

Empowering Urban Stakeholders Capacity for Governing Low Emission Development through Transnational Municipal Networks: A Case Study of Bogor City, Indonesia

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Abstract

Cities emerge as important players to cut carbon emission at not only local level, but also international level. Their involvement in global climate change governance are growing significantly within transnational municipal networks, including ICLEI and the C40. The networks provide platform for municipal governments around them to join collective effort in meeting the global target of emission reduction. Previous studies found that such network provides opportunity to build capacity for governing climate change mitigation and cities in Europe and North America have taken the advantage from it. Considering the growing membership of cities from the Southern Hemisphere and their potential contribution to the increase of emission, this research aims to explore whether and how a transnational municipal network empowers capacity of urban stakeholders in a developing country for low emission development. Currently, there is still limited studies capturing their experience to utilize the network to achieve this purpose. This study took a case of the City of Bogor that its government is affiliated to ICLEI network. In-depth interview and secondary data collection were conducted to examine influencing factors, process, and implications of the capacity building. This study found that the network administrative organization deploys four main functions to build local capacity in Bogor: 1) technical assistance, 2) information exchange, 3) financial assistance, and 4) political advocacy. Working with large number of organizations in the process, the network administrator fails to keep the collaboration intact. Lack of human resources, selective participation, and single coordinator mechanism force the local stakeholders to be passive in the process. Eventually, the collaboration is beneficial only for entities who work closely with the network administrator or have top priority in low emission programs. This study recommends a transnational municipal network administrator to place its human resources in their city members to maintain the collaboration with local stakeholders.

Keywords: *transnational municipal network, capacity building, urban governance, low emission development, Bogor*

1. Introduction

As the center of human activities, urban areas emit anthropogenic greenhouse gases (GHGs) and scholars said that the gases is the main contributor of climate change. Vehicles fossil fuel combustion, industrial process, electricity generation, buildings cooling, and heating are some examples of human activities that consumes energy and produces GHGs. Thus, urbanization contributes significantly to GHGs increase. Rapid population growth, especially in developing countries, leads to larger energy demand and consumption. Marcotullio et al. (2013) found that relatively small growth in urban population leads to disproportionately larger emission increase on average. Dhakal (2009) found that the rate of CO₂ emission

per capita in three major Chinese cities with population over 10 million people -- including Beijing, Tianjin, and Shanghai – doubled within a decade (1995-2006). For example, Beijing produced about 8 ton of CO₂ emissions per capita in 1995, whereas it produced 16 ton per capita in 2006.

While deforestation is the primary cause of GHGs emission, the contribution of cities at the global level is alerting. There was approximately 67 percent of GHGs in the atmosphere emitted from urban areas in 2006 and the number is forecasted to rise to 74 percent by 2030 (Seto et al. 2014). Transportation sector shared 20% of total urban GHGs emissions while residential sector generated 11% (Marcotullio et al. 2013). In the future, cities are anticipated to consume more energy and generate more carbon dioxide because urbanization processes will continue to stimulate rapid population growth, land use change and economic agglomeration (Madlener and Sunak 2011, Creutzig et al. 2015).

There are global efforts to cut the GHGs emission and, ultimately, to tackle climate change. State actors have taken serious effort to address this problem through international treaties facilitated by the United Nations Framework Convention on Climate Change (UN-FCCC) since the Earth Summit in Rio de Janeiro, Brazil in 1992. The Kyoto Protocol in 2004 resulted some instruments that facilitates state actors who participated in the treaty to reduce emission, such as the Clean Development Mechanism (CDM), the Joint Implementation, and the Emission Trading. The UN-FCC convention held in Paris in 2015 resulted the ambitious target to keep the Earth temperature below 2° Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5° Celsius.

However, during the negotiation process, state actors have faced difficulty in fulfilling the reduction target within the timetable. The U.S. could not ratify the Kyoto Protocol due to political rejection at the national level. Canada had been struggling to achieve the target below 6 percent by 2012 when its emission still was 30 percent in 2005 (Barrett 2009). The Paris Agreement will force greater effort for each country to undertake the on-going voluntary mitigation measurement by 2020 (Schleussner et al. 2016). Eventually, it will also give pressure to the state actors to fulfill the target because they have to apply emission reduction strategies in which, for some parties, those might threaten economic growth (Deutch 2017).

While the national governments often meet difficulties to achieve the global target, there should be consideration to shift our focus to local action. Since the production of GHGs occurs in city, urban stakeholders are potential to become frontiers to cut emission at local level. However, there are challenges to bring the importance of low emission development into local agenda, especially poor institutional awareness and capacity regarding environmental issues, lack of environmental and social data, and limited public investment and innovation in climate change problem hamper their ability to anticipate the consequences (Birkmann et al. 2016, Heinrichs, Krellenberg, and Fragkias 2013). Such condition usually could be found in developing countries where the local stakeholders are still prioritizing to meet targets related to local economic development and improving living conditions. Nevertheless, considering rapid population increase and economic growth, they must start improving their capacity to low emission.

In fact, urban stakeholders have become active players in mitigating GHGs since the early 1990s. Municipal authorities are engaged in transnational municipal networks that facilitate joint efforts to mitigate increasing greenhouse gas emissions as well to cope with effects of climate change. Some examples of recognized transnational networks that engage municipality governments include ICLEI (International Council for Local Environmental Initiatives), the C40 Cities Climate Leadership, and Energy Cities. These networks have established platforms for cities to exchange information and best-practice experience regarding climate change (Bulkeley et al. 2014). Their involvement in this issue started in the Rio summit in 1992 and such network and their members are growing significantly since then. The earliest membership consisted of municipalities from Europe and North America, but a number of cities from Southern

Hemisphere participating in such network has been quite significant over the past decade (Andonova, Betsill, and Bulkeley 2009).

Previous studies found that such network provides opportunity to build capacity for governing climate change mitigation and cities in developed countries take the advantage of it. Considering the growing membership of cities from the Southern Hemisphere and their potential contribution to the increase of emission, this paper aims to explore whether and how transnational municipal networks empower the capacity of urban stakeholders in a developing country for low emission development. Currently, there is still limited studies capturing how the local utilizes the network for this purpose and what factors enabling the building capacity. Most of the selected case studies in similar studies are cities in developed countries, especially in the U.S. (e.g. Betsill and Bulkeley (2004) and Europe (e.g. Gustavsson, Elander, and Lundmark (2009)).

This research aims to explore whether and how transnational municipal network empowers urban stakeholders' capacity for low emission development. This study selected the City of Bogor in Indonesia as the case study to enrich lesson learned and experience of transnational municipal networks in developing countries. The following content of this paper consist of five parts. The third section provides an explanation of the approach and methodology applied in the research is in the fourth part. It also contains some background description about the City of Bogor. The fourth section provides research results and discussion. The fifth part discusses how the finding may have implication to policy and planning practices in the city and the last one concludes what we learned from this study case.

2. Transnational Municipal Network Governance on Climate Change

Municipal authorities around the world have been engaged in climate change governance since the early 1990s. Bulkeley (2010) noted that the birth of city networks working on this issue has two characteristics. First, the early members were cities from North America and Europe. Second, their main activities focused on mitigation efforts. Initially, there were three municipal networks: *ICLEI*, the *Climate Alliance*, and *Energy Cities* (Kern and Bulkeley 2009).

ICLEI is a transnational municipal network that has the largest municipal members. It was initially formed in 1990 with support from the U.S. Environmental Protection Agency, the City of Toronto, and some private organizations to conduct a project for city plans and GHGs emission reduction tool (Lambright, Chjangnon, and Harvey 1996). Accordingly, the network organization administered the Cities for Climate Protection (CCP) Campaign to facilitate emission reduction of local governments. Through this program, it engaged more than 561 local governments worldwide by 2002 (Betsill and Bulkeley 2004). In 2017, the membership reached 1,500 municipalities.

The existence of transnational municipal network in climate change governance has become significant since the Rio Summit. Bulkeley et al. (2014) found that the members of transnational municipal network have been growing over the past twenty-five years, especially from the Global South. For example, By 2002, the ICLEI's CCP Campaign had expanded the diversity of its membership with the participation of cities from India, Mexico, the Philippines, and South Africa (Betsill and Bulkeley 2004). In addition, there were new network establishment, including the C40 Cities Climate Leadership Group in 2005 and the 100 Resilient Cities in 2013. The achievement of the CCP Campaign inspired the establishment of municipality network within certain geographic areas or within national boundary, such as the ICLEI's CCP program of Australian cities and the U.S. Mayors Climate Protection Agreement (Bulkeley 2010).

The involvement of non-public entities also accelerates the achievement of low emission development programs initiated by the network. International development organizations, NGOs,

philanthropies, local governmental associations, research institutes, and other organizations are considered as affiliated partners or associated members (Nakamura, Elder, and Mori 2010). For instance, the U.S. Agency for International Development (USAID) provides financial assistance to implement ICLEI programs in India, Mexico, and the Philippines.

2.1 Transnational Municipal Network Function in Climate Change Governance

A transnational municipal network creates a platform that enables the participant cities to confront climate change collectively. It has at least four governance functions to steer and to engage the members, including information sharing, technical assistance and implementation, and rule setting (Bulkeley 2010, Betsill and Bulkeley 2004, Andonova, Betsill, and Bulkeley 2009). In addition, the network provides financial and political assistance to leverage local authorities' legitimation in climate change governance at both local level and international level (Nakamura, Elder, and Mori 2010, Betsill and Bulkeley 2004, Román 2010, Toly 2008).

