

Conference

The Role of City Diplomacy for Sustainable Environment : Study Case of River Restoration in Bandung

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Abstract. The concept of sister cities as a cooperation mechanism for sub-national actors has been spread and grown significantly for these 70 years. The issues covered can involve not only economics and culture but also the sustainability of the environment. As the world faces extreme climate change challenges, cities become the most vulnerable areas. This paper examined the role of city diplomacy between Bandung and Seoul concerning the restoration of Cikapundung river. How strategic was this cooperation scheme in promoting a better environment and preservation as both cities have large populations and modern lifestyles? The research used qualitative method through a study case. The data were collected through secondary resources, such as government documents, journals, and databases. The analysis found that city diplomacy has a strategic role in solving the primary problem of river damage. Both governments collaborated with other actors to rehabilitate the river. Unfortunately, there was no ongoing sustainable cooperation to preserve the river. There are still more stages that need to be completed to fulfill the standard of river management. We hope there will be sustainable cooperation to support a sustainable environment in the future as the impact could be directly felt by all the living beings within it.

Keywords: Bandung; environment; river management; sister city; Seoul

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1. Introduction

1.1. Global Concern Toward Climate Change

Since 2005, National Oceanic and Atmospheric Administration (NOAA) identified the world was getting warmer at a drastic temperature. After 2014, there's about 7 years of warmest temperature. The temperature has risen from 0.08° C to 0.018° C per decade since 1880 (1). For Asia, it's happened 3 years earlier in 2002. The rising of temperature was +0.17° C around 1910-2020 per decade (National Centers of Environmental

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Information, 2021). This condition brought a huge impact on human beings and the environment.

From 2001 to 2018, there were 74% of natural disaster-related to water. The damage cause contamination of water which lead to limited access to drink and give spillover effect toward various diseases such as dehydration, diarrhea, and even death (2). For rivers, the dark future is already predicted through the simulation of daily river flows through the rainfall-runoff model in 21 catchments in the United Kingdom from the 1951-1980 baseline. Only by the natural changes of rainfall and runoff conditions, the future snowfall and snowmelt events would be reduced around 60 to 80% in 2025. The evaporation also becomes the clearest pattern in the next few years after the huge flows in the winter and opposite in the summer (3). It's coming true because in the 2016 Report Card of UK Research and Innovation (UKRI), the decrease of snowmelt significantly still happened. The river flows increased annually in Western England and some other areas. The low flows in the summer still do not show different conditions from the previous years (4). In Sumatera Island, Indonesia, The Batanghari River basin was disrupted by the potential change of flood inundation by climate change. The change could harm the peatland that supports the wetland environment (5). In Citarum River Basin, West Java Province, Indonesia, the water yield volume was a decline from 2006 until 2018. The rainfall volume influenced it compared to the reuse of the river area (6).

1.2. Multilayer Actors Addressing Climate Change Issues

This climate change issue has not only become states and organizations priorities, but also other actors at the sub-national level. The city, prefecture, town, municipal also face the threat directly and need various strategies to solve it. One of the actions that have been done was through sister city cooperation or city to city cooperation. This cooperation is not only in the scope of inter-city within the state but also has cross abroad with the city in other countries. Ulsan City, South Korea, decided to build cooperation with Chennai City, India, in 2016. The scope includes eco-restoration of the rivers, waste management, and preservation of heritage properties (7). The Cities for Climate Protection (CCP) Campaign was held among 4 municipalities in Thailand (8).

There are also multilateral networks, collaboration projects, and formal organizations among multilevel actors who have the same concern in these environmental issues. There's Asian Cities Climate Change Resilience Network (ACCCRN), C40, International Council for Local Environmental Initiatives (ICLEI), Non-State Actor Zone for Climate

Action (NAZCA), United Cities and Local Governments-Asia-Pacific (8). Each of them has a specific field of counter climate change issues. ACCCRN focuses on transferring the knowledge of climate change for the cities and supporting it by giving technical capacity. C40 covered the network of 40 cities member with direct support, database access, financial partnership, and certain inclusive action in climate issues (9). ICLEI has a wider scope of networks from local, regional, national, and global levels to support the sustainability of development in an urban area (10). NAZCA provides an online network for non-state actors around the world to save the planet from climate change issues. It's under United Nations Framework Convention on Climate Change (UNFCCC) (11).

