

Synergy in the Watershed Management: Case Study on Citarum Watershed - Indonesia

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ABSTRACT: *Watershed is a common and open-ended property. Watershed is a property for many parties, both individuals and organizations who have interests of its existence. As open property, each party can freely enter and exit, according to their interests without responsible for maintaining the watershed's conditions. Condition of watershed can result complex or even conflict. Because each party has different perceptions, interests, and even conflict each other As common and open property, the watershed require joint management. Co-management becomes increasingly important because of watershed flows beyond administrative, territory and authority boundaries of organizations. Watershed management require a new approach which is able to reach out many parties, individuals, organizations and governments. Collaborative approach as a new approach, in contrast with New Public Management approach is emphasizing in property management which is involving multiple parties or organizations, both governmental, private and also community organizations. Case analysis on management of Citarum Watershed shows the complexity of issues of watershed management. In managing the complexity of watershed is need the implementation of collaborative approach which is able to realize the impact of watershed management.*

KEYWORDS: *Watershed, Synergy, Collaboration*

I. INTRODUCTION

Watershed management raises overlapping management which could potentially lead to competition and conflict, vertically and horizontally. It is because of each party was entitled to use or to exploitation, accordance to the purpose of each specific. Ahmadjayadi (2001) stated that the complexity is compounded by differences in watershed management system in Indonesia that emphasize in one aspect, such as (1) conservation (2) river drainage facility or (3) in the management of regional autonomy perspectives. The complexity also stated by Kodoatie and Sjarif(2005) that in the management of watershed, there are many institutions and organizations with the different interest and function.

The third difference of the approaches implied some implications. Conservation's emphasis on rehabilitations and the upstream watershed area and organization of the authority of the Ministry of Forestry. Drainage facilities emphasize on the management of water bodies and organizations under the authority of the Ministry of Public Works. While the approach in the perspective of regional autonomy which divided in the management of the river base or watershed management in accordance with the administrative boundaries of the region which was causing incomplete management. In such conditions, the synergy in watershed management becomes a necessity. This paper will discuss watershed management in synergy with the research database at Citarum Watershed

II. THEORETICAL REVIEW

Conflicts in water management, including watershed cannot separated from the water economic. Barkley (1978) stated that dozens of economists has launched various research results which water as the object in perspective of economic significance (economic meaning of water), especially regarding the relationship between the water and the user (humans)

“The nature of water problems and the relationship between water and man are changing so demonstrably that the economic meaning of water. The water and community relationship takes on real meaning in the case of irrigation “

Terminologically, synergy in the context of organizational and inter-organizational, relationships is closely relationships with carry out a particular job, it would result in an amount which exceeds the sum of output for each individual organization In the context of the management of the entity which involves a lot of

organizations, synergies can be interpreted as a combination of all parties which involved in activities as an actor as participant in a team. Synergies will arise each participant who put through interaction to produce an output as a joint effort and the results exceed the amount of output which each individual themselves. Synergy can be positive and negative. Positive synergies achieved if they concerted efforts in neither generating output both more effective and efficient in process, input nor output itself. Negative synergy occurs when the joint efforts would result in output that causes damage, resources wastage and results achievement was not optimal.

III. METHODS

The research use qualitative methods. Data were collected through primary data collection and secondary data. Primary data was collected interviews and focus group discussions. Secondary data was collected through a review of the literature and data sharing which from magazines, reports, news media and others

IV. RESULTS AND DISCUSSION

Citarum Watershed has 269 km length with area of 6,000 km². Citarum Watershed geographically divided into three parts. *First*, from Mount Wayang to Nanjung; *Second*, from Nanjung to Jatiluhur, and last, from Jatiluhur to Java Sea.

In the trajectory of the Watershed, there are several organizations involved in the management. The organizations are government agencies, corporate, and non-governmental organizations. Some organizations that may be mentioned include: State Electricity Company (Perusahaan Listrik Negara), State Water Service Company (Perum Jasa Tirta), Citarum Water Resources Management Unit (Balai Pengelolaan Sumberdaya Air Citarum), Citarum River Agency (Balai Besar Wilayah Sungai Citarum), West Java Watershed Management Unit (Balai Pengelolaan Daerah Aliran Sungai Citarum Jawa Barat, Regional Water Company, and various non-governmental organizations such as NGO-Water Partnership (Mitra Cai) and new organization named NGO-Watershed Citarum Forum (Forum DAS Citarum).

a. There is No Master Plan of Watershed Management

There is no master plan for the integrated development and management which is consistent and can be used as a reference plan for any agency or organization that manages the Citarum watershed. Agencies which manage the watershed, spread in many institutions, such as Ministry of Public Works, Ministry of Environment, Ministry of Energy and Mineral Resources, the Provincial Government, the Ministry of Forestry and Bandung Regency. Their duties, functions and powers are different.