Information sharing is the core of transnational municipal networks. The ICLEI's CCP program has background assumption that local climate change action is hampered due to limited information about climate-related science and effective measurements to deal with this problem (Betsill and Bulkeley 2004). For example, the missing information includes: (1) current emission status within a city jurisdiction, (2) effective strategies that can be done to reduce emission, and (3) the co-benefits of doing mitigation. Mitigation is also often linked to an effort to limit local economic development as it cuts fossil fuel consumption (Bulkeley 2010).

Therefore, to fulfill this gap, transnational municipal networks disseminates precedent best practices from their members, such as Växjö in Sweden that has achieved fossil-fuel-free city (Gustavsson, Elander, and Lundmark 2009). The information outreach can be done through face-to-face meetings (e.g. seminars and conferences) hosted by network administrative organizations or local authorities (Betsill and Bulkeley 2004, Nakamura, Elder, and Mori 2010). The invited participants are expected not only to share their experience but also to build trust and to share norms (Betsill and Bulkeley 2004). For example, the C40 holds a biennial event of city mayors' summit as a medium for exchanging most recent issue and their experience in climate change action. Transnational municipal networks also transmit information through webinars and online media. They publish case-study reports and the participants can access the reports and tools for survey and technical guidance through their websites (Nakamura, Elder, and Mori 2010).

Technical assistance brings "know-how" experience to the network members. Some of transnational municipal networks empower local authorities through pilot projects development, such as the ICLEI's CCP Campaign. To ensure the implementation, the network administrative organizations provide expertise, labor, and technology (Andonova, Betsill, and Bulkeley 2009). Nakamura, Elder, and Mori (2010) found more specific forms of technical assistance, including feasibility studies, on-the-job training, needs assessments, support for project formation, and workshop sessions. The City of Vancouver in Canada had its climate change adaptation strategy in 2012 with the help of technical facilitation provided by ICLEI and University of Washington (City of Vancouver 2012). A technical advisory was conducted through a series of workshops where general managers from selected agencies assisted by the facilitators conducted a vulnerability assessment and refined the adaptation strategies.

Rule setting is a set of norm and mechanism that ensures network maintenance. Andonova, Betsill, and Bulkeley (2009) argued the rule is "softer" or less restricted than traditional regulation applied in domestic governance because the social bonding is constructed based on voluntary commitment and participation. Rather, the rule could encourage participation and increase competition among the

participants. This includes a recognition and a benchmarking mechanism (Bulkeley and Newell 2015). The recognition is given in the form of an award for the network participants that are successfully meet their goals. The C40 holds an awards event for recognizing global cities for their leading policy innovation in tackling climate change. Boston in Massachusetts was awarded by the C40 for its strategies through its 'Greenrenovate' program that mobilizes its citizens to implement the city's climate plan (C40 2015). Another rule is benchmarking that measures cities progress in meeting their climate change action goals. The measurement demands municipality staff to conduct monitoring and reporting the progress voluntarily. ICLEI, the C40, and technology companies worked together to develop a software program that helps local authorities to monitor, estimate, and report GHGs emission (Betsill and Bulkeley 2004, Bulkeley 2010).

To finance the activities and the pilot projects, the networks' financial resource comes from various sources, including private companies (e.g. banks and energy service companies), national governments and international donors. Betsill and Bulkeley (2004) investigated the funding of ICLEI's operation and project. ICLEI financed the CCP regional campaigns through the help of national governments where the projects are carried out, including the U.S., Canada, and Australia. The EU Commission directly supported the financial needs to run ICLEI Europe projects. There is also a portion of funding provided by the EU commission that can be proposed by municipal governments affiliated to ICLEI Europe through a bidding process. The C40, along with the Clinton Climate Initiative, facilitates a consortium that gathers energy companies, municipalities, and building owners to design and to negotiate finance scheme for supporting large-scale building retrofit (Román 2010, Clinton Climate Initiative 2012). Renewable energy producers, including Siemens and Schneider Ltd, were involved in building retrofit project initiated by the C40 and the CCI in 2007 in Houston, Texas, and they agreed to cut prices in the technology procurement (Clinton Climate Initiative 2012).

Transnational municipal networks promote political interests and legitimation of cities within the global governance landscape on climate change. Local authorities have an opportunity to build a strong horizontal alliance with others members within a network. They collectively give pressure and influence to vertical organizations (e.g. UNFCCC and national governments) (Toly 2008). For example, Energy Cities has a capability to lobby and to influence EU Commission, Parliament, and Regional Committee for making project funding available to support their interests (Kern and Bulkeley 2009). Transnational municipal networks played an important role in pressing urban agenda at the COP 21 in Paris which had not been considered in at every the COP's agenda activity by that time (Bulkeley 2015). The most recent world city mayors summit hold by the C40 in Mexico City, Mexico, made a statement that the result of the presidential election of the U.S. in 2016 will not change their mission in climate change actions (Linthicum 2016).

2.2 Factors for Maintaining Collaboration in Transnational Municipal Network

Prior research have demonstrated several essential factors to maintain transnational municipal network. The first step of conducting city-to-city cooperation is to allow them to meet and to get familiar with each other. The first step also covers the inception of expected activities and collective goals for climate change actions. Shared understanding, commitment, and vision among network members are keys to accelerate cooperation (Betsill and Bulkeley 2004, Tjandradewi and Berse 2011). For example, officials from Cambridgeshire, a small town in the United Kingdom, had difficulty to engage with the ICLEI's CCP Campaign because they did not see any relevancy of the network's programs to general cities condition in the country (Betsill and Bulkeley 2004).

Leadership is a critical factor to ensure the position and the role of cities in climate change governance (Tjandradewi and Berse 2011, Betsill and Bulkeley 2004). This includes how they are involved

in the network activities and how they decide, direct, and maintain their commitment to achieving the cities' goals in climate actions. Active support of local leaders/champions (e.g. mayor) are required to motivate their staff active involvement in the network and to monitor the progress of climate change actions being taken in their jurisdiction. Bulkeley and Kern (2006) found that strong political support from parliament and mayors in Munich, Frankfurt, and Mainz (Germany) eased the initiation of climate change action plan endorsed by the ICLEI's CCP, Energy City, and Climate Alliance. In addition, leadership from network administrative organizations directs the overall path of the networks. The president of the CityNet, a city network for disaster and climate change in Asia, actively controls the direction of the organization in promoting resilient cities in Asia-Pacific Region (Tjandradewi and Berse 2011).

The flow of resources and information is the promising magnet to attract municipalities participation in the network (Tjandradewi and Berse 2011). As cities have identified their interests and goals, they would retain their position within the flow of network interaction so they keep informed about the latest climate-related information, technical assistance, financial aid and political support. Those are associated with how they capitalize the resources provided by the network to pursue their local development agenda (co-benefit), including energy efficiency, boosts local economic development, and alleviates poverty (Betsill and Bulkeley 2004, Gustavsson, Elander, and Lundmark 2009). A report released by ICLEI (2006) claimed that the contribution of bus transit improvement initiated by ICLEI and the local authority in the City of Ann Arbor in Michigan not only reduced 734 tons of fuel consumption in a year, but also saved annual expenditure USD \$200,000 in fuel cost. Moreover, the project stimulated indirect effects, including the creation of 300 new business ventures along with its employment opportunities in the downtown area.

Reciprocity is the practice of exchanging resources with others for mutual benefit, especially privileges granted by one city or organization to another (Tjandradewi and Berse 2011). To some cities, learning from the best practice could maintain municipalities' interests in such network. Lee (2014) and Tjandradewi and Berse (2011) identified cities tend to engage with high-performing cities that have successfully implemented their climate change strategies and achieved their goals. High-performing cities mean that they have already demonstrated capability in planning and implementing policies and they have been recognized for their achievement in climate change action (Lee 2014). For example, under the C40's Delta Cities Network, the municipal government of Jakarta (Indonesia) has mutual collaborations with the municipal government of Rotterdam (Netherlands), a leading expertise in adaptation to sea-level rise. The motivation is to learn from those who have been proved successful to tackle climate change problem. Vice versa, Lee (2014) identified high-performing cities see their involvement to help other cities as an opportunity to increase their reputation through mass media spotlight and international recognition. The network's awards and benchmarking mechanism can increase their reputation in climate change action.

Transaction cost is also critical to maintain cooperation between cities in a transnational network (Lee 2014, Tjandradewi and Berse 2011). Some core activities in a transnational municipal network require physical presence and face-to-face meetings, such as training, conference, and workshop. A site visit to cities who have implemented best practices also means mobilizing people to other countries with considerable transportation and accommodation cost. Lee (2014) observed that municipalities tend to collaborate with others where is located in the same region, such as North America, because they have a chance to save transaction cost by reducing time and distance gaps (Lee 2014). Therefore, the network administrative organization usually must secure resource from the networks' donors to support their main activities (Tjandradewi and Berse 2011).

2.3 Policy Implication on Local Climate Change Action

The result of learning process generated by collaborative activities would give implication to urban stakeholders' policy. The outcome of this process is expected to enable urban stakeholders to proliferate climate change policy and to deliver resources needed at the local level as well as co-benefits. First, they change vision and mission in their policies that support climate change mitigation or adaptation (Birkmann et al. 2010, Betsill and Bulkeley 2004). Local authorities would improve the direction of their current policies as they absorb new knowledge and best practices from other members in transnational municipal networks. For example, Betsill and Bulkeley (2004) found that Denver (US) and Leicester (UK) reframed their mission in local energy and environmental policy into the context of climate change.

Second, the local authority can use information provided by the network as the basis for its policy-making process (Birkmann et al. 2010, Betsill and Bulkeley 2004). For example, this information includes GHGs inventories and vulnerability information. The ICLEI's CCP program in Vancouver City trains the municipal officials how to conduct a vulnerability assessment and how to incorporate it as the basis for developing climate change adaptation strategy (City of Vancouver 2012).