1.3. Cikapundung River Condition

Cikapundung River is one of the ancient rivers in Indonesia. Its located in *Bandung* city, West Java Province. The length of the river is 28 km started from the Lembang area as the upstream and ending in the *Citarum* river as the downstream. Its become one of the clean water resources for the citizen (12).

From 1919 to 1945, several flood disasters damage the river. Another huge flood also passes through the Cikapundung river in 2009. Hydrology expert from *Padjajaran University* explained more about the human error which causes the river in a worrying condition. The misplace of spatial concept, the infrastructure development in the river-banks, the waste, and the sedimentation along *Cikapundung's* are several factors that contribute to it (13) (14). The position of the river is not in the natural area but the center of the citizen's settlement. The shallow of the river was unavoidable (15).

1.4. The Effort of Bandung City Government Toward Cikapundung River Management Issues

The local government in *Bandung* has a plan to restore the river into open public space (RTP) from 2013-2015 (16). The area will be turned into a waterfront city called '*Teras Cikapundung*' or *Cikapundung Terrace*. This project not only involved the central government under the Ministry For Public Works and Human Settlements (PUPR) but also cross-border actors such as the government of the Netherland, the government of France, and the local government of Seoul, South Korea (15) (17).

Bandung and *Seoul* initiated sister city cooperation in 2014 and signed a Letter of Intent in 2015 (18). The cooperation under the Ridwan Kamil government focuses on

smart city development. The restoration of the river in *Cikapundung* was part of the cooperation program (19).

This cooperation brought positive impact not only for *Bandung* but also for other municipals. General Director of Water Resource of PUPR said that the *Cikapundung* transformation was a success and could be the national pilot of river restoration. This is because accommodated a representative facility and infrastructure for people. Both functional and esthetic aspects are also found in this river (20). The regent of *Cirebon* and *Subang* was interested in the revitalization project and had already built communication with the Governor of West Java which also was the previous major of *Bandung*, *Ridwan Kamil* (21). In 2019, *Ridwan Kamil* as the governor of West Java expand his vision through the restoration of the *Kalimalang* river in Bekasi (22).

Unfortunately, there's no further information found related to the cooperation in the follow-up of river restoration plan since 2016. Some potential problems still rise from the river utilization. The support facility such as food courts brought potential trash and waste. Cleanliness of the area and waste management should be maintained (23). Domestic and public trash still fill the river of *Cikapundung* in 2021 (24). Jong-Ho Shin, the person in charge of *Cikapundung* restoration already said that there's should be a master plan for river rehabilitation. Sanitation recovery was the priority action and followed by increase economic condition around the river (25). But until 2020, there's still the sad condition of sanitation in these riverbanks. There's no standard operating procedure implemented for household sanitation in this area (26).

How far the sister cooperation could contribute to the optimization of *Cikapundung's* restoration and sustainability of the environment? If the goal of the restoration was to manage accommodates social activities, preserve water quality, flood control, the previous steps seem still has a long way to accomplished (27). This paper seeks the scope of sister city implementation between *Bandung* and *Seoul* in *Cikapundung* river restoration. It will be followed by an analysis of the potential capability of both actors to strengthen their cooperation through a sustainable river management concept. From the analysis, the research expects in mapping the stage of river restoration. From this mapping, hopefully, this paper could contribute to giving prospective capital which could explore by both sides in optimizing river management. It also suggests a detailed strategic partnership for *Bandung-Seoul* in the future related to supporting global environmental protection, from the river aspect.

1.5. Bandung-Kawasaki Cooperation in Improving Water Quality: Previous Study

The cooperation between these two entities was formalized through the sign of the Memorandum of Understanding (MoU) in 2016. The goal of cooperation focus on bringing back a better quality of water in the *Citarum* river. The operational project covered two measures. The first one was the monitoring of water quality using data management and utilization. Methods of inspections also followed. The second one was applied regulating and participatory approach. The participants include but are not limited to industries and household sectors. The goal also offers dissemination of the experience and the know-how of the *Citarum* project to other local governments (28).

At the operational level, the cooperation activities categorize into three forms. All activities put the *Kawasaki* as the mentor for the *Bandung* team. The first one has conducted a workshop to support the formulation of a water quality improvement plan. The second activity followed was giving lectures on regulating or participatory approach and monitoring. The third activity has held dissemination of know-how to other local governments (28).

