Implementation of Decentralized Water Resources Management Based on Integrated Water Resources Management in Indonesia (A Case Study of Cisadane River Basin)

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ABSTRACT

Since the last two decades, Indonesia has been performed decentralization for managing water resources. However, some problems related to water management still exist such as flood, drought, and ego sectoral among stakeholders. Cisadane river basin was used as a study area due to this river basin is one of the national strategic river basin and faced the fastest growing population and land conversion function in Indonesia. Using Grindle model (1980), we analyzed the performance of the policy and figure out its supporting and constraining factors. As a result, in general, implementation of decentralized water resources management based on "Integrated Water Resource Management (IWRM)" principles at Cisadane river basin has been running well. Nevertheless, some problems related communication among stakeholders, public participation, and limited resources are the main issues of decentralized water resources management in Indonesia and can hamper the policy to reach its goals.

INTISARI

Sejak dua dekade terakhir, pengelolaan sumber daya air di Indonesia telah didesentralisasikan. Akan tetapi dalam sejumlah masalah seperti banjir, kekeringan, dan ego sektoral di antara para pemangku kepentingan masih terjadi di lapangan. Daerah Aliran Sungai (DAS) Cisadane kami gunakan sebagai studi area karena DAS tersebut merupakan salah satu DAS strategis nasional dan menghadapi pertumbuhan populasi serta perubahan fungsi konversi lahan yang paling cepat di Indonesia. Dengan menggunakan model analisis Grindle (1980), kami menganalisis kinerja kebijakan tersebut dan menganalisa apa saja faktor pendukung dan penghambatnya. Sebagai kesimpulan, secara umum, implementasi desentralisasi pengelolaan sumber daya air berdasarkan prinsip-prinsip "Integrated Water Resource Management (IWRM)" di DAS Cisadane telah berjalan dengan baik. Namun demikian, beberapa masalah seperti komunikasi di antara para pemangku kepentingan, partisipasi masyarakat, dan sumber daya yang terbatas merupakan isu utama dari sistem pengelolaan sumber daya air tersebut dan dapat menghambat kebijakan tersebut untuk mencapai tujuannya.

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1. Introduction

The policy of decentralization has been a trend of many countries over the last few decades after previous centralization policy dominated. In general, decentralization is granting the authority and responsibility of handling public functions from the central government to local governments. The main reason they changed from centralized system to decentralized system is due to the central government failed to provide appropriate public services for the people. In the centralized system, the government implements the uniformity of treatment for each region. Then, this "one size fits all" policy did not accommodate the uniqueness of each area in a country, then that policy model cannot reflect the local needs (Oates, 1972). Other scholars, Bird and Vaillancourt (1998) argued that decentralization policy had become a popular policy because the policy model promises: economic efficiency, program cost effectiveness, accountability, increased resource mobilization, reduced disparities, increased political participation, strengthening democracy and political stability.

Natural resources management is one of the decentralized. In term of natural resource governance, the preferred approach in natural resources governance is institutional reforms focusing on decentralization (Ferguson and Mulwafu, 2004). Then, the creating of new lower-level institutions with authority to implement and to absorb the power from the central-level institutions is a strategy of decentralized natural resources management (Mody, 2004). In recent decades, many countries in the world including developing countries such as Indonesia have used that governance approach. There are the main goals of decentralized water resources management, including: (a) stakeholders can be more advance in term of involvement in the decision-making process, (b) use natural resource will be used efficiently and (c) the access of resources can distribute equitably (Ribot, 2004; Saravanan, 2009).

Integrated Water Resources Management (IWRM) paradigm is commonly used by many countries for decentralizing water resource management. The second principle of the paradigm, "Water development and management should be based on a participatory approach, involving users, planners, and policy makers at all levels", is guiding to reform institutional water sector. The principle advocates to turn over water resources management for institutions at the lowest level and encourages participation of all stakeholders and public for the decision-making process. Certainly, the design of institutions for implementing IWRM has been an iterative and debatable topic in the IWRM researches field over the last decade (Gallego-Ayala, 2013). Within

the context of implementing "the lowest level" concept efficiently, the river basin unit is a preferred geographical scale (Bath & Blomquist, 2004; Dinar et al., 2007).

