

Methods

The paper is based on using the focus group discussion and narrative interview in three areas spanning rural areas in West Java, namely Bogor, Sukabumi and Cianjur districts. The rationale for the chosen areas is to explain how water usage, water conflict and water access vary in the chosen areas. The explanation is expected to deliver some insights into the varying ways in which governing water-related issues are represented across other more rural and semi-urban areas in Indonesia.

Figure 2. Mapping on Water Security



The approach is a combination of primary qualitative research and analysis of policy manuscripts as secondary data. Weightings of qualitative responses were complemented using secondary data to triangulate findings of the research with

the findings of other research. This is to confer rigor on the qualitative analysis

This research utilizes qualitative data from 16 focus group discussions combining narrative interviews with different key stakeholders of the water security issue in West Java. The analysis of the data is combined with unstructured observation, policy documents, and transcripts of audio recordings from the narrative interviews as well as detailed field notes from all data gathering activities. Policy manuscripts were used to support the discourse analysis of existing regulations of water resources and water service provision in Indonesia.

In dealing with the audio transcript, the research applies deductive qualitative analysis. Open, axial and selective coding was used to approach text. Themes were developed constructed from emerging ideas identified through the coding from the transcripts, knowledge of existing key literature, and theoretical frameworks related to water policy.

Result and Discussion

Most local community seems to have Lack of guidance of clean water availability and that influences water resources management including the policymaking. Locals see difficulty in accessing clean water within dry season is due to boreholes by industries surrounding rural areas home for natural spring water and river. The locals blamed the lack of water on the boreholes and get it mixed up with any industrial activities – viewing the water scarcity as exploitation

The local government appears to have not known this issue. Water usage behavior in some districts areas. The illustration below shows lack of understanding of rural communities with regards to saving-water behavior or wise water campaign.

Picture 1. Rural Area

The picture shows a non-stop running of clean water in a remote rural area in West Java. It shows common water usage behavior in some Indonesian rural regions. A wasteful water usage because they leave running freely 24/7—no water tap is used.

Each region has its uniqueness in managing water. The issue of water resources management regarding the existence of established industries in the surrounding areas might be an issue. The issue raises media attention for social responsibilities of the (mostly water bottled) industries. Meanwhile, the regional government focuses on water conservation programs grounded on

socio-economic impacts of how watershed revitalization could take in to account the partaking of industries the programs.

Villages surrounding springs and watershed areas as prime water natural resources have different ways of managing water in different villages. This shows raising political economy of water, that could be defined as community awareness of water security in terms of the quality of water and the quantity of water. Government waterworks needs to review the boundary of the water security policy given contesting interests of those outside the boundary of decisions. The waterworks are to take into account underlying aspects and or intervening variable of the policy environment such as climate changes.

Managing water resources is systemic— either the national or regional government ought to consider the complexity of the issue. The policy solutions thereby cannot go on merely administrative solutions. Atypical policy consideration must be able to cope with the potential water conflicts as facts and to consider water justice as values of decision. The West Java provincial government is recognized for its initiatives on governing watersheds within the province. Disaster resilience perspective seems to dominate the discourse. It is also worth noting however that a policy gap could be found on the interactions of the involved key actors in terms of executing the water policy.

Sustaining the given initiatives could be done by reviewing a multi-stakeholder forum with which interactions among the key actors are facilitated properly. The forum then discusses interconnecting issues of water resources management that is to say hearing perceptions of community living along river basins with companies relying on resources accordingly. Interconnecting socio-economic and socio-politics aspects could be a way of better water resources management than just each of the aspects set apart. Therefore, academics could be given a space for contributing intellectual discourse of the interconnections among the key actors throughout the forum.

Water governance in West Java, particularly in Citarum case is unique. The governing is regulated by Presidential Instruction 15/ 2018 about controlling the environmental damage in Citarum water basin areas. The policy response is cross-sectoral shown by the development of task force. The minister of maritime law no. 8 year 2018 aims at achieving 'integrated water resource management'. Governor's decision on the execution of the Citarum taskforces and the working groups on Citarum Watershed Revitalisation. Before 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 permits 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.

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major reservoirs in 3 districts which water hundreds of farming surrounding the area. Urban exploitation pollutes the river. Increasing numbers of textile industry waste, domestic waste, coming together with floating nets from fishery have contributed to the critical condition of the river.