There's a specific target reached in each activity. For the first activity, The participant gained an understanding of the regulatory or social administration framework for Japan. The participant also got deepened understanding of the monitoring framework and its implementation. The second activity gave the participant knowledge and soft skill of procedures and practical exercises related to regulatory administration. The participant could identify the issues and make some points in formulating and responding to the river water quality improvement measures of *Kawasaki* City in the past. The knowledge of decentralized domestic wastewater treatment helps their response to the condition based on the specific situation. The business orientation is also part of the lecture theme to promote wastewater treatment. In dealing with a certain obstacle, there's also a topic related to information disclosure and the risk of communication. Maintaining the accuracy of water quality analysis becomes the main theme or lecture. The third activity, the dissemination session was sharing certain experiences, methods, which could be adopted in Bandung. Some of the Japanese technology-shared was "*jokaso*" and septic tanks (28)

1.6. The Restoration of Cheonggyecheon River

The river is located in the capital city of South Korea. It's an ancient river which has already been there for 600 years. The length of the area is 605.6 km². It has 10.3 million people. Since the early 20th century the river becomes people's gravity as the water could fulfill their daily needs. The people settlements in the riverbanks getting slum and causing a major problem, sanitation. The government tried to find a solution by covering the area on the highway in 1958. Until 2002 the highway brought the market environment on both sides of the street. Another form of density raised and becomes another problem. There are also safety problems related to the highway which cost a high amount of maintenance (29).

In 2002 the government decided to restore the area. There are some reasons published. It's a fundamental solution to the safety problem. It's also part of the recovery of history and culture. Revitalization of the downtown area is a must to balance regional development. And a shifting paradigm of urban management leads to the development of high quality of life and a friendly city for a better environment (29).

The first part of the project was to revitalize 5,84 km of the river by demolishing the structure of the highway. The river design was reconstructed to meet the 2nd-grade local river standard. It also has to secure the stream capacity for 200 years of frequency of rainfall (118mm/hr). The design also considered the flood level with an accurate estimation.

The restoration will contribute to a better water supply. It includes a waterway plan, water supply plan, and targeted certain water quality-better than the 2nd grade-. The sewer system was also prepared with a combined design to manage rainfall and wastewater. The capacity for both systems targeted 3 times of estimated wastewater. The design of the bridge along the river should minimize flow resistance but also could create cultural places. There're 22 bridges planed to be built at that time. The design of the bridge was put in the international concept design competition. The landscape design is divided into three concept areas. The upstream use a "history" concept, the middle use "culture+urban", and the downstream use the concept "nature" (29).

The restoration project also faced various obstacles and challenges. *Cheonggye* road has already become an urban backbone corridor. Around 170.000 vehicles pass through this highway every day. The merchants around the project area were also disturbed by the pollution of the project. The project also influences the decline of business activities. These challenges could be overcome by the team and government with the provision of a better public transportation system and improvement of the traffic system. There

was a subway system and bus-only lane prepared. Detail surveys on the markets and continuous dialogues also bear fruit. The government would give stimulate business activity, financial support and subsidies, special arrangement for street vendors, and a special business center in an outer area (29).

The project spent 3 years of progress, from January 2003 – March 2006. The monitoring program is still part of the comprehensive project which should be done. The monitoring aspect includes land use, central business district (CBD) Industry, environment, ecology, traffic, and real estate (29).

The project not only brought direct impacts but also indirect impacts. The changes in the urban management paradigm rise among the people, the community, the government, the Seoul people. The historic restoration proved could happen and lives side by side with the modern lives. Nature and ecological restoration could be seen along the river. There's also a CBD regeneration. And last but not least, the effort could be a good example of solving conflict over a public project and a proof of successful project management (29).

2. The Method

This paper will be examined with qualitative, specifically case study method. From the international relations perspective, *Lai* and *Roccu* expand the construction meaning of the study case. It's not only a selected case chosen by the researcher or based on the trending events or phenomena at that current time but it's "*...constructed through a dynamic interaction with theory...knowledge is produced through extensions rather than generalization*" (30). They offer to extend understanding of study case method with non-positivist perspectives or at least non-positivist experience on research. So, the journey by using this method could be operational or counter-operational of analytical tools (theories, concepts, models, frameworks, etc). During the research process, the case study method offers certain construction through simoultan relations in observation, while still keeping an eye with global power and its dynamic situation which could shape further deep analysis. The data collection for this research was gathered from secondary sources such as government documents, government statements, papers, journals, reports, and databases. The scope of research was also limited to river restoration cooperation between Bandung – Seoul from 2016 until 2020 as the expert from Seoul was appointed as the consultant of the restoration. Its analysis from one side of actor perspectives, *Bandung*, as the data gathered mostly could be accessed.