Further, decentralization of water resources management in Indonesia has been attempted and practiced for over a decade. However, some problems and obstacles appeared in the implementation. In decentralization era, each local governments have different interest and planning for their water resources, many of them exploring its water resources to increase local revenue without considering the adverse effects that may occur at other rivers on the other local government areas (Raharja, S.J., 2008).

Based on presidential decree no 12 year 2012, Cisadane river basin belongs to The National strategic river basin. The river basin was impacted the fastest growing population and land conversion function in Indonesia (Ministry of Environment & Forestry, 2010). Even though, the government implemented integrated water resources management as other river basins in Indonesia, nevertheless, some problems still occurred in Cisadane river basin. The river basin faced not only the increasing of flood frequency but also water crisis.

Therefore, this research focus on investigating the implementation of decentralized water resources management based on "Integrated Water Resource Management" principles in the Cisadane river basin. Besides that, we also analyzed what were the supporting and constraining factors in the implementation. Cisadane was chosen a study area of research, due to Cisadane river basin is one of the national strategic river basins in Indonesia.

2. Theory

2.1 Definition of Decentralization

Researchers defined decentralization in many ways. They associated decentralization with various concepts with a different meaning. Faguet (2004) defines decentralization as the devolution specific functions of central to local government. Decentralisation is a transfer of authority from the central government regarding particular functions to local government including administrative, political and economic attributes.

Furthermore, The World Bank explained decentralization as the transfer of authority and responsibility for public functions from the central government to transitional and local governments or quasi-independent government organizations and/ or the private sector. This definition has the same idea with Rondinelli, et al. (1983) who stated the opinion that decentralization is transferring planning, decision-making or administrative authority from the central

government to local institutions, local administrative unite, semi-autonomous and parastatal organizations, local governments, or non-government organization.

According to some definitions of decentralization above, we sum up that definition of decentralization is a transfer of authorities and responsibilities from the central to local governments or sub-level organizations.

2.2 Type of Decentralization

There are some of the different types of decentralization, which are deconcentration, delegation, devolution, and privatization or deregulation (Rondinelli, 1983). Deconcentration occurs when the central government disperses responsibilities for certain services to its regional branch offices. This does not involve any hand over of authorities to lower levels of government. Delegation refers to a condition that central government is transferring its responsibility for decision making and administrative matters of public to local governments or semiautonomous organizations that are not controlled by the central government, nevertheless, they are still accountable to all that is done to the central government. Devolution refers to a condition in which the central government transfers authority for decision making, finance, and management to local government. Finally, privatization or deregulation relates to the transfer of previously public functions, or at least the right to the implementation of those, to private organizations and companies (Steiner 2005).

Besides, there is a distinction between administrative, political (or democratic), fiscal, and economic (or market) decentralization (Litvack and Seddon 1999):

- a) Administrative decentralization is the hierarchical and functional transfer of executive powers between different levels of government;
- b) Political decentralization means citizens or their elected representatives are given increased influence in political decision-making at the local level;
- c) Fiscal decentralization implies that local authorities become responsible for local revenue and expenditure assignments; and
- d) Economic decentralization refers to the transfer of specific functions from the public to the private sector.

In linking decentralization, this paper follows Steiner's (2005) typology by conceiving devolution as a form of decentralization that entails the transfer of administrative, political, and fiscal powers to the lower levels.

2.3 Decentralization in Indonesia

The decentralization process in Indonesia formally commenced in 1999. It was marked with new legislation that saw greater power granted to municipal/ district

governments. These laws include the application of regional autonomy through Act No 22/1999 on local governance with the last change being Act no.23/ 2014.