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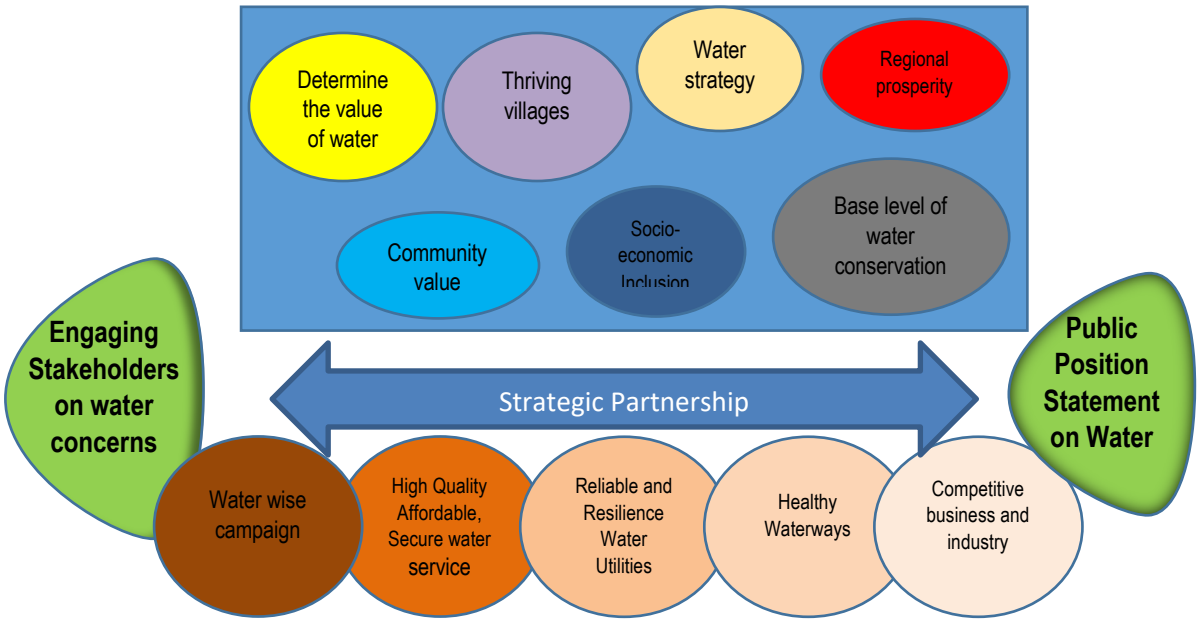
On the other hand, the discourse of water security issue seems to have been influenced by another major theme. De-generation of farmers shapes the way rural policymakers come up with policies on wicked problems (Riswanda 2018) like water security. Farming activities that have to have proper water supply and water access from Cikupa River in Sukalarang municipality for instance are paid attention by the Local government. Boreholes are built by private-owned companies possessing the hectares cultivation lands and somewhat water resources, living side-by-side with the locals. Village community groups however are dependent on local initiatives when coping with water provisions for domestic daily needs cost by cubic meters of water usage. Regulating mechanism for industrial operations are now back to provincial government and thus affects water resources management by village government which is often outside the boundary of policy assessment. This seems to create conflictual interests with environmental concerns. Differing interests coming along with different lenses appear to dominate water -security discourse. Whilst most of villagers rely on community-based water resources, people living closer to urban areas access Municipal Waterworks—the water system, including reservoirs, tanks, buildings, pumps, and pipes, that supplies water to a city, town, or other municipality. The issue of water justice marks the complexity of water security policy discussion. It is assumed that this wicked problem may lead to water conflict in the long run. Arguably, population density of a district could be home of 400 villages approximately is increasing within last decades. The population density brings along factories employed not only locals, but also migrant workers that then add to complex water needs for domestic supply

Government strategies of water security-related problems are more to village-run enterprises resting on sense of belonging and willingness to act for the local community interests. A community initiative networks multi-stakeholder could solve vexing water security problems by creating community coalitions and partnerships. Strengthening local capacity could build trust relation between private industries and the locals to self-sustain water access and water needs. To some extent, an already established corporate social responsibility programs helps community to provide water supply throughout pipelining network system.

Social leaders representing themselves as public relations between private companies and local communities. Leadership (head of village) takes a new role and function in making sure water governance runs to suit the actual needs of people living in water resources areas, and to cope with water justice—gap in water access and water service provision.