3. The Conceptual Frameworks

3.1. Sustainable Urban River Management

There are few conceptual frameworks to analyze this study case. The first step of analysis will be explained through sustainable river management in urban area concept to describe and evaluate the *Cikapundung* restoration program. These concepts were chosen because the river is located in the central activity of *Bandung* city. The process of collaboration between Bandung and Seoul will be analyzed using the role of sister city cooperation.

According to *Larsen and Gujer (1997)*, building sustainable water management in urban areas requires various components to be considered. Providing the services needed by the citizen is a vital provision. The need to provide public facilities in this river doesn't need to meet with high-technology support. It's because the preference of the people who used it will be change over time. Functional purposes are the main concern. The research for management should make sure that there are no extended sources exploited. It's better if only minimum sources are used and optimized. The more resources involved, the higher possibility of subjective evaluation, and sometimes it intersects with the political interest of the actors related to the issue. To prevent social problems, there's a need to build a flexible and relevant system that could address future challenges. For example, the potential waste produces after the technical restoration, the management of the economic sector in the area, etc. Making acceptable indicators for the changing variable is also important for sustainable development. These changing variables include but are not limited to "...a constant increase of nitrate, a constant decrease of water table..", and the constant level of biodiversity. The active approach in managing the river is also part of the mindset which needs to be changed. The use of wastewater, for example, should be seen as a prospective alternative method to preserve the water and it will grow to better management as time passed. New technology will become a supporting system of sustainable urban water management. But *Larsen and Gujer* suggest keeping using essential infrastructure which already existed. This is also part of addressing any transition condition so the response could be taken lightly without any burden (31). For the next 20 years, *Larsen & Gujer's* framework still matches with the condition and is enriched by *Zafirakou*. She agrees with the minimum use of resources by efficiency use from rainfall. The groundwater should be managed in a sustainable method. The future projection of the growth of new technology from *Larsen & Gujer* is also explained by *Zafirakou* with the desalination

of seawater for certain purposes. Surface water is also one resource that becomes a priority to be optimized (32).

3.2. Environmental City Diplomacy

As sustainable urban water management is not only pursued by the local government itself, there's a need to collaborate with other actors to maximize the effort and accomplished the target. Sister city cooperation or city diplomacy is one of the conceptual frameworks in which cities engaged various forms of relationship to reach their interest in the international stage. The political mechanism is one of the basic and strategic forms to build a relationship with others. It's flexible, pragmatic, and has a constant growth of changing as the dynamic of global situation and orientation. Of course, the actors played professionally for this diplomatic activity (33). Mellisen invites us to see more roles of city diplomacy from six dimensions. The reasoning to decide these six dimensions were "*...most often referred to in the literature and by interviewees...*". These dimensions are "*security, development, economic, cultural, cooperative and representative dimensions of city diplomacy*". Insecurity, the role of the city keeps running traditionally especially in conflict conditions. The new pattern identified was the presence of non-governmental organizations (NGOs), private actors such as civil society, religious groups, and businessmen (33). The role of city diplomacy takes place as the agent in conflict prevention, conflict mediation, conflict resolution, and peace-building (33). In the development dimension, the diplomacy held by the local communities played a big role in giving development assistance. It's could cover "*humanitarian development assistance and emergency development assistance*". For the economic dimension, the diplomacy role is as the guarantor of the success of potential economic gains from the cooperations. The other role in this dimension is to ensure the growth of export activities through the exchange of products, knowledge, and service. It's also played as the authoritative actor in combating global warming. In the cultural dimension, *Melissen* agreed with the UCLG statement which put this cooperation's role as the creator of the employment sector, initiator for regeneration of urban, and part of social inclusion (33). She also explained the other role which is concerned with exchanging values(33). The role of city diplomacy in the network dimension means could achieve higher targets or goals through the organization on a specific level, either regional or global with other actors. In the last dimension, representation, the role is a representative at the international stage. This representative role includes the capability and effort to participate in the decision-making process on regional or international organizations.

The goal of participating is to gain more influence. This goal also describes another role called the lobbyist (33). All of the dimensions showed the pragmatism of cities' effort rather than the idealism in the earlier present.

Grandi (2020) tried to specify environmental diplomacy roled by local actors. The rising of city networks cooperating on environmental issues such as climate change showed how urgent this thing is for them.