Decentralization has seen the country embark on a new era where the central government delegated substantial authority to districts. Act no.23/ 2014 provides the entitlement to determine the size of the government, which means local governments have authority in recruiting civil servants based on its need and capabilities. It is expected that by shifting some responsibilities for local levels, the development process will improve at the local level, and flowing on to national level.

By that act, local governments possible to expand their income sources from either domestic or international partners, by removing previous restrictions that prevented these business relationships. However, if they involved international partners, the local government still need to have a consultation with the central government.

There are several substantial authorities had been transferring from the central government to local/ regional governments. This was in contrast with the prior period when the decision making process of the local government was always in line with the policies from both central and provincial government.

Table 1 The Authorities of Central, Provincial, and Regency/ Municipal Governments
Based on Act No 23/2014

Regency/ Municipality Government's Authority	Provincial Government's Authority	Central Government's Authority
1) Government affairs whose location within the regency / municipality; 2) Government affairs whose users are in regency/ municipality; 3) Government affairs whose benefits or negative impacts are only within the regency/ municipality; and/ or 4) Government affairs whose use of resources are more efficient	1) Government affair whose location is cross regency/ / municipality; 2) Government affairs whose users are cross regency/ municipality; 3) Government affairs with benefits or negative impacts are across regency/ municipalities; and/ or 4) Government affairs whose use of resources are more efficient if carried out by	1) Foreign policy; 2) Defense; 3) Security; 4) Law; 5) Monetary and fiscal policy; 6) Religion.

Regency/ Municipality Government's Authority	Provincial Government's Authority	Central Government's Authority
when undertaken by regency/ municipality.	the provincial government.	

Source: Analytical result, 2017

2.4 Integrated Water Resources Management (IWRM)

In the past, development of water resources was defined as an effort to utilize water sources to meet specific needs (one goal), for examples to meet irrigation needs or for drinking water, without further consideration the impact that will occur, and variations of water demand in the future day. Further, to reach that goal they constructed new facilities such as dam, waterway, installation clean water facilities and so forth. However, that approach can then led to new problems related excessiveness of using water, inefficient capital use, environmental pollution, uncontrolled water source exploration and so on.

In the 1980s the discourse of development and management of water resources based on river basin has begun. The idea to manage one river in one management (one river one management) was raised. Later in the 1990s the concept of sustainable development began to develop and become an integral part of various development sectors, including development of water resources. Then, the development of water resources becomes much more complicated than just the construction of facilities to meet the water needs. The idea of integrated water resources management was then formulated by International Conference on Water and the Environment in Dublin in 1992, with the recommendations of the Dublin Principles, which are:

- Fresh water is a finite and vulnerable resource, therefore, it is vital for sustain life, developments, and the environments;
- Water development and management have to based on a participatory approach, involving users, planners, and policy makers at all levels;
- Women play a central part in the provision, management, and safeguarding of water; and
- Water has an economic value in all its competing uses and should be recognized as an economic good.

Furthermore, UNCED in Rio de Janeiro in 1992 produced Agenda 21. The agenda as a guide for developing and managing water resources in an integrated and sustainable way. In order to develop and to manage water resources in an integrated and sustainable way, it should:

- The water resources planning have to in an integrated and holistic approach for preventing water shortages and pollution;
- Meeting basic human needs and conserving ecosystems are the main priority;
- Water consumption should be not free and priced appropriately; and
- All countries should:
 - Manage its water resources based on river basin and water conservation program;
 - Integrating water resources development with spatial planning, conservation, and other development programs; and
 - Managing water demands with legislation and water fees, re-use and recycling of water.

From 1996 to 1999, Technical Advisory Committee (TAC) of Global Water Partnership (GWP) produced explanations, formulations and recommendations of Integrated Water Resources Management (IWRM) paradigm as a follow-up of various Issues that have been initiated in the Dublin and Rio de Janeiro conference. TAC stated that IWRM was defined: as a process that emphasizes the coordination of development and management of water resources, land and other related resources, and also to increase income and people welfare equally without sacrificing survival Ecosystem (GWP, 2000).