Partially, the result of the management are often overlapping each other, which tends to waste and cancel of each other outputs. Asdak (2003) states that to be effective watershed management, particularly in the planning function, there is clearly authority possessed by each organization. Effectiveness is measured from the integration between upstream to downstream, the carrying capacity of local institutions and stakeholder participations. The findings of Citarum River management agency did not show that the authorities agencies didn't understand each other. This incomplete understanding of the issues raised (a) vacancy management plan, because it was not all overwhelmed in planning any institution/organization (b) planning overlap among agencies/organizations that manage the Citarum river (c) organizational conflict occurs when the same object dualism plan conflicting or have different priorities. It raises ineffective planning function because not achieved optimal overall watershed management plan. Overlap causing inefficient planning because the same thing is done by two different agencies or organizations. Conflicts between organizations pose a planning bump into each other.

The capacity of local institutions and stakeholder participation in the planning process Citarum Watershed management also do not indicate a full-time involved. It can be seen from the results of studies showing (a) participation was not routine (b) participation is not organized well, just made incidentally (c) lack of involvement in the preparation of planning process (d) it is receiving input and advising in the planning process tend not accommodate well.

b. Issues in Management Areas

There are various agencies with various duties, functions and powers. Implications due to differences in the use of authority to other parties and also in prioritizing activities. The implications among others, the following;

First, differences in the management of the agencies from the same stream results in disparities in the use of authority or permit the use and utilization of the use of water bodies (in- stream) and the outer region river (off - stream) made or issued by a particular organization. The catchment area is partly a jurisdiction of Ministry of Forestr, local government and community owned land (which are the public has the right to manage in accordance with their interests).

There are differences lead to differences in the handling of forest authority as catchment area either owned by the government and society. Institutions or governments "give permission" catchment area which managed by the people who use it for cultivation of crops , crops that cannot hold water when it rains and storing water when his dry . These are differences result in certain functions in the area in the watershed is not optimal .

Secondly, with regard to authority in granting permission for certain activities. One example in this regard is the authority to organize, manage, and control of industrial waste disposal plant along the Citarum River area that is in accordance with the Government of Bandung regency area of jurisdiction. Due to a decline in the use of this authority Citarum river water quality. This affects, actually harm, other organizations such as hydropower, which cause corrosion damage to turbines, and the public as drinking water or contaminated by agricultural waste.

c. There are No Integration between Vision And Mission

Citarum watershed management still managed partially, it is not well coordinated, collide and consequently the results obtained as a whole is not optimal for the Citarum watershed itself. Some things found in research that reflects not integrated vision - mission in the Citarum watershed management, among others: (a) The local government gave permission to the underground water extraction industries .It is resulted in a decrease suction of surface of the soil, which in turn resulted in flood inundation in some areas of Citarum when rain. This condition indicates that a particular agency is not concerned with the consequences of its pervasiveness (b) The absence of an integrated funding and synchronization in Citarum watershed management , because the master plan that contains the programs and activities of the planning and control of one management principle there is no river, one plan, one management just a slogan. (b) certain agencies " suffer " because of the control functions are performed by other agencies are not running optimally. In this case can be exemplified Regional Water Company (PDAM) which need Citarum water supply in high quality, free of bacteria and BOD. However, quality control is the authority of Regional Environmental Control Agency (Badan Pengendalian Lingkungan Hidup Daerah) or BPLHD. Consequently taps have to spend more to improve water quality in order to drink so worthy and other household needs.

d. Conflict of Interest

As already mentioned in the previous section, duties and authority of each organization involved in Citarum watershed management is a crucial issues . In this study, it found that the presence of a particular organization that runs the function of managing the Citarum River region disputed by others who are already there or manage Citarum watershed. Presence of organization " Balai Besar Wilayah Sungai Citarum " as vertical institutions Ministry of Public Works considered in conflict with the spirit of regional autonomy.

This is because of the management of the affairs of the river is understood by the local government, while the central only belong to the five affairs of the central government (religious , monetary, justice, defense and foreign policy). Conflicts of interest are all sourced from the various laws that since the beginning of clashing with each other.