Third, the result of learning process and interaction is expected to stimulate innovation in climate change mitigation strategies (Birkmann et al. 2010, Betsill and Bulkeley 2004). Those might include a replication and an adoption of best-practices strategies that have been acknowledged as the successful one in combating climate change effects. Jakarta, the capital city of Indonesia, planned seawall in Jakarta Bay to prevent sea-level rise. Jakarta officials learn from Rotterdam on how the Dutch City have developed its seawall technology and coastal plan to defense its city from the rising sea.

Fourth, institutional rearrangement might take effect after local authorities join a transnational network. This increases effectiveness and efficiency to coordinate the implementation climate action. This would be beneficial to avoid redundancy, conflict of responsibility, and waste of cost. Portland in Oregon (U.S.) rearranged its program by combining the city's solid waste and recycling program into one integrated program while Municipal of Denver placed staff across its department to monitor climate change action progress (Betsill and Bulkeley 2004).

3. Methodology

This section explains how the research was carried out to collect data and to analyze it. There are four components in this research, including: 1) transnational network functions; 2) maintaining factors in capacity building collaboration; 3) capacity building process; and 4) policy outcome. According to the early finding, the municipal government of Bogor participates in two transnational municipal networks, ICLEI and the CityNet. ICLEI is selected as the focus of the study because its main activities are related to low emission development issue.

This research is an exploratory study intended to investigate how a transnational municipal network is governed to achieve low emission development at local level. A qualitative approached was used to identify functions, factors, and policy implication that give meaning to the participants of the transnational municipal network. Marshall and Rossman (2011) defined the purpose of the qualitative exploratory research, including to investigate little-understood phenomena and to discover important categories of meaning. Previously, this method has been used to answer such questions in the case of transnational city networks in European cities (e.g. Bulkeley and Newell (2015)) and North American cities (Betsill 2001).

To guide data collection and to revisit the previous theory on this issue, a conceptual framework was developed according to the literature review. This framework was developed from the concept of

collaborative governance proposed by Ansell and Gash (2008) and studies related to transnational municipal network conducted by Bulkeley et al. (2014).

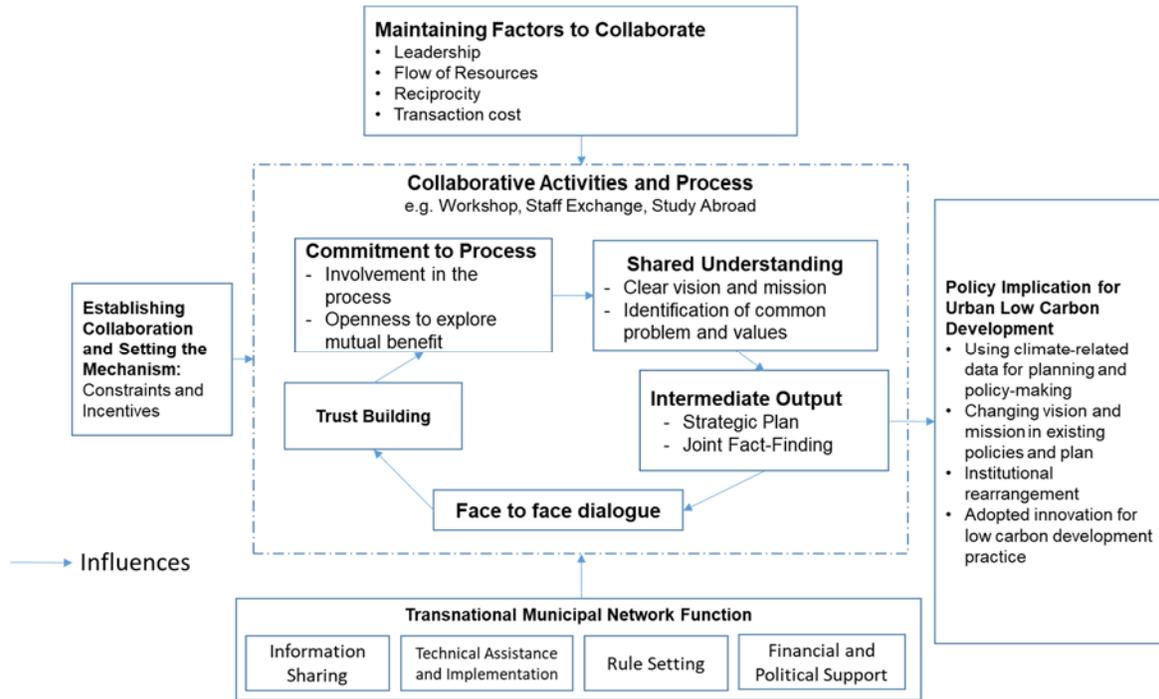


Figure 1 The Conceptual Framework of Capacity Building in a Transnational Municipal Network
Source: Adapted from Ansell and Gash (2008) and Bulkeley et al. (2014)

3.1 Data Collection

In-depth interviews were carried out in January 2017. The interview was intended to gather information directly from the actors involved in the transnational municipal network activities in Bogor. The selection of key interviewees was based on the combination of purposive and snowball sampling. The primary data has some information that is not well captured by secondary data, such as actors that may not recorded in the activities, pattern of interaction among actors and factors that motivates the collaboration.

The interview series was conducted through face-to-face meetings during the fieldwork. Interviews were semi-structured, open-ended, and directly related to the main information that this research searched for, including: 1) the network functions; 2) capacity building process; 3) maintaining factor for capacity building collaboration; and 4) policy implication. The interviewer gave the informant more freedom to narrate their experience with the flow of the interview. The conversation was recorded by a tape recorder and a note taking is systematically arranged in transcripts.

Secondary data was derived from a desk study. The collected secondary data consists of newspapers articles, research articles, project reports, presentation files, videos, press release files, and other documentation related to the transnational municipal network in Bogor. The data inquiry includes government policy related to low emission development and climate change and network activities in the study location. The desk study is important to give an initial understanding about the current collaborative progress conducted by the transnational municipal network in Bogor. For example, the secondary data became sources to identify stakeholders involved in ICLEI activities in Bogor. At the analysis stage,

secondary data helped to strengthen and to support the result of primary data analysis. For example, a written governmental policy document will validate data and support interviewees' statement.

Table 1 Data Collection

Objectives	Information	Data Collection Methods
To explore how the network's functions empower urban governance for low emission development in Bogor	<ul style="list-style-type: none"> • Function of the network: <ul style="list-style-type: none"> ○ Information exchange; ○ Technical Assistance; ○ Rule Setting; and ○ Financial Political Assistance • Collaboration Process for Capacity Building 	<ul style="list-style-type: none"> - In-depth interview - Secondary data collection (e.g. ICLEI's report on its project with Bogor)
To identifying factors that motivate and maintain collaboration among actors for low emission development in the Bogor's transnational network	<p>Maintaining Factor</p> <ul style="list-style-type: none"> • Leadership; • Reciprocity; • Transaction Cost; and • Flow of Resources 	
To identify policy implication for low emission development resulted from the process of interaction within the Bogor's transnational network	<p>Policy Implication</p> <ul style="list-style-type: none"> • Changing vision and mission on urban policies; • Using climate-related information for policy-making; • Institutional rearrangement; and • Innovation in low emission development strategies; 	

3.2 Data Analysis

Content analysis is applied to analyze the data in this research because it enables a condensed and broad description of a phenomenon (Elo and Kyngäs 2008). The outputs of the analysis are concepts or categories describing the phenomenon. This research applied a deductive content analysis, used to re-examine previous theory that has been developed from previous knowledge about specific case (Marshall and Rossman 2011, Elo and Kyngäs 2008).

Content analysis is divided to seven phases as suggested by Marshall and Rossman (2011): 1) organizing the data, 2) immersion in the data, 3) generating categories and themes, 4) coding the data, 5) offering interpretations through analytic memos, 6) searching for alternative understandings, and 7) writing the findings. In each phase, data analysis involves data reduction, and interpretation. First, all of recorded interviews were transcribed. I reduced the data to understand the sharper picture of the problems occurring in the interaction between the participants. Due to the broad nature of the qualitative data, a sorting process followed with segments of each interview placed in various content categories. The data was organized and categorized to be aligned with the indicators and theory so that the data could be presented in the table and figure. The process entails triangulation of different data resources because it may also enhance the quality and reliability of the data. Then the data can be explained as reliable information. The final goal is to combine information patterns into wider and more objective analysis patterns.

3.3 Study Location

The City of Bogor is located in West Java Province, about 60 kilometers (37 miles) south of the capital City of Indonesia. It is situated at 190 meters – 330 meters above sea level and it is surrounded by mountainous areas. The city has a nickname “the Rain City” because it is located in the upper watershed of Ciliwung River where it has frequent rainy days and mild climate. The total land area is approximately

118.5 km² and the city administration has six districts (*kecamatan*) and 68 sub-districts or urban communities (*kelurahan*).

The city is a suburban area within the Greater Jakarta Metropolitan Area. The city has become more urbanized because it not only acts as the satellite city of Jakarta but also has strategic roles in the context of regional and national development. According to the Java Island Spatial Plan 2012–2027 and West Java Province Spatial Plan 2009-2029, the city is the growth center to support strategic industrial activities and businesses at provincial, national, and international scale.