To be able to run IWRM paradigm, TAC formulated two kinds of integration, namely integration of the natural system and integration of human system. Integration of natural systems containing integration of freshwater and coastal management, integration land and water management, integration of surface water and groundwater management, integration of water quantity and quality management, and integration of upstream area and downstream area management. Meanwhile, integration of human system means integration between public perception and understanding of water resources, integration between national development sector policies, integration between all policy makers, and integration of water management and water demands.

Wong et al., (1999) in Norken (2003) stated some very principal criteria of IWRM, which were:

- Provide long-term contribution to the economy, environment, and social welfare;
- Repeatable, durable, affordable, acceptable to stakeholders, monitored and documented;
- Ensure basic human and ecosystem needs for water;
- Produce more efficient water utilization;
- Equitable distribution of water use;
- Reduce waste of water use;
- Improve water quality;
- Increase the quality of waste water before it is channeled into the water system;

- i) Include all stakeholders and communities in decision-making and management of water resources;
- j) Implement coordination between sectors and levels within government; and
- k) Develop mechanisms in avoiding and resolving conflicts.

2.5 Decentralization of Water Resources Management Based on IWRM Principles

In IWRM principles, it is believed that creating policies and decision making should handle by institution at the lowest level. This is due to the lowest institution has a better knowledge of ecosystem in river basin and what local people needs, since the institution is closer with the people.

Moreover, the Dublin Statement in 1992 stated that a holistic approach is needed for managing water resources. We need to link between social and economic development without abolishing natural ecosystems protection. According to Mody (2004), he stated that this "holistic approach" requires a greater integration and centralized decision-making in precise dimensions, meanwhile the necessity for exploring more water resources makes the desirability to decentralize water resources was increased.

To realize decentralization in water resources management, Global Water Partnership/ GWP (2000:15-17) obligates some of the strategies:

- a) Real participation; The meaning of "real participation" is all stakeholders should be involved in the water resources management starting from the creating strategic plan until supervising the implementation. It also means that local people have right to convey their aspirations directly or through channels that have been provided by government;
- b) Participation is more than consultation; Participation from all stakeholders in the form of inputs, comments and aspirations should give an impact on decisions making at various levels of water management. Therefore, the decisions taken have to be based on aspirations and input from various stakeholders or in other words the approach used is a bottom-up approach;
- c) Achieving consensus; To reach a consensus and a long-standing agreement can be done by a participatory approach. However, this will happen if all stakeholders want to set aside their egos for the common interests;
- d) Creating participatory mechanisms and capacity; Governments from a local level to a national level have a responsibility to make channels for receiving aspirations of stakeholders and the communities. The governments also have the responsibility to encourage the involvement of women and

marginalized social groups and to facilitate their aspirations; and

- e) The lowest appropriate level; In IWRM, the approach taken is not only a bottom-up approach but also an up-down approach. Hence, the balance between these two approaches is needed. Sometimes decisions are better taken at the local level but sometimes wiser if taken at the national level.

In other terms, while centralization in the river helps achieve coordination of infrastructure, human resource development and the setting of general priorities for water allocation, water quality, and land use, decentralization can achieve efficiency gains through more effective delivery of services to users, and also through more prudent use of local resources and initiatives.

Van der Zaag (2004), quoted by Swatuk (2005), suggested that it was probably a mistake if we create wholly new institutions for water resources management. It will be more effective when the new institutions were received advisory powers only, and it will be less of effort to introduce IWRM practices for existing bureaucratic forms.

3. Research Method

This research is a case study descriptive study with a qualitative approach. Gay in Wahyuni (2015:11) said that a case study in qualitative research attempt to shed light on phenomena by studying in depth a single case example of phenomena. The case can be a person, an event, a group, or an institution.

For measuring the implementation of the decentralization, this research used Grindle model (Figure 1). The model measured from two dimensions, the first is measuring the process and the second is measuring the end of the process or outcomes. Moreover, the model will describe the implementation from two aspects which are the content of policy and the context of application. Therefore it will make this research more comprehensive.