Differing lenses within different areas shape the way water policy is implemented. Water security issue calls for policy-networking solution of water provision among villages exist in natural water resources, that is to say networking among those living in backwoods



Bounded Rationality calls for systemic intervention –whose voice counts and according to whose lenses, and what are the domineering views

Bounded Rationality calls for systemic intervention (Midgeley 2004, Ulrich and Reynolds 2010) –whose voice counts and according to whose lenses, and what are the domineering views. How differing lenses lead to different perception on water security; what kind of policy interventions needed—dependent of how and why policy makers and service providers have common grounds on what could be the roots of the roots policy issues. Regulating water is very much about managing water resources to provide equal access to clean water. The provision of water service provision should be grounded on the actual needs of water users. Governance approach could be the core value with regards to proper decision making of water policy. A research-based policy making ought to take in to account a wide-ranging perspective coming across community lenses, government lenses and business lenses. A critical question is about how to review the interconnectedness among the lenses.

Head of Sub-district takes a significant leadership role on inter-agency communication, private-public partnership initiation, and ability to exercise creative programs. Managing water resources regulation cannot stand alone, joining the dots would open up opportunity to resolve long existing water-related problems. The level of density influences the availability of water and then, in the long run, explains what, how and why rural community views water issue. Multi-layered aspects seem to lead to multi-layered ways of communicating water issue and, in turn, create multi-beneficiary actor when talking about water access. Sustainability water resources focus on the initiatives by government that are reflecting the characteristics of subdistricts government

and village government to be innovative, able to seize opportunities, willing to take risks and exercising discretion to achieve the public interest on water justice. The fieldwork by Social Team CDPD FISIP UNPAD explores how actors in government and in non-government exercised the entrepreneurial initiatives on conserving and testing out water-usage behaviour of programs related to water issue in watershed areas coming across Cianjur-Bogor-Sukabumi for example.

Stigma, labels and stereotypes have always become difficult challenges to address when it comes to various initiatives on conserving and testing out water-usage behaviour of programs related to water justice. The work and the scale of government units across sub-districts and villages within the focused areas and other related non-profit based organisations is a timely works. The potential conflicts of water access and the continuum of consequences of local-initiative water provision programs make all the stakeholders must find an innovative ways of working all the time, the whole time by considering multi-layered aspects of water related issues namely policymaking, socio-economic and socio-culture approaches interconnected. Most of the time, the ability to seize the opportunity working in this area is needed. The opportunity to create a join-up programs involving private and social community groups in providing proper and equal water services is vital.

Also, all the stakeholders need to exercise certain level of discretion working in this area. It might be worthwhile to develop frameworks of multi-stakeholder forum to fund water conservation centres as a product of the join-up programs. This study analyses how government-business-public can be put in such forum in the work of all the stakeholders (water actors) in the initiatives on conserving and testing out water-usage behaviour of programs related to water access, water justice, and water conflict coming across the three watershed districts. The analysis highlight actors that may have been placed outside the boundary of decision and vice versa about actors that long have been inside the boundary of decision regarding water-related policy decision making.

Local actors that seem to have been put aside the boundary of policy decision making are, for example, ulu-ulu named after people looking after irrigation channels for paddy filed that exist along rural watershed areas. In many rural areas, community irrigation system operator manages the water service provision from springs to public domain and domestic domain throughout water piping. Water conflict often happens when water access is unequal in terms of different regions within the same administration.

It is assumed that whilst water is accessible for all inter-actions among actors represented by local organisations such as rural support agency, family planning board, peasant's/ farmer's unions stay in harmony. Water conflict is rarely found. Again, water conflict is barely none at villages where both water provision and distribution are well governed. Mutual partnership with Industries is developed based on initiation by youth organisation most times. Jangol or mitra air is a term named after people whose roles are seen important by the local community with respect to represent differing interests within the locals on their needs to clean water. Their role is significant in seeing the population density and number of RT/RW.

Most villagers enjoy water piping system that costs around Rp.15.000,- for each house monthly. As an instance, a bottled water company relies on Cibuntu water springs. This company is allowed to do their business in a land having a sacred