“Moreover, the environmental component of city diplomacy often emerges as a perfect example of how municipalities can combine international cooperation and advocacy on values with concrete actions granting a much-needed positive local impact. The accents on urban resilience to climate deregulation, central to a growing number of cities and city coalitions, symbolize it (34).”

Their network was built from the small or even no commitment of central government in dealing with the global agenda on the environment. Furthermore, during the Covid-19 pandemic, *Grandi* projects the further role of city diplomacy in taking the action to raise awareness on *“the current economic system’s environmental impact”* (34). This analysis occurs as the lockdown policy around the world brought certain positive impacts in making the air clearer and more fresh, the earth getting greener, and the sky free from vehicles and industry massive activity (34).

4. Results and Discussion

Bandung City and *Seoul* Municipal deal to cooperate in the restoration of the *Cikapundung* river in 2016 (35). In the early stage, the local government of *Bandung* invited the expertise of river restoration from *Seoul* (17). *Jong-Ho Shin*, a Professor of Geotechnical Engineering from *Konkuk University*, and also a representative of the *Seoul* government, gave some advice from his preliminary survey. The master plan was the first homework to be clarified. The next priority of restoration action is changing citizen mindset, especially those who live on the riverbank (36).

The cooperation between these cities could be the continuation of earlier cooperation in the multilevel layer. At the national level, the central government Republic of Indonesia built a team with the Korea International Cooperation Agency (KOICA) and the Economic and Social Commission for Asia and the Pacific (UNESCAP) in 2011 (37). They launched rainwater harvesting projects by connecting central government programs with the community at the local level. There were two pilot projects to implement integrated rainwater and wastewater management system (IRWM). Both projects invite academics

from respected universities in Indonesia. They are the *Bandung Institute of Technology* (ITB) and the *Pasundan University* (UNPAS). The subnational government actor, the *Bandung* city government also be part of these projects. The first project was mainly handled by ITB with river *Cikapundung* as the pilot area. The main purpose at that time was to “develop, implement, and apply innovative models for bio-eco engineering technology”(37). The monitoring of water quality which involved the community was the implementation strategy. The project found four general outcomes which develop the utilization of eco-technology. It also involves the community as the closest user of the river. The project also assure the sustainable component from sustainability action.

First, the project will produce models and guidelines for stream restoration through bio-eco technology. Second, the pilot application of integrated rainwater harvesting and wastewater treatment technology will be undertaken for the local communities. Third, local communities are involved in elaborating eco-hydrology methods, for instance, a design of bio-filtration techniques to manage waste streams before the wastes join the local stream connected with the Cikapundung River and to enhance ecological links between various water components. Last, integrated rainwater harvesting guarantees a steady drinking water supply for the communities (37).

There are some similarities between the *Cikapundung* river and the *Cheonggyecheon* river so that the mayor of Bandung proposes cooperation. The rivers are located in the center of economic activities and are full of citizens' settlements. The damage from trash, waste and natural disasters is also found in both places. The restoration also involves the central government and becomes part of the 'flagship' project (20,38).

Unfortunately, after the visit of the *Seoul* representative above, there's no further evidence found of the detail of cooperation between *Bandung* and *Seoul* related to *Cikapundung* restoration. The analysis then used the closest evidence related to the suggestion from the *Seoul* representative invited by the *Bandung* government in December 2016. The focus of the master plan, addressing sanitation issues, and changing the mindset of the citizen was the baseline of analysis.

Based on sustainable urban river management concepts, there's different orientation and goal from the collaborative team project with the suggestion of management. From the website of *Citarum* River Basin Center, after the first phase was done in 2016, the second phase of restoration in the upstream area will be focused on building a jogging track along *Dago* forest park (Tahura) and skywalk. The priority of this restoration project was to accommodate social activity and to be an international tourism destination. By adopting the concept of a modern river park, there will be public facilitation such as a

jogging track, education area, open access podium, and commercial sport (39). After the project was done in 2016, there's a statement from the head of *Citarum* River Basin Center, *Yudha Mediawan*, of other certain goals of restoration. The goal was sustaining water quality and flood control.