Urbanization consequently triggers land use change in the city as the function attracts more people to settle down in the city and stimulates economic activities in the metropolitan area (Figure 2). Over the last three decades, new settlements have emerged significantly in the city to accommodate people who take daily commuting to Jakarta. The city has experienced rapid urbanization with substantial population growth due to people migration to the metropolitan area over the last three decades. The population has increased gradually to about 1,030,720 people in 2014 with average growth about 2.4% since 2000 (BPS Kota Bogor 2015). The population density was around 8,698 people per square kilometer in 2014. The composition of land use in the city in 2012 is predominantly settlement (39.9%) and agriculture fields (30.2%) (The City Development Planning Board of Bogor 2014).

The main economic activities in the city are commercial. In 2014, approximately 34% of residents worked in retail, restaurants, and lodging/hotel. On the other hand, manufacturing industries, including textile, chemical, and metal, accounted for 25% of local labor. Bogor’s Gross Regional Domestic Product (GRDP) (see Table 2) reflects that retails, accommodation business, and restaurant are the main economic engine of the city from 2010 to 2013 (BPS Kota Bogor 2015). Furthermore, the manufacturing industry contributed about 27% of the total GRDP. Construction was the third largest share of the total GRDP (15%) in 2014. There was no significant increase from those sectors in that time.

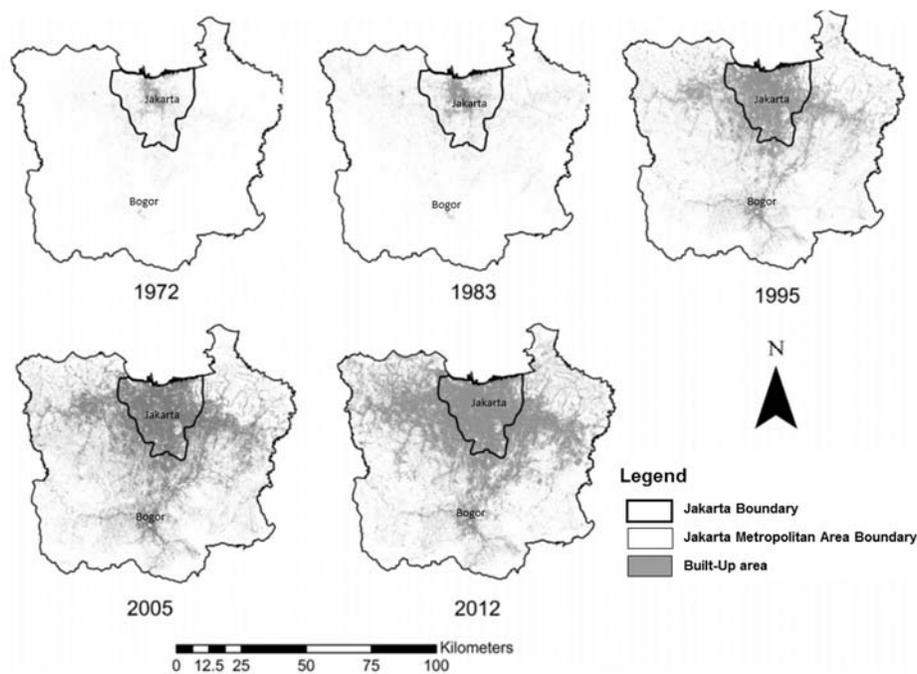


Figure 2 The Dynamic of Built-Up Area in Jakarta Metropolitan Area Overtime

Source: Modified from Pribadi and Pauleit (2015)

The city dwellers mobility still relies on private cars and motorcycles. In 2008, there were about 43,400 cars in the city and it increased to 64,700 cars in the next five years (The City of Bogor Government 2015). Meanwhile, motorbikes increased significantly from 150,304 units in 2008 to 279,753 in 2013. Private vehicles were selected by 77% (or 932,144 people) of the city dwellers in 2011 as the primary mode for (The City of Bogor Government 2015). Not surprisingly, the largest GHGs contributor in the city comes from the transportation sector. In 2015, transportation emitted 41% of the total GHGs in the city, followed by residential (22%), and manufacturing (12%) (Pulungan 2016). This number could increase more rapidly in the future, considering the urbanization is still occurring in the metropolitan area.

Table 2 Bogor's GDRP at Current Price (%) 2010–2013.

Economic Sector	2010	2011	2012	2013
Agriculture	0.01	0.01	0.01	0.01
Mining	0.01	0.01	0.01	0.01
Manufacturing Industry	0.26	0.27	0.28	0.27
Electricity, Gas, and Clean Water	0.02	0.02	0.02	0.02
Communication	0.05	0.05	0.05	0.05
Retails, Hotel, and Restaurant	0.37	0.37	0.36	0.36
Transportation and Construction	0.15	0.14	0.14	0.15
Financial and Insurance	0.10	0.10	0.10	0.10
Service	0.03	0.03	0.03	0.03

Source: BPS Kota Bogor (2015)

4. Findings

Respectively, this part elaborates the research findings divided into five main parts, including 1) Transnational municipal network functions; 2) collaboration process for capacity building; 3) Maintaining factors for capacity building collaboration; and 4) Policy implication for low emission development. Before elaborating those four main findings, the following parts provides some background about the collaboration between ICLEI and the City of Bogor. This is important because I found that each activity between them are interlinked and influenced in the capacity building process. Figure 3 depicts the process of institutional capacity building related to low emission development in Bogor over the past 17 years.

According to multiple sources, the municipal government of Bogor had been engaged with ICLEI even before it became the official member of the transnational municipal network. In 2001, Bogor was one of pilot cities for the ICLEI's CCP (Climate Change Protection) Campaign in Indonesia along with four other cities: Yogyakarta, Surabaya, Semarang, and Cilegon (Parikesit 2008). Like other CCP Campaign in other parts of the world, it aimed to promote the adoption of GHGs emission reduction and clean air policies into local action plans. Bogor later formally joined the network at an ICLEI international conference in Heidelberg, Germany, in 2005 after the CCP Campaign in Indonesia was ended in the same year (Parikesit 2008, Susanta and Sutjahjo 2007).

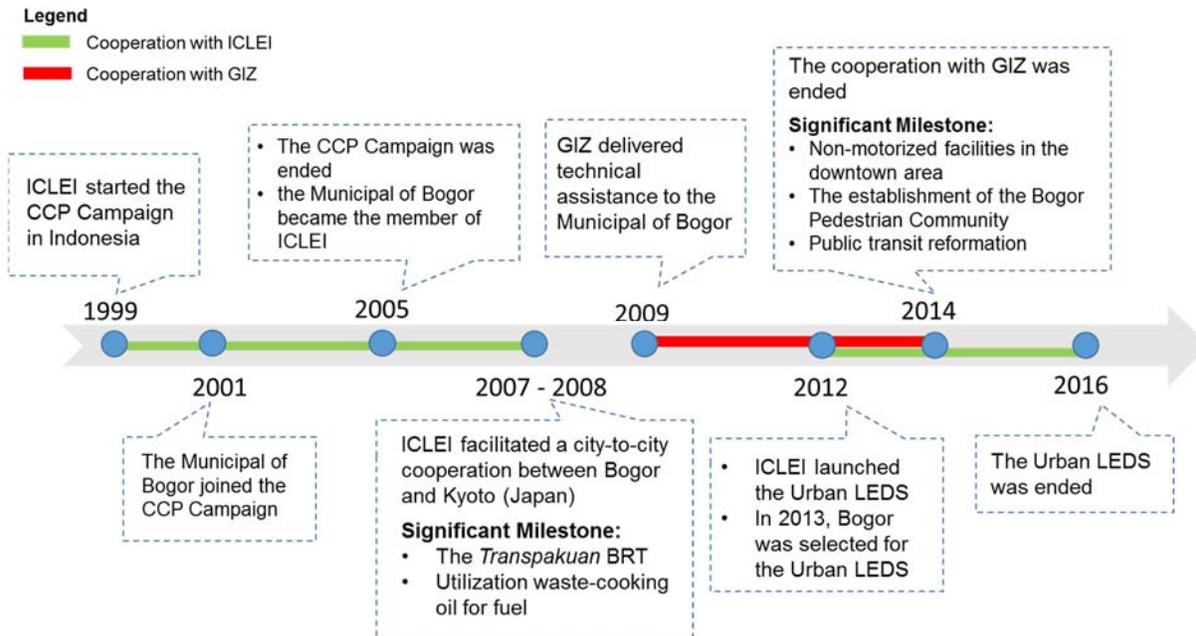


Figure 3 The Timeline of Capacity Building Process Related to Low Carbon Development in Bogor

According to the interviewees and secondary data, the municipal government of Bogor had worked with ICLEI in two notable activities related to GHGs emission reduction after the CCP Campaign. In 2007, the municipal government was facilitated by ICLEI to establish a city-to-city program with the City of Kyoto in Japan (interview, Rulianti, 2017). At that time, the municipal government of Bogor planned to establish a system to utilize bio-diesel fuel from cooking oil waste for public transit vehicles. Kyoto, which is also an ICLEI member, had already applied for similar program since 1997 (Takahashi 2007). Being in the same network, the municipal government of Bogor had an opportunity to learn how Kyoto implements the program. In 2008, the program was launched in Bogor with funding from the municipal's annual budget (interview, Rulianti 2017).

The city immediately began its self-initiated programs associated with emission mitigation after the ICLEI's CCP. Those include: 1) the establishment of Bus Rapid Transit system "*Trans-Pakuan*"; 2) the utilization of used cooking oil for buses fuel; and 3) the rearrangement of transportation management in Bogor (e.g. emission test for public transit vehicles and public transit rerouting) (Susanta and Sutjahjo 2007). For example, the second project above was launched in 2007 which the city learned the system from Kyoto through ICLEI facilitation. The implementation receives support from local private companies in Bogor to operate the recycling process. It supplies approximately 3,000 liters of bio-diesel per day for almost the *Trans-Pakuan* buses (Iamtrakul et al. 2011).