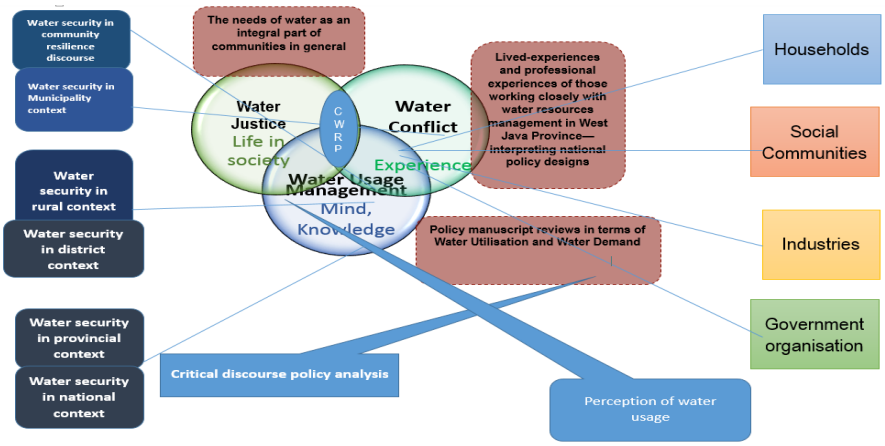
tomb inside the factory location. Some villagers get access still to the tomb whilst the company runs business as usual. This shows an established mutual socio-cultural relation among the locals and a business entity.

PDAM (a government unit) jumps in just recent years on with metred water service provision in some Indonesian rural areas , although some villagers are used to use PAM Warga (a locally initiative water service that nomally deliver their provision as a result of CSR between locals and some particular water industry). Local leaders admit the benefit PDAM brings in to the village by delivering ongoing service especially within dry season, but complains its lack of communication about the rising cost they need to pay monthly per cubic of water they use (normally start from Rp. 50,000, - every month) compared to just Rp.15.000,- fixed rate monthly as a costumer of PAM Warga.

On the other hand, locating a new water resource is an issue considering equal distribution of water to households and enterprises. Most locals exemplify backwoods within the same village have water issue in dry season. A sustainable land usage is due to a natural spring water, which is somewhat restricted from public access particular industry, even so happens in a village where a never-stop water spring produces cubic of water daily.

Community organisations tend to represent socio-economic issues most times, arguing many CSR programs have no sustainable benefit for the locals. Mutual-partnership initiative needs re-organisation concerning sharing interest in water service provision. Collaborations have already been established though some shareholders profiting for particular groups of (socio-economic interests). Village government accordingly takes a primary role in making sure just and fair agreement among the two potential water conflict sources mentioned formerly.

Advocating policy in rural sub-district context, taking in to account those living in remote water access, might be a way of deliberating 'water education' (another key finding) that could take up a proper forum. MSF is again a necessity. As pretty much shown in the indicated actors' relationship. The multi-interest calls for systemic policy intervention. The issue of water security interconnects food security and energy safety since it relates to the balance of the usage of water resources for local farming, industries and domestic usage. The paper puts forward an argument for social-ecological resilience. The following illustration shows the issue of water security that calls for systemic water policy prescription and water policy intervention.



Conclusion

Ministry of villages disadvantaged regions and transmigration of the republic of Indonesia may need to initiate eco-village related programs to zoning spatial regions working in collaboration with Ministry of Public Works. The collaboration could lessen conflicting interests of local communities, private industries, environmental conservation interests and agricultural interests. A multi-stakeholder forum could assist participation of villages government administrators and local community organisation in advocating save-water usage behaviour and in sorting out water justice issue in terms of water service provision partnering government service provider and community-initiated service provider. The forum ought to consider cross-disciplinary approach namely socio-economic and socio-cultural perspective interconnecting water policy design.

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Ida Widianingsih, is an associate professor at Public Administration Department and Head Graduate program in Public Administration, Unpad. She also serves as an Executive Director at Center for Decentralization and Participatory Development Research in the same faculty. Her main research interests relates to public administration and development issues. Her current research entitled "Rural Urban Linkage and Local Government Capacity in Addressing Water Security Issues: Comparative Analyses in Indonesia, South Africa and South Australia" (A research grant from Indonesian Ministry of Research and Higher Education 2019-2021).

Riswanda, is an Associate Professor in Faculty of Politics and Social Science at Universitas Sultan Ageng Tirtayasa where he has been a faculty member since 2008. Whilst serving as research fellows in Universitas Padjadjaran and Parahyangan Catholic University, he is also a reviewer in some international journals and editorial member board in many accredited national journals. He possessed Masters and PhD from the School of Social and Public Policy, Flinders University of South Australia. His research and teaching interests lie in the area of public policy, ranging from policy-making design to implementation, with a focus on critical policy analysis. In recent years, he has focused on better understanding of qualitative research concentrating qualitative methodologies for analysing policy, and applying critical systemic thinking as a contemporary research paradigm. His works are mostly concerned about the commodification of human beings, making the case for treating people as ends in themselves and not as a means to an end. In doing research, Riswanda aims to contribute to intellectual discourses in policy making on approaches to consider the social, cultural, political and economic context of decisions (drawing on critical heuristics).

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