Based on the basic purposes of sustainable urban river management, the restoration in the *Cikapundung* river succeeded to provide various facilities needed by the citizen. There's a spot for selfies, foot therapy, playground for children. All the citizens could access the city parks, the squares, and the pedestrian paths, at no charge. Other facilities which meet citizens' needs such as indoor and outdoor mosques, gazebos, river stones, wooden chairs, and dancing fountains help to enjoy the fresh area. The education room provides natural sciences knowledge. There's a guide staff who help to answer and explain all the visitor questions. The *Cikapundung* Terrace fulfilled the need of *Bandung* people to interact, gather together, and recreation (40). But because of the current Covid-19 pandemic, until May 2021, there's a decline in the visitor. The local government announced a restriction of mobility for its citizen to avoid the rise of a positive case of the Covid virus (41).

The second suggestion from *Larsen* and *Gujer* for the use of current technology and not to push on high-technology is also found in almost all areas of the *Cikapundung* river. *Cikapundung* terrace as the social spot for all the activities only use current technology and provide what nature has already prepared. The newest attraction which use expand technology but is not new for global tourism object was the water fountain. There are also no other resources exploited so far in this river. The participation of people along the *Cikapundung* basin was detected low in 2014 and needs awareness programs for the people. Meanwhile, formal education for the youth generation is also important to change the mindset (42). Good news rise as the community's concern toward the river creates the 'Kunafe *Cikapundung* 2018' action project. The collaboration of the two communities focuses on cleaning the river regularly and giving awareness to the people along the basin (43). Related to the management of surface water in river *Cikapundung*, there's no specific data could be found from the government side, But there's research that shows a better quality of water of the river. There's increasing in total dissolved solids (TDC) and electroconductivity (EC) by around 15 %. The level of dissolve-oxygen (DO), and pH also reach the permissible limit (44). From the actual condition in the period of 2016 – 2021, there is some effort to succeed in reaching sustainable urban water management, but not in the permanent condition. More strategies still need to be developed and manage in a clear master plan.

In the context of city diplomacy, as the prove of cooperation could only be traced from the news, the analysis is vulnerable but at least could meet the closest condition and contribute to a sustainable partnership among the *Bandung* government and *Seoul* government. The meeting of *Bandung* mayor and *Seoul* representative in 2016 discuss the plan of using *Seoul* consultant for river restoration (45). The continuity of *Ridwan Kamil*, ex-mayor of *Bandung* City from 2013 – 2018 and the current governor of West Java Province (2018 – 2023), vision on river restoration in the area of his authority show a positive sign for further cooperation with the *Seoul* government. The *Cheyonggyesheon* river in the heart of *Seoul* city still becomes the best reference for him to transform more than 12 spots of the river in West Java province (46). The commitment of the current mayor of *Bandung* city, *Oded M. Danial*, with the ambassador of South Korea, *Kim Chang-beom* to continue the cooperation with *Seoul* and Suwon showed more potential for cooperation in the future (47). At this point, the role of their city diplomacy in countering climate change from river restoration programs also gives a positive impact regionally, nationally, and globally.

5. Conclusion

The concern of climate change issues, specifically toward urban river management has been global agenda with the national and sub-national actors as the key player. The subnational actors such as *Bandung* city and *Seoul* municipal are the examples of the front yard of these environmental threats. Through sister city cooperation, they could use the opportunity to play their role in environmental sectors. *Seoul* through the incredible experience of restoring the *Cheonggyecheon* river has inspired the mayor of *Bandung* city to copy and adjust to the domestic conditions. The vision internalized and brought in a higher level of authority as the mayor becomes the governor of a bigger area, in West Java Province. The prospective role to mitigate and counter climate change through city diplomacy could be seen even though lack of primary data.

This supporting data in the next research could elaborate a deeper analysis toward implementation of city diplomacy of *Bandung* and *Seoul*. There are still basic problems such as sanitation, changing the mindset of people, and management of flood should be solved. *Seoul* has a better experience in dealing with these issues and *Bandung* could take the chance to initiate more cooperation. An active response toward the future threat of climate change could be a strategic point to build a stronger partnership with wider actors involved from both sides.

Various recommendations from the scholars and the research could be potential strategies to rebuild the city diplomacy between *Bandung* and *Seoul*. Yustiani recommended education for raising people's awareness, "...strict law enforcement, and massive development of sanitation infrastructures" (48). *Seoul* as a progressive city among other cities in South Korea could be a model for river governance and a multilayer approach in a sustainable environment. Such as the restoration of the Incheon stream from 2003 -2011 showed a manageable governance system through accommodating various views from the government itself, the NGOs, and of course the resident. Their special committee serves as a supporting system for the run of the governance in that project. The intensive communication of the team project brought stakeholders support which accelerate the progress of the project (49).

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