Later, the significant achievement in the transportation sector in the City was accelerated by a cooperation between the municipal government and GIZ, a German development agency (interview, Pamungkas, 2017). It was undertaken from 2009 to 2014 is called the '*Sustainable Urban Transport Improvement Project*' (SUTIP). Although it was not intended to address carbon emission directly, some of the results support the idea of low emission development. First, GIZ assisted the municipal government with technical advices to plan and construct infrastructure for non-motorized mobility (pedestrian and cycling) in the city downtown. Second, GIZ facilitated public transportation reform by reducing minibus-based transit units owned by private sector. Third, Transit Oriented Development (TOD) planning around Sukaresmi Train Station aimed to facilitate low mobility for daily Jakarta-Bogor commuters. The plan

integrates regional trains, the city BRT system, and non-motorized modes. Fourth, GIZ also encouraged local community to get involved in urban transportation governance and the project successfully formed the Bogor Pedestrian Coalition (interview, Allo, 2017).

The most recent ICLEI activity involving the City of Bogor was the Urban LEDS (Low Emission Development Strategy). ICLEI, along with UN-Habitat, administered the project from 2012 to 2016 with financial support from the European Commission. Similar to the CCP Campaign, the program aimed to guide selected model cities in the Southern Hemisphere towards low carbon transition by incorporating emission reduction strategies to their development plan. Aside from municipal governments as the primary participant, the program also targeted other local entities in the activities, including community groups, NGOs, and business entities, (interview, Isnaeni, 2017; Priyono, 2017, Allo, 2017). ICLEI expects that this approach would create convergence emission reduction strategy and sustain collaboration among them after the program completion (Cavicchioli, Price, and van Staden 2016).

ICLEI evaluated the progressive movement in Bogor towards low emission development as one of the main reasons for selecting the city as the Urban LEDS model city. ICLEI reflected the municipal government's track record to run and to maintain programs associated to this issue as the commitment (interview, Isnaeni, 2017). In addition, ICLEI also considered non-technical criteria, including: (1) experience in cooperating with external agencies, (2) the Mayors' openness and support for external assistance, and (3) low cost transaction for conducting the collaboration due to the short distance between ICLEI's office in Jakarta and Bogor (interview, Isnaeni, 2017; Rulianti, 2017). Some of those factors are in line with the statement of Irvan Pulungan, the ICLEI Country Manager for Indonesia in Media Indonesia (Wulandari 2013) who claimed that ICLEI selected the city because of its attempt to press carbon production by recycling cooking waste oil for fuel and to reform public transit system.

4.1 Transnational Municipal Network's Function in Building Institutional Capacity for Low Carbon Development

ICLEI has some functions that enable institutional capacity building in Bogor. The research identified four functions of ICLEI, including: 1) technical assistance; 2) information exchange; 3) financial support; and 4) political advocacy. The following subparts explain each function respectively.

Technical Assistance

ICLEI delivers technical assistance for municipal officials and other urban stakeholders so they could have knowledge and master hands-on skills required to govern and to plan low emission development. It is in the forms of workshop/training, focus group discussion and consultation. In the Urban LEDS case, technical assistance empowered local entities for supporting the incorporation process of low carbon strategies into the model cities development plans.

ICLEI has its learning materials to guide the project participants during workshops and training. Having more than twenty-five-year experience with thousand municipalities around the world, ICLEI develops tools, methods, and handbooks based on its members' best practices and experts' knowledge. Steve Gawler, the regional director of ICLEI OCENIA who supervised the Urban LEDS project in Indonesia, pointed out at a public lecture that ICLEI applies its instruments as standardized tools, manuals and guidance for carbon mitigation planning (Institute of Technology Bandung 2016). He argued that it would be beneficial for sharing purposes, especially to national governments and the UN, because the cities use the same measurement and format for reporting, such as GHGs inventory.

There are some types of guidance and tools offered by ICLEI, and those are usually complementary each other. For example, the municipal government staff received a training for measuring carbon emission in the city (interview, Rulianti, 2017; Priyono, 2017). Before the collaboration, the interviewees said that they had not had any GHGs inventory. In 2013, ICLEI hired consultants to teach them how to use an ICLEI tool called HEAT+ (Harmonized Emission Accounting Tool *plus*) (ICLEI and UN Habitat 2016). The tool enables them to measure baseline inventory, forecast future emission, and developing mitigation scenarios.

The result is reported to an ICLEI's online database platform called the carbon Cities Climate Register (cCCR). Moreover, the public can access the multi-lingual website. The GHGs inventory then became the basis to plan the mitigation strategies. In Bogor, the planning process followed an ICLEI's guidance called the GreenClimateCities methodology to create the strategies and the scenarios (Marques et al. 2016). Other learning materials, such as best-practices catalogue and webinars, are available on the project website, but only two interviewees know and access those (interview, Isnaeni, 2017; Rulianti, 2017).

ICLEI also hired experts collaborating with local staff to conduct a consultation that results technical products, such as a conceptual design or a feasibility study. In the Urban LEDS project, ICLEI and UN Habitat hired consultants to study the feasibility of upgrading the current system of the *Transpakuan* BRT (interview, Isnaeni, 2017; Priyono, 2017). ICLEI managed consultancy to influence the content in the draft of the Bogor Strategic Environmental Assessment with low carbon issue (interview, Isnaeni, 2017). One of the interviewees explains the purpose of both organizations to provide consultancy assistance:

Information Exchange

ICLEI combined technical assistance with peer learning. Gawler said this would fill the knowledge gap when the model cities need to learn more about low carbon strategies from best-practices experience (Institute of Technology Bandung 2016). ICLEI is the administrator of the world largest municipalities' network in climate change with over 1,500 members. Such large membership allows the organization to connect the members from different geographical setting to share their experience. Therefore, the members would be able to learn from others experience.

In the case of Urban LEDS, it created a South-to-South network connecting the model cities, including Bogor and Balikpapan (Indonesia); Recife and Fortaleza (Brazil); Thane and Rajkot (India); and Steve Tshwete and KwaDukuza (South Africa). This is combined with the creation of South-North network that ICLEI managed peer learning between those cities and European Cities. Also, ICLEI selected twenty satellite cities from those four countries which, conceptually, were expected to get knowledge spillover from the model cities (ICLEI and Habitat 2015).

In the Urban LEDS, the model cities' officials and leaders had opportunities to meet each other in a series of sharing sessions, including seminars, webinars, conferences, and study visits (interview, Isnaeni, 2017; Rulianti, 2017). For example, the Urban LEDS held networking seminars in Nelson Mandela Bay (South Africa) on November 2013 and in Bogor on May 2015 attended by the model cities representative who reports their low emission development progress (ICLEI and UN Habitat 2016). For instance, in the Bogor meeting, The Mayor of Bogor presented the city experience in developing low carbon transportation, such as the *Transpakuan* BRT system and non-motorized mobility facilities (ICLEI and UN Habitat 2015). The participants were invited to visit waste recycling facilities in the city. Apart from information exchange events, they also presented the progress of their works in cutting emission in annual international conferences held by ICLEI and the UNFCCC (interview, Isnaeni, 2017; Priyono, 2017, Rulianti, 2017).

The municipal government staff went to Europe for visiting best-practice sites. ICLEI believes that European cities are the leading examples of implementing emission mitigation and they are expected to transfer their transfer experience and knowledge to the model cities (Cavicchioli, Price, and van Staden 2016). One of interviewee has direct experience in study visit hosted by some European cities (interview, Isnaeni, 2017). He described the activity in Europe:

“I went to Warsaw (Poland), Bonn (Germany), Basel (Belgium)... The activities vary, but mostly we attended conferences. Warsaw visit is a bit different. I learned how they manage integrated transportation system, including bus rapid transit management, electric bicycle, and electric bus.” (interview, Isnaeni, 2017)

Financial Assistance

Financial assistance is also one of the options to enhance the performance of municipalities to run their mitigation program. In the case of Bogor, ICLEI never gives any aid for financing mitigation projects (interview, Isnaeni, 2017; Rulianti, 2017). Instead, it channels the assistance in the form of infrastructure good. For instance, ICLEI donated 165 LED (Light-Emitting Diode) street light units installed on major roads and a heritage zone the city downtown. The installation was to implement building retrofitting strategy planned in workshops and focus group meetings with local stakeholders.

However, financing local mitigation programs is not on the top priority list of ICLEI’s capacity building agenda. In the Urban LEDS, ICLEI focused on holding events for technical assistance and information exchange for local officials so the city has its low carbon strategies first. Then, it facilitates the municipal representatives to meet investors and donators based on what the city needs to implement the strategy (interview, Pamungkas, 2017; Priyono, 2017; Rulianti, 2017). For example, the Mayor of Bogor was invited by ICLEI to attend the COP 21 in Paris (France) in 2015 and the ICLEI World Congress in Seoul (South Korea) in 2015. In the Paris meeting, he met with potential entities who later agreed to fund the municipal climate change projects (Febrianti 2015, ICLEI and UN Habitat 2016). To the municipal government, the ICLEI’s assistance has benefit because it leveraged the recognition of their program:

“... they (ICLEI) and the government looked at the city’s carbon inventory [first] to determine existing programs related to emission reduction that can be nominated to get the funding... Since the transportation programs were [identified as] the well-prepared sector to get funded, they chose those as the top nomination” (interview, Pamungkas, 2017)

Political Advocacy

Gawler stated that ICLEI is not only a technical organization, but also a political one (Institute of Technology Bandung 2016). He means that ICLEI attempts to persuade multiple stakeholders to get involved in the capacity building process because they have diverse interests in urban issues that drives the city development into different direction. Therefore, to consolidate low emission development vision in Bogor, ICLEI included wide-range stakeholders at city level to take part in the capacity building process (interview, Allo, 2017; Isnaeni, 2017; Yusuf, 2017). For example, the Mayor, government bodies, NGOs and private companies were engaged by ICLEI facilitation to contribute in focus group discussions for the Bogor Strategic Environmental Assessment (SEA) formulation. Also, local community living in a heritage zone in the city was invited to discuss with ICLEI and the government officials for the potential of green building retrofitting application in their properties (Bogor City Government 2014). One of the benefits of such engagement eases data exchange for planning which, often, it is hindered by institutional mechanisms (Dedicatoria and Pulungan 2016).