Conflict of interest between the organization also occur because of the crush of duties and functions are almost the same. Watershed Management Agency (BPDAS) Citarum - Cisadane as vertical which is the agency of the Ministry of Forestry coincide with the Forest Service in West Java.

A whole range of conflicts of interest, whether they felt (as felt conflict) and experienced (as real conflict) as follows: (a) the difference between the will of the villagers with relevant agencies regarding land use in the surrounding watershed. Landowners in the spring to take advantage of timber and land for agricultural needs. This contrasts with the eye area of water conservation goals (b) conflict of interest in the utilization of river water between the Bandung regency in West Java (c) Conflicts between the perspective of economic interests with the control and enforcement of environmental law as a result of the inconsistencies and spatial mismatch , power interests employment which occurring in the border areas between districts that coincide autonomous regions, (d) Conflict of interest between the needs of the community with the task of other agencies, particularly in the use of riparian line (e) impact on aspects, parts or specific management area. In this case there institution who manage others manage in stream and off -stream. This condition is also "contributed" by Act No. 7 of 2004 on Water Resources are content to divide the water management authority, separated, pieces andnot integration.

e. No Cooperation Framework

Citarumwatershed management has not had a framework of cooperation in a pattern or master plan to be mutually agreed now. Due to the absence of a master plan, a framework of cooperation between institutions or organizations involved to be difficult to achieve. Normative rules that serve as common ground in the form of watershed management in the formulation of the agreement has yet exist or have not been formulated clearly.

f. The organizational condition of Watershed Managing

In summary the circumstances of each organization and its tendency toward a commitment to work together affected can be explained in the following table:

Table 1
Organization Condition and commitment on common goals

<i>Organizational Type</i>	<i>Goals</i>	<i>Structure and Capacity</i>	<i>Commitment for common purpose</i>	<i>Explaining</i>
Government (national, regional and local)	High	High	Low	Government organizations under the parent agency which is not on the common goals
Public or State Company	High	High	Low	Profit oriented Public enterprise, tend to ignore the common goal
Non Governmental Organization	High	Low	Low	The capacity of is weak and "commitment" dependent on funders

Source :Raharja (2008)

V. CONCLUSIONS AND RECOMMENDATIONS

Citarum watershed management is still done partially as sectors. Each organization manage partially according to the perspective of each inter-organizational relations which have not awakened to the fullest. This resulted has not shown a positive synergy, contrary produce negative synergies. Negative synergy seen where the effort of the organization overlaps with the efforts of other organizations. This raises a conflict of resources and waste management Efforts required to integrating the Citarumwatershed management in one integrated organization, solid and compact, without losing the autonomy of each organization's existing management. Change of mindset is required in order to view the Citarumwatershed as a common property, are managed together and for the common

For managed watershed as common property, every organizations can perform role, task and responsibility, to achieve “synergy effect” as follow;

Table 2 Role, Task and Responsibility Organizations for Synergy

Organizational Group	Role, Task and Responsibility
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Local Society Organization/ NGO	Education and advocacy to the public
Local Government	Conservation, water maintenance and empowerment of local society organization
Regional Government	Empowerment and assistance in watershed management for Local Government in the form of facility costs, labor and means
National Government	Formulate and establish watershed management macro policy
Public, State and Private Enterprise	Conserving water resources and contributing to the financing, maintenance and conservation of watershed

REFERENCE

- [1]. Ahmadjayadi, Cahyana, “ Summary of River Basin Management on Local Government Perspective (*Butir-Butir Penting untuk Pengelolaan Daerah Pengaliran Sungai dari Sudut Pandang Otonomi Daerah*).”Paper, 2001
- [2]. Barkley, Paul W.“*The Economic Meaning of Water: Patterns in Variation*” in Donald R. Field, (ed) *Water and Community Development: Social and Economic Perspectives*, Ann Arbor Science, 1978.
- [3]. Kodoatie and Roestam Sjarif,“*Integrated Water Resources Management*.” Andi Publishers. Yogyakarta, 2005
- [4]. Asdak,Chay,“*Hidrology and Watershed Management (HidrologidanPengelolaan Daerah Aliran Sungai)*” UGM Press, 2003
- [5]. Raharja, Sam'un Jaja,“*Collaboration Model in Citarum Watershed Management (Model Kolaborasi dalam Pengelolaan Daerah Aliran SungaiCitarum)*.”Unpublished Dissertasion, University of Indonesia, Jakarta, 2008