This research explored the implementation of integrated water resources management paradigm by going directly to the site to examine the real condition in the field. We collected various data sources such as interviewing informants, images, or other documentation data as a guide for describing the research results.

There are some key informants who are strictly selected and can be trusted. The key informants are stakeholders or actors in Cisadane river basin, those are: Head of program and general planning-BBWS Ciliwung-Cisadane, Head of Operation & Maintenance - BBWS-Ciliwung Cisadane, Staff of planning of BBWS-Ciliwung Cisadane, Staff of operational and maintenance sub-section-BBWS-Ciliwung Cisadane, Director of

Banksasuci (as a representative of NGO in Cisadane river basin).

We used key questions then recorded the interview by making a note (field note). In line with Newman, field notes according to Bogdan and Biklen in Moleong (2010:209) is a written record of what we heard, saw, experienced and considered in the context of data collection and reflection on the data in qualitative research.

and Housing Regulation No.04 / PRT / M / 2015 Article 1 states that the river basin area is a land area which is a unity with the river and its tributaries, which functioning to accommodate, store, and drain water from rainfall to the lake or to the sea naturally, the boundary on land is a topographical separator and border at sea until the sea waters are still affected by land activity. Meanwhile, the River Territory is a unitary area of water resources management in one or more river basins and/ or small islands of an area less than or equal to 2,000 km².

Figure 1 Merilee S. Grindle's Model
Source: Grindle, 1980

4. Results and Discussion

4.1 Description of Decentralized Water Resources Management Based on Integrated Water Resources Management Principle in Balai Besar Wilayah Sungai Ciliwung Cisadane (River Territory Agency Ciliwung-Cisadane)

To manage water resources, Indonesia uses Law no. 11 of 1974 about Irrigation, this Act is valid again after the Constitutional Court (MK) abort the newer regulation (Law No.07 Year 2004) due to the law was indicated not favor for the people. Practically, Indonesia did not use just that law, they also used law no.23 of 2014 about regional government. By these law, decentralization of water resources management is conducted.

The lowest level of water resources management in Indonesia is a river territory manage by central government through River Territory Agency (Balai Besar Wilayah Sungai), by Provincial, District and Municipality government through its Water Resources Agency. The term of "River Territory" is different with "River Basin ", in Ministry of Minister of Public Works

For the case of Ciliwung-Cisadane river territory, this area consists of 15 river basins. The river basin are: Cimanceuri river basin, Ciranggon river basin, Cilelesus river basin, Cmain river basin, Cirarab river basin, Ciasin river basin, Cisadane river basin, Cikapadlan river basin, Angke river basin, Krukut river basin, Ciliwung river basin, Sunter river basin, Cakung river basin, Blencong river basin and Bekasi river basin. Those river basins spread on three provinces and containing nine municipalities and four districts as attached in table 2 below:

Table 2 BBWS Ciliwung-Cisadane Work Area

No	Province	Regencies/ Municipalities	River Territory
1.	Banten	Tangerang Municipality	Cisadane
		Tangerang Selatan Municipality	Cisadane
		Tangerang Regency	Cisadane
2.	West Java	Bogor Municipality	Cisadane/ Ciliwung
		Bogor Regency	Cisadane/ Ciliwung
		Depok Municipality	Ciliwung

No	Province	Regencies/ Municipalities	River Territory
		Bekasi Municipality	Ciliwung
		Bekasi Regency	Ciliwung
3.	Jakarta	Jakarta Selatan Municipality	Ciliwung
		Jakarta Timur Municipality	Ciliwung
		Jakarta Barat Municipality	Ciliwung
		Jakarta Utara Municipality	Ciliwung
		Jakarta Pusat Municipality	Ciliwung

Source: Analytical result, 2017

Each region in Cisadane river basin has different concerns of its water resources. Therefore managing 15 river basins with the complexity of problems was not easy for River Territory Agency Ciliwung-Cisadane (BBWS Ciliwung-Cisadane). For example, to reduce Ciliwung river discharge forminimizing the intensity and volume of floods in Jakarta as downstream of Ciliwung, the central government through BBWS Ciliwung-Cisadane in 2013 want to cut-off the Ciliwung discharge to Cisadane river discharge. Certainly, Tangerang's resident disapproved this plan and forced to cancel that. They believed that Tangerang as a downstream city of Cisadanewould receive bad impacts due to that strategy.