Moreover, ICLEI acts as a facilitator to establish vertical communication between sub-national governments and higher-level governmental bodies (e.g. ministries). The aim is to obtain the recognition of cities-driven climate mitigation initiatives from the national government (Pulungan, 2016). In the Urban LEDS project, ICLEI formed an advisory group working with the model cities. It consisted of national level actors, such as the National Council on Climate Change (DNPI), the Association of Indonesian Municipalities (APEKSI), the Ministry of National Development Planning (Bappenas). The involvement of the national government bodies would minimize the knowledge gap between the national actors and the model cities. For example, their officials were invited to a workshop in Bogor to give input from the perspective of national government for the drafting of SEA (Pulungan 2016). In addition to this, the mayor and the City Legislative Council leaders attended international treaties and conferences, including the COP 21 in Paris and annual ICLEI's world congress, so they kept updated with the current state of global climate change policy.

This research identified three additional ways of ICLEI to enforce the recognition of city-level initiatives in climate change diplomacy:

- a) **ICLEI facilitates a coalition among municipal governments who commit to cut greenhouse gases.** At the national level, the municipal government of Bogor, facilitated by ICLEI and APEKSI, created a treaty with other eleven cities showing the commitment. At the international level, the mayor declared the city's commitment by participating a similar forum the Compact of Mayor, at the COP 21 in Paris with other 638 cities in the world (ICLEI and UN Habitat 2016).
- b) **The city is encouraged to get involved in climate change campaign.** For example, the city won "We Love Cities", a competition held by the WWF (World Wide Fund) to vote the most innovative city in sustainable development practice. The involvement of the city in such campaign is intended to maintain the city's spirit and commitment to administer its climate change actions (interview, Isnaeni, 2017).
- c) **Third, more importantly, the two aforementioned strategies-related activities are spread through mass media coverage** (interview, Isnaeni, 2017; Pamungkas, 2017). The mass media enabled the city government as well as ICLEI to outreach its low emission development progress and their collaboration to public.

4.2 The Collaboration Process to Build Institutional Capacity for Low Carbon Development

ICLEI applies its four core functions to initiate and to administer collaboration to build the capacity of urban governance actors for low emission development. This research found that ICLEI has an ability to bring them together in capacity building events or face-to-face meetings where they interact each other and get involved in the process. Those meetings enable the invited participants to exchange information, build trust, maintain their commitment to the process, and yield outputs. This sub-section describes the collaboration process as depicted in Figure 4.

The collaboration is usually performed under projects administered and funded by either ICLEI (e.g. the CCP Campaign and the Urban LEDS) or the municipal government side (e.g. the biofuel for public transit fuel project). The final report indicated that there was a call of interests in the beginning of the selection process (Cavicchioli, Price, and van Staden 2016). Nevertheless, practically, ICLEI representatives in Indonesia approached the municipal government to offer the program. Only two interviewees know about this process. One of the interviewees who was in charge of managing the collaboration from the municipal side described how ICLEI staff in Indonesia came to Bogor in 2013 to convince the Mayor to join the collaboration program (interview, Isnaeni, 2017; Rulianti, 2017).

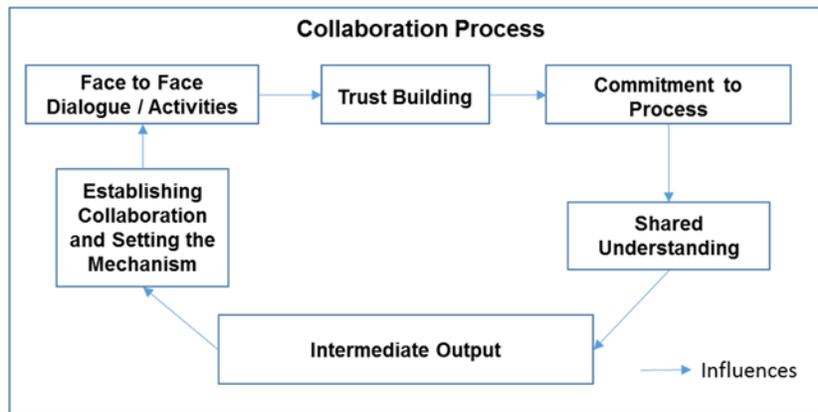


Figure 4 The Collaboration Process of Capacity Building for Low Emission Development between ICLEI and the Local Stakeholders in Bogor

Accordingly, the agreement is formalized through a MoU defining responsibility and requirement of each involved party in the capacity-building project. The initiation of the Urban LEDS project in Bogor was established with a MoU signed by the Mayor who represents the municipal government and ICLEI (interview, Isnaeni, 2017). This initial step is very crucial because it entailed the collaboration mechanism arrangement. Nevertheless, non-governmental institutions were not involved in this establishment (interview, Allo, 2017; Rulianti, 2017).

Later on, this influences the rest of the process. One of the mechanism points is the appointment of the City Development Planning Board by the Mayor as the single municipal institution to assist and work closely with ICLEI to deliver the project. It was chosen based on the agency main function in the government structure to plan the city development. The appointment of the agency is in-line with the Urban LEDDs mission to incorporate low emission development strategies into the city development plan. In addition, the agency was obliged to coordinate local stakeholders, including other governmental bodies, NGOs, and private companies, while ICLEI brought in national-level entities to the collaboration process (interview, Isnaeni, 2017; Rulianti, 2017; Yusuf, 2017). The Environmental Board was appointed to support the City Development Planning Board in the process, especially providing environmental-related data, such as GHGs inventory (Rulianti, 2017).

Subsequently, this arrangement allows the City Development Planning Board to decide which stakeholders should participate in the capacity building process. The City Development Planning Board will send an invitation to local stakeholders to attend face-to-face meetings if their presence seems necessary to support the achievement of specific target during the event (interview, Isnaeni, 2017; Priyono, 2017; Yusuf, 2017). For example, only relevant stakeholders that are fit to certain theme of ICLEI meetings would be invited.

“You can call us (the invited agencies) like a feeder. They will invite relevant agencies based on what ICLEI planned to achieve in a meeting. For example, if they want to talk about the LED street light as a tool for emission reduction, they will invite the Transportation Agency and the Street Light Division from the Public Work Agency. So, they can have a discussion because the topic is directly related to both [agencies’] functions. We are expected to articulate the idea offered by ICLEI and mainstream it into the micro-zonation plan” (interview, Yusuf, 2017)

The selective participation limits the opportunity for other entities to join actively in the collaboration and build networking with the others. According to most of the interviewees, they only

participated in meetings with ICLEI 2-3 times within the four-year project (interview, Allo, 2017; Pamungkas, 2017, Yusuf, 2017). Even, Environmental Board and Transportation Agency also complained the limited engagement (interview, Priyono, 2017; Rulianti, 2017).

Consequently, there were few opportunities to build trust between ICLEI and the local stakeholders. Those meetings were usually to explore the invited participants' role in low emission development in Bogor and discussion about potential collaboration in the future. The non-governmental organizations show its disappointment upon the process because, during the meetings, ICLEI promised to deliver potential funding and technical assistance for a low carbon project (interview, Allo, 2017; Pamungkas, 2017, Rulianti, 2017). Thus, most of the interviewees complained about ICLEI commitment to maintaining the collaboration too because they have not been any significant follow-up after a meeting. Some of the interviewees even are still not well informed about how to access information from ICLEI sources what the collaboration concept is, and what ICLEI expects from the collaboration with local stakeholders (interview, Allo, 2017; Yusuf, 2017, Rulianti, 2017).

Despite limited occasion devoted to strengthening ties with local stakeholders, the collaboration resulted in intermediate outputs. First, it facilitated the GHGs inventory study that was released in 2014 by the Environmental Board (interview, Rulianti, 2017). Initially, it was conducted to support the formulation of the city's Strategic Environmental Assessment (SEA), a supporting document for a mid-term local development plan in Indonesia. The emission data consists a comparison of current and future GHGs contribution from different sectors in the city.

The interviewees said that, during workshops, they did not create any new strategy regarding low emission development (interview, Isnaeni, 2017; Priyono, 2017; Rulianti, 2017). Instead, the workshops strengthened current strategies and programs by stressing more on how these can be utilized to reduce emission in the city. They explored and listed the potential strategies and programs that are ready to get funding into a list of priority. According to some of the interviewees, those are what ICLEI promised to seek for the funding. For example, the top program that is ready to get funding was from the Transportation Agency because it already had had real programs targeting low carbon reduction by that time (interview, Isnaeni, 2017; Pamungkas, 2017; Priyono, 2017).

4.3 Planning and Policy Implication

ICLEI completed the Urban LEDS in 2016 and there are some policy and planning products as the result of the capacity building process:

- The finalization of the Bogor's Mid-Term Development Plan 2015 - 2025 conducted by the City Development Planning Board (interview, Isnaeni, 2017),
- The city's GHGs inventory conducted by the Environmental Board (interview, Rulianti, 2017),
- A feasibility study for improving the *Transpakuan* BRT system conducted by the Transportation Agency and the consultants hired by UN Habitat (interview, Priyono, 2017).