4.2 Institution and Regime Characteristic

4.2.1 River Territory Agency Ciliwung-Cisadane (Balai Besar Wilayah Sungai Ciliwung-Cisadane)

The history of Greater Basin Territory Center Ciliwung-Cisadane (BBWS Ciliwung-Cisadane) started from the formation of flood control institution in Jakarta area based on Presidential Decree No. 29/1965 dated February 11, 1965 under the name "COMMANDO FLOOD CONTROL PROJECT JAKARTA RAYA" (Koppro Banjir), with the duty to control floods in the Jakarta. In 1984, the institution changed into "Proyek Pengendalian Banjir Jakarta Raya" (Jakarta Flood Control Project), then in 1994 it transformed into "Ciliwung-Cisadane River Development Master Project" or PIPWS Ciliwung-Cisadane. The changging was made again by the government in 2005 by established "Induk Pelaksana Pengembangan Wilayah Sungai Ciliwung Cisadane" (Master Project of Ciliwung Cisadane River Territory Development), and finally in 2006 As mandated by Minister of Public Works Regulation No. 26/PRT/M/2006 about Organizational Structure and Administration in Ciliwung-Cisadane river territory, they formed an institution called "Balai Besar Wilayah Sungai Ciliwung-Cisadane (BBWS Ciliwung-

Cisadane)" or Ciliwung-Cisadane River Territory Agency.

The formation of BBWS Ciliwung-Cisadaneis reinforced by Government Regulation no. 42 Year 2008 on Water Resources Management, in article 19 paragraph 2 mentioned that the lowest institution for managing river across provinces, which in this case is Ciliwung and Cisadane river territory, is BBWS Ciliwung-Cisadane. This institution responsables to manage water resources management in the Ciliwung-Cisadane river territory.

4.2.2 Vision and Mission of Balai Besar Wilayah Sungai Ciliwung-Cisadane

As the authorized institution of the Ciliwung-Cisadane river territory, BBWSCiliwung-Cisadane has a vision. The vision is "Realizing the water resource management In Ciliwung-Cisadane River Territory and Seribu Islands Regency River Territory which is suitable for people's prosperity and sustainable in Jakarta, Bogor, Depok, Tangerang and Bekasi ". Then, to support the achievement of the vision, the institution prepared the following missions:

- Managing the Water Resources in Ciliwung-Cisadane River Territory and the Seribu Islands River Territory in a sustainable manner;
- Utilizing the Water Resources in Ciliwung-Cisadane and Seribu Islands River Territory fairly and meet the quality requirements for the various needs of the people in the Greater Jakarta area;
- Controlling the destructive power of water in the Ciliwung-Cisadane River Territory and the Seribu Islands River Territory;
- Reducing flood impacts by structural approaches;
- Empowering and enhancing community participation in the management of water resources in Ciliwung-Cisadane and the Seribu Islands river territory;
- Increasing the openness and availability of data and information in the management of water resources of Ciliwung-Cisadane and the Seribu Islands river territory; and
- Improving services for the community in terms of technical recommendations for licensing within the Ciliwung-Cisadane river territory.

Furthermore, based on the Minister of Public Works Regulation No. 26/PRT/M/2006 on Organizational Structure and Administration of BBWS, this institution has a task to manage water resources in Ciliwung and Cisadane river basin, from planning, construction, operation until maintenance. In the framework of water resources conservation, to utilize water resources and to control damaged water in a river territory.