In the Urban LEDS case, the final report indicates that ICLEI set the incorporation of low emission development strategies into local development plans as the main mission of the project (ICLEI and UN Habitat 2016). Therefore, since the initial stage of the Urban LEDS project, ICLEI has been stressing the importance of this need and the strategies should be endeavored to favor development agenda in Bogor. It later becomes one of the prerequisite to be the model cities (Wulandari 2013). Meanwhile, the city government did not have any low carbon content in its development plans although some initiative had been established separately (interview, Isnaeni, 2017, Priyono, 2017). ICLEI and the municipal government of Bogor shared the same view of this need. Having this step would guide the city to possess not only the

guidance, but also the legal basis for the city administrators for performing the programs (interview, Yusuf, 2017). ICLEI pledged to assist the municipal government of Bogor in developing mitigation scenarios and incorporating the strategies into the city's mid-term plan (interview, Isnaeni, 2017). In addition to this, ICLEI assisted the city with the installation of LED street lights. Nevertheless, the result of the collaboration are not only those visible products.

The collaboration had further implication to planning process and policy for low emission development in the city. Generally, the Bogor public agencies perceived the implication. There are four different implications identified in this research: 1) using climate-related data for planning and policy-making process; 2) changes vision and mission toward low emission development; 3) institutional structure rearrangement, and 4) adopted innovation or strategies for reducing emission.

First, local stakeholders in Bogor uses the GHGs inventory for planning and policy-making in climate change and other environmental-related issues. The result of the GHGs inventory was discussed during the SEA formulation workshop. It was included in the SEA to provide information for the invited stakeholders in the workshop. It told the current emission generation from different sectors in the city. Then, it became the basis to: (1) select priority sectors that need to be addressed, (2) predict the future emission production scenarios, and (3) explore existing strategies potentially to be the solution. The selected strategies potentially were then listed on the plan. Yet, the further use of the GHGs inventory remains limited.

Second, the capacity building cooperation between ICLEI and urban stakeholders in Bogor has contributed to the incorporation of low emission development and climate change issue into the city's plan vision and mission. As outlined in the previous finding section, the city had not had specific vision and mission in such issue in neither its development plans nor spatial plans before ICLEI offered the Urban LEDS program. Only the Transportation Agency had been working on carbon emission mitigation. The city's vision in the Mid-Term Development Plan of Bogor (2015-2019) has more emphasis on the provision of healthy environment indicated by controlled and cooler local climate. To achieve this, the plan has a specific mission by applying green city and low carbon principles to the city's development.

Third, the collaboration does not change the institutional structure arrangement of the municipality government. There has not been any additional agency or working unit in the local government structure that might have been formed to address carbon emission or climate change issue in the city. Instead, the local government formed a working group for climate change during the Urban LEDS project, but it is not listed in the organizational structure of the municipal government. It was initially to ease the coordination among the local authority agencies during the project, but the ad-hoc group continues to organize any activities related to climate change issue in the city (interview, Isnaeni, 2017).

Fourth, the city has adopted an innovation for cutting mitigation from other cities. The city-to-city program in 2008 with Kyoto has inspired Bogor to replicate how Kyoto develops and manages bio-diesel as the main fuel for public transportation. ICLEI co-hosted a meeting between the city government staff of Bogor with the municipal staff, businesspersons, and experts from Kyoto to enable the adoption in Bogor. The program had successfully implemented in Bogor before the city government put it on hold by in 2015.

4.4 Maintaining Factors for the Collaboration

This part explains factors that play an important role to maintain the collaboration. Based on the interviews, this research identified four factors: 1) human resources, 2) leadership, 3) flow of financial and political supports, and 4) institutional setting. Each factor is described in this sub-section respectively.

First, some of the interviewees repeatedly emphasized human resources as an important factor to ensure the collaboration running on its track. According to the interview, the collaboration progress takes place only when ICLEI holds events or face-to-face meetings that invite stakeholders in Bogor. Unfortunately, there is not any ICLEI representative placed in Bogor to do so while they rarely come to Bogor too (interview, Allo, 2017; Rulianti, 2017; Pamungkas, 2017). It is difficult for the local stakeholders to stay informed about the collaboration progress. As a result, they perceive uncertainty upon its continuity. Moreover, most of the interviewees do not have any direct contact person with ICLEI since the City Development Planning Board coordinates all of the activities at the local level. Even, the Planning Board staff also admit this situation that ICLEI only visits in specific schedule and appointment (interview, Isnaeni, 2017). Some of the interviews compared between ICLEI and GIZ collaboration in which GIZ put their staff in the city to work closely with the city stakeholders in the daily basis (interview, Isnaeni, 2017; Priyono, 2017, Pamungkas, 2017).

On the other hand, the local stakeholders are also aware that they have difficulty to inform what they got from ICLEI meetings to other staff in their institution (interview, Priyono, 2017; Rulianti, 2017). ICLEI and the City Development Planning Board often limit the number of participants in a meeting that each institution can delegate only one staff or representative. Consequently, only assigned staff receives and hold information from the collaboration process. Some of the interviewees afraid that this would give some effects to the future on-going collaboration when staff turnover, especially in the government institutions, regularly takes place (interview, Priyono, 2017; Rulianti, 2017; Yusuf, 2017). They have a concern that the future person who will replace their current position is not adequately informed about the collaboration and this forces that person to learn from the beginning.

Second, the Mayors of Bogor are actively engaged in the capacity building process with ICLEI and monitor the progress. Two different mayors have led the city since Bogor joined the ICLEI network. The first one is Diani Budiarto (2004 – 2014) who promoted the city to be the member of the network in 2005 and the second one is Bima Arya Sugiarto (2014 – 2019) who was elected in the beginning of Urban LEDS program. The commitment of the city to be a frontier in global environmental change issue remains robust in spite of changing leadership. The two mayors show similar commitment and awareness regarding this problem (interview, Isnaeni, 2017; Rulianti, 2017).

According to the interviewees, both have a strong commitment and political will to implement the city's pro-environmental strategies. This is reflected on what they have done and achieved through ICLEI collaboration. Mr. Budiarto led the municipal government to implement the initial city's strategies for supporting low carbon mobility, for instance, the utilization waste cooking oil for public transit fuel and the *Transpakuan* BRT system and he approved ICLEI's invitation to participate in the Urban LEDS project (interview, Rulianti, 2017). Facilitated by ICLEI, he presented the Bogor innovation in low emission development in the COP 13 in Bali.

Meanwhile, Bima Arya Sugiarto keeps the city commitment moving toward low emission development. The interviewees described him as a young and energetic mayor who has big concern in environmental issue and he prompts the implementation of green space provision in the city (interview, Isnaeni, 2017; Rulianti, 2017; Yusuf, 2017). In 2015, Mr. Sugiarto led the city to obtain the *Adipura* Award, an annual prestigious award given by the national government to municipalities that preserve clean environment within their jurisdiction. He actively takes part in ICLEI events and meetings in the city and abroad. ICLEI invited him to present the city's low emission development progress in several international conferences, including the COP 21 in Paris. He utilizes those opportunity to negotiate with external donors to fund the city's low carbon programs (Febrianti 2015, ICLEI and UN Habitat 2016). According to two

interviewees, he directly oversees the accomplishment of the collaboration, including monitoring the installation of LED street lights and persuading the public of Bogor to vote the city for the WWF's 'We Love Cities' campaign (interview, Isnaeni, 2017; Priyono, 2017).

Third, the collaboration between ICLEI and stakeholders in Bogor is driven by the availability of financial resources to support the capacity-building program. This research found that the source is not merely from ICLEI side but also from the municipal governments. ICLEI helped the city for participating in the CCP Campaign (2001-2005) and the Urban LEDS (2012 -2016) after it secured funding from USAID and the European Union respectively. Two interviewees perceived there was not any clear cooperation with ICLEI within this seven-year gap (interview, Isnaeni, 2017, Yusuf, 2017). In fact, ICLEI maintains the collaboration with the municipal governments although it does not have any specific project for the city. There were some occasions between those years when ICLEI supported the Mayor to take part in climate change treaty in the COP 13 in 2007 (Budiarto 2007) and assisted the establishment of the city-to-city cooperation between Bogor and Kyoto in 2008 (interview, Rulianti, 2017).

Fourth, institutional setting determines whether the stakeholders would be still involved in the collaboration or not. This condition applies only to the municipal institutions. Although they feel disappointed with the collaboration, they do not have the capacity to take an initiative or to be more active in the collaboration. The municipal staff participation depends on the decision made by their agency leaders or a higher hierarchy institution acting as the coordinator. In the Urban LEDS, they only followed invitation and instructions from the City Development Planning Board to take part in ICLEI's meetings (interview, Priyono, 2017; Yusuf, 2017).

5. Discussion

This study examined the process, influencing factors, and lesson learned of capacity building driven by ICLEI and urban stakeholders in Bogor. It is important to keep in mind that this research has a limitation on the data availability because not all of the participants were directly interviewed. Some of the data could not fully captured and described in this study, especially in illustrating the structure of the relationship among the involved stakeholders. ICLEI's point of view is very limited to support the data inquiry because it was derived from written reports, newspapers, and public lectures. Based on the findings, it reframed the previous proposed framework adapted from the existing theory of collaborative governance and transnational municipal networks (Figure 5). It depicts the collaborative process to build the local stakeholders capacity for governing low emission development. The framework was reconstructed from the interpretation of the influencing factors in the capacity building process. Each factor shows an interrelated relationship pattern with other factors.