4.2.3 Power, Interests, and Strategies of BBWS Ciliwung-Cisadane

By the fifth mission of BBWS Ciliwung Cisadane which is “empowering and enhancing community participation in the management of water resources in Ciliwung Cisadane and the Seribu Islands River Territory”, we can understand that this institution take an interest to involving communities participation in managing water resources. This is in harmony with the concept of Integrated Water Resources Management.

Then, to reach that goal, BBWS Ciliwung Cisadane in incorporated with all stakeholders, namely “*Tim Koordinasi Pengelolaan Sumber Daya Air*” or TKPSDA (Water Resources Management Coordination Team) created short, medium and long-term strategic plan. In that plan, empowerment communities was one of the main aspect that institution needs to reach. They had realized that community empowerment is a very crucial in managing natural resources.

Another strategy to achieve its vision was involving water resource management module in pre-school, elementary, and senior high schools curriculum. This program was expected to foster the people’s concern of water resources include the importance of public awareness for managing natural resources can be embedded from the early age even from the children.

5. Conclusion

This research focused on analysing how decentralisation of water resources management based on integrated water resource management principles in Indonesia had run. Cisadane river basin was used as a study area in this research since the river basin is one of the strategic river basin in Indonesia. Moreover, we also evaluated the supporting and constrained factors of implementation.

The main findings of this research and the conclusions made from the study were given in the following section.

a) In General, Implementation of decentralized water resources management based on integrated water resource management principles at Cisadane river basin has been running well and according to the guidelines. For more details, can be seen by several parameters below:

- Participation of all stakeholders on planning, monitoring and evaluating.

By the formation of Water Resources Management Coordination Team (TKPSDA), BBWS Ciliwung-Cisadane seeked to involve all stakeholders in the process of management water resource management in Cisadane. TKPSDA consists of central government, local government, private sector both as water users and other

interests, and NGOs. This team worked from planning to evaluate of the implemented program that conducted in Cisadane river basin.

- Creating participatory mechanisms and improving participatory capacity.

As a forum for all stakeholders to express their aspirations and to participate in water resources management, BBWS Ciliwung Cisadane created TKPSDA forum. By this forum, the strategic plan to manage the river basin was created and it was expected that the planning can absorb all aspirations of stakeholders.

However, the institution still not encourage and improve the women participation sufficiently, since there is no NGO or institution based on women in the list of TKPSDA members.

- Balanced decision-making between a top-down and a bottom-up approach.

The decision-making pattern in the Cisadane river was still more dominant with a top-down approach than the bottom-up approach since BBWS Ciliwung-Cisadane did not have an authority to issue its own policies. It made the management of water resources in Cisadane used the same policies as other river basins in Indonesia. Therefore, some did not match with what local people needs.

- Creating a long-term consensus.

BBWS Ciliwung-Cisadane through TKPSDA had analyzed the problems in the water resources management and propose the strategic plan by making short term planning (2011-2015), medium term (2011-2020), and long term (2011-2030). This plan can be guided for stakeholders especially for BBWS Ciliwung-Cisadane in managing river basin.

b) There are some supporting and constraining factors in the implementation.

- Supporting factors:

- On river management pattern, Indonesia government adopted philosophy “one river, one plan, and one integrated management. The scheme makes a river just only managed by one institution; and
- The creativity of the leader, each leader on river basin level possible to make some innovations for managing river basin.

- Constraining factors:

- Lack of coordination among stakeholders in arrange a plan for their institution;
- The working area of BBWS Ciliwung Cisadane is too large, including 15 river basins from 3 provinces (DKI Jakarta, West Java and Banten);

- There is no authority for BBWS Ciliwung Cisadane to produce their own regulation to accommodate its local aspiration since all river basin in Indonesia conducted by the same rule;
- In Indonesia, gender inequality is still a polemic in various fields, it also occurred in water resources management. Hence, women participation in water resources management is still less; and
- A limited number of human resources and budget were obstacle for BBWS Ciliwung-Cisadane for increasing conservation effort.

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