Over the past two decades, the municipal government of Bogor has maintained its commitment to move towards low emission development. The municipal government to take the initiative to join and to establish collaboration with external agencies who has capability to deliver capacity building for this need has reflected the commitment. The assistance comes not only from ICLEI, but also from also other institutions, such as GIZ and AFD. Each collaboration has given positive impact to the city actors that enables them to implement strategies in cutting emission. The capacity building has been accumulated over time and it becomes an evaluation for ICLEI to keep delivering assistance to Bogor. The ICLEI evaluation upon the city progress can be seen from how the city was selected in the Urban LEDS project. The city has proven to apply what they have learned from each collaboration, including transportation management reform.

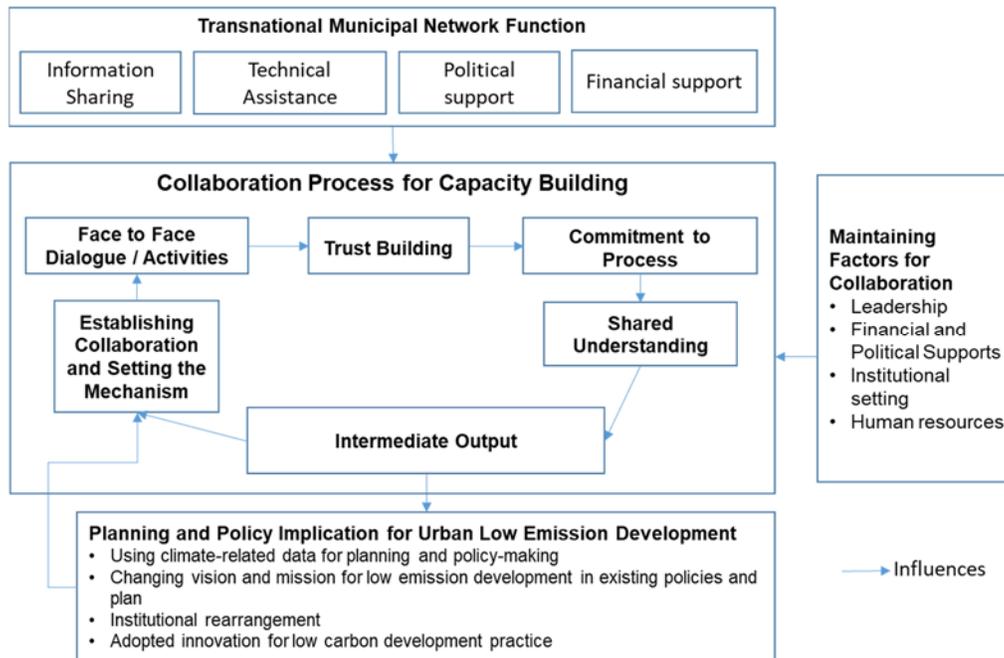


Figure 5 The Conceptual Framework of Capacity Building for Low Carbon Development between ICLEI and the Local Stakeholders in Bogor

Source: The Research findings and an adoption from Ansell and Gash (2008) and Bulkeley et al. (2014)

ICLEI deployed its four functions to empower the city capacity for low emission development (Figure 5). In the Urban LEDS project, ICLEI had a primary mission to facilitate the incorporation of low carbon content into the city's plans through technical assistance, such as consultancy and workshops. It is similar with ICLEI's capacity building experience with other cities in other regions by hiring consultants and providing planning instruments for the incorporation (City of Vancouver 2012, Andonova, Betsill, and Bulkeley 2009, Nakamura, Elder, and Mori 2010). The technical assistance was supplemented with information exchange in which the participants could learn best practices and inform potential strategies in climate change mitigation across-sector. ICLEI's is not the primary source for financing low carbon projects in the city. Instead, they act as a 'mediator' to seek the opportunity. The act of mediator and promotor was applied by ICLEI to leverage the city's recognition as a role model and frontier in low emission development. Therefore, the city could obtain vertical support from national and international organizations. Subsequently, this forced ICLEI to build a relationship not only with the municipality member within its network but also with different types of institutions from local to global level.

However, working with various organizations to support its project mission, ICLEI cannot keep the collaboration intact. During the establishment, the organization built trust with promises to deliver financial assistance for local stakeholders. However, there has not been any significant follow-up about the promises. Furthermore, lack of engagement with wide-range local stakeholders has caused confusion among them. They are not well informed about the collaboration concept and its progress.

There are three factors influencing this problem. The selective participation and the single coordinator mechanism force most of the involved stakeholders to be more passive in the capacity building process. The local stakeholders' participatory in the collaboration solely depends on the invitation of the City Development Planning Board. Meanwhile, ICLEI staff have certain or scheduled time to visit the city. Moreover, the absence of ICLEI human resources placed in the city creates information gap between ICLEI

and the local collaborators about the collaboration update. There is no person in charge who has a responsibility to oversee the relationship and handle expectation of the local stakeholders.

The implication of capacity building to the local planning and policy-making for low emission development should be observed in the longer term. The early initiatives in the city took few years after the CCP Campaign completion in 2005. In the Urban LEDS project, the incorporation of low carbon agenda into the City Mid-Term Development Plan (2015-2019) successfully done because of the role and the presence of ICLEI during workshops and focus group discussions to ensure the achievement. It is still premature to claim whether there is a shifting in visions and missions of local plan or policy across sectors towards low emission development. There is still no further written evidence whether the local institutions have applied the ICLEI's planning instruments for other local planning and policymaking.

6. Conclusion

A transnational municipal network is a platform that connects municipal governments around the world to govern climate change. At the same time, the network has a network administrative organization to arrange and to manage collaboration among them. The organization has functions to build the capacity of urban stakeholders to govern climate change issue at local level. Based on the case study of Bogor, there are four main functions of ICLEI to enhance the capacity of the local stakeholders, including facilitating (1) technical assistance, (2) information exchange, (3) financial support, and (4) political advocacy.

Becoming a member of transnational municipal networks gives direct access for the municipal government to any opportunity building capacity. The capacity building is usually delivered through projects initiated by either a transnational municipal network or government side. However, the municipal members must show progress and commitment to achieve low emission development as the City of Bogor does. Before the Urban LEDS, there was not any specific plan to address directly GHGs emission. However, the city had already taken few initiatives related to this issue, such as the utilization of biodiesel for public buses. The government keeps maintaining its programs in low emission development by conducting cooperation with external agencies, such as GIZ.

ICLEI delivered assistantship to enable the urban stakeholders in Bogor to plan and to govern low emission development. It provides technical assistance through consultancy, workshops and focus group discussion. During the trainings, ICLEI applied its planning instruments and tools co-produced from its network members' experience. This is supplemented with information exchange, financial assistance, and political advocacy. The information exchange includes seminar, conferences, and study visits to cities in Europe and it within the ICLEI's network membership. ICLEI connects the municipal government with national governments and foreign institutions to seek recognition and support for the local initiatives. However, during the process, there was only limited chance for them to engage with ICLEI and other institutions. At the same time, they have been promised to acquire certain benefits from the collaboration. In addition, a centralized coordination inhibits other stakeholders to be active players in the collaboration. The absence of ICLEI human resource placed in the city and selective participation are two maintaining factors that unable to keep the collaboration intact and informed for all the local collaborator.

In the end, a collaboration in the network could be beneficial only for certain entities who collaborate with a network administrative organization. This research found that only few governmental institution work who work closely with ICLEI or have top priority programs in low emission development in Bogor. They received the benefits by having information exchange experience, recognition, and products of the collaboration. Indeed, the collaboration in the Urban LEDS project has successfully delivered capacity-building activities (e.g. workshops and study abroad) and resulted some outputs, such as the

incorporation of low emission development content into the local plan. However, at the same time, it also diminishes equal opportunity among institutions whereas some of them could develop their potency to be parts for lowering GHGs in the city. For example, the study visit to European cities might have been more inspiring for technical agencies, such the Park Division in the Public Works who could have learned how to improve their instruments to deliver green infrastructure. The implication of the capacity building to planning and policy across sectors should be monitored whether they have adopted strategies and applied planning tools gained from the collaboration.

For further research on this topic, this study recommends exploring the role of a local government association within a national boundary in climate change governance. During the Urban LEDS, ICLEI worked closely with APEKSI, an Indonesian Municipality Government Association, and it facilitated a coalition consisting some municipal governments who claim to support low emission development. Such network or coalition is potential to promote collective actions among cities towards climate change issue in the domestic arena. It would be interesting to examine whether there is empowerment for local authorities that are not involved in any transnational network. It should be considered whether there are information exchange and peer-to-peer learning among them to move collectively toward low emission development. This study also found the central role of ICLEI organization to run and to administer the network. Future research could consider how city-to-city collaboration could be established or maintained without the presence of a network administrative organization.

Climate change is a global issue, but its effects occur locally and even across administrative boundary of regions and countries. The rise of transnational municipal networks for climate change is as an opportunity to prepare a city with necessary mitigation measurements with supports from other cities worldwide that may face a similar situation. The study found that the City of Bogor has capitalized this opportunity to increase their stakeholders' capacity for governing low emission development although there is still need of improvement in engaging different types of local organizations. This research recommends a transnational municipal network administrator to place staff in their city members to maintain the collaboration with local stakeholders. In addition, there is a need to have clear a collaboration mechanism with non-governmental institution that outlines their role and responsibility in the collaboration. The research discovery is expected to encourage the participation of other cities in the Global South to participate and initiate partnership. The finding would be an important reflection for improving current communication and mechanism when conducting climate action collaboration. This is not only for the stakeholders in Bogor but also for similar actors in other cities. Lesson learned from the City of Bogor case might be carefully considered by other Global South cities to develop their transnational collaboration, especially in resource allocation, peer-to-peer coordination, and decision-making process.

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