

INFLUENCE FACTORS THE SETTING REGULATION OF SUSTAINABLE WATERSHED ECOSYSTEM IN INDONESIA

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ABSTRACT

In order to improve coordination and continue the communication processes between stakeholders to resolve issues in an integrated watershed management Solo, takes the initiative of stakeholders. To realize the integration of programs, activities and funding needs to be an Integrated Resource Management Plan for the watershed Solo arranged in a participatory, involving stakeholders (stakeholders), both from the government bureaucracy which will act as a facilitator and the actors both the business community, as well as individuals and academics and observers to formulate strategies (policies and programs / activities) achievement of mutually agreed objectives on the basis of the distinctive character of the condition of natural resources (natural capital), the air (atmosphere), the land and its constituent rocks, vegetation, wildlife; human resources (human capital) and the institutions of formal and informal institutions of society (social capital), as well as resource artificial (man-made capital). In line with the implementation of policy autonomy, which the local government, both provincial and district / city has the authority and responsibility to organize his government's own household, then the use of natural resources and land is an important factor to drive the economic activities of society. In an effort to realize the management and utilization of natural resources and land optimally while maintaining the balance of ecosystems and the sustainability of the watershed, then all parties with an interest in watershed management must conduct its activities in a measurable and consistent with other related parties.

Key words: judicial review, ecosystems, watersheds, sustainable

Introduction

Environmental damage in Indonesia has become a concern for many parties, both domestically and by this internasional. Hal world marked by increasing perceived natural disasters, such as floods, landslides and droughts is increasing. The low carrying capacity Watershed (DAS) as an ecosystem is thought to be one of the main causes of natural disasters related to water (water related disaster) is. Watershed degradation is accelerated by an increase in the utilization of natural resources as a result of population growth and economic development, conflicts of interest and lack of integration between sectors, between regions upstream-downstream center, especially in the era of regional autonomy daerah. Pada autonomy, natural resources placed as a source of income (PAD). Efforts to improve watershed conditions actually began in the 1970s through the Forest Rescue Program, Land and Water (PPHTA), through Presidential Decree Reforestation and A forestation, followed by the National Movement for Forest and Land Rehabilitation (GN-RHL), National Movement Saving Water partnership (GNKPA) and the Revitalization of Agriculture, Fisheries and Forestry (RPPK). The goal of these efforts is basically to realize environmental improvements such as a natural disaster floods, landslides, and droughts in an integrated, transparent and participatory, so that forest and land resources to ensure the optimal functioning of environmental balance and watershed hydrology, as well as providing benefits socioeconomic significance to the community. Watershed (DAS) Solo with a total area of approximately 1,500,000 ha include areas ranging from the upper reaches of Mount Merapi, Mount Merbabu Lawu and karst hills Winton-Pacitan sampai in Gresik as the estuary downstream (outlet) watershed. Watershed development activities in Solo, both upstream and downstream of relatively intensive and population pressure is high enough, especially the growth of the community in Surakarta, Sukoharjo, and Klaten district. Development activities in the watershed Solo likely to lead to a reduction in the land's ability to absorb water, and protect the soil from erosion, which in turn led to high surface runoff and erosi. Kejadian flooding, degradation of water quality of the river, landslides and drought is an indicator of failure in managing natural resources which has the benefit of the public.

In order to improve coordination and continue the communication processes between stakeholders to resolve issues in an integrated watershed management Solo, takes the initiative of stakeholders. To realize the integration of programs, activities and funding needs to be an Integrated Resource Management Plan for the watershed Solo arranged in a participatory, involving stakeholders (stakeholders), both from the government bureaucracy which will act as a facilitator and the actors both the business community, as well as individuals and academics and observers to formulate strategies (policies and programs / activities) achievement of mutually agreed objectives on the basis of the distinctive character of the condition of natural resources (natural capital), the air (atmosphere), the land and its constituent rocks, vegetation, wildlife; human resources (human capital) and the institutions of formal and informal institutions of society (social capital), as well as resource artificial (man-made capital).

Based on the above description indicates the need for an integrated watershed management should involve natural resource management stakeholders consisting of elements of the community, businesses, government, and the local government with the principles of integrity, fairness and are committed to implement the organization of natural resource management fair, effective, efficient and sustainable. In the implementation of integrated watershed management is required comprehensive planning that accommodates various stakeholders (stakeholders) in a DAS. Untuk the need for guidelines for the preparation of an Integrated Watershed Management Plan that can be used as a reference for such stakeholders. Dengan these stakeholders have a commitment to program and carry out activities in order to achieve the objectives that have been agreed upon. The integrated approach also recognizes the importance of the role of community participation in watershed management, including planning, policy formulation, implementation and collection of benefits. Originally watershed management planning more with the approach of physical and sectoral factors. Since the 2000s had begun watershed management with a holistic approach, namely the Integrated Watershed Management plan, the watershed are categorized as priority watersheds. Determination of the order of priority watersheds based on the criteria and considerations such as: (1) the order of priority watersheds need to be adjusted with consideration of more advanced techniques and policy considerations that developed at this time; (2) watershed management also requires a strong principle of legality and binding to the relevant agencies in the coordination and planning policy for watershed management; and (3) changes in the direction of centralization to decentralization of government. The importance of the position of the watershed as a whole unit management is a logical consequence to maintain the sustainability of forest resources, soil and water. Less precise information regarding the physical and social conditions in the watershed will affect the quality of planning and may eventually lead to degradation of natural resources and the ability of the watershed to support environmental balance.

In line with the implementation of policy autonomy, which the local government, both provincial and district / city has the authority and responsibility to organize his government's own household, then the use of natural resources and land is an important factor to drive the economic activities of society. In an effort to realize the management and utilization of natural resources and land optimally while maintaining the balance of ecosystems and the sustainability of the watershed, then all parties with an interest in watershed management must conduct its activities in a measurable and consistent with other related parties.

To align activities and cross-sectoral activities and the scope of public administration across the province of Central Java, the necessary regulations governing the management and use of natural resources and land in the watershed ecosystem units that exist in Central Java. Local regulations to be formulated in Regulation (Regulation) is load on the utilization of natural resources such as forests, soil and water as one of the authorized capital of national development, must be implemented as well as possible on a sustainable basis, the principle of harmony and optimal utilization, which can provide economic benefits, ecological and social balance. Management and use of forests and land that is not in accordance with the principles of conservation and beyond the capabilities / carrying capacity, will cause degradation of the environment, including the presence of degraded land. Besides, the behavior of people who do not support the conservation such as illegal logging and encroachment of forest land will lead to deforestation and natural disasters spur floods and landslides during the rainy season, fires and drought in the dry season, as well as river water pollution, silting of reservoirs, coastal erosion, and non-functioning of irrigation facilities as a result of excessive sedimentation.

Based on the above arguments, the need for regulation is the reference in the integrated watershed management should involve stakeholders of land and natural resource management, which is composed of elements of the community, businesses, government, and the local government with the principles of integrity, equality and is committed to applying the implementation of natural resource management that is fair, effective, efficient and sustainable.

Problems

How to setting and formulating regulation watershed ecosystem sustainable and comprehensive and is scientifically and fulfilling aspects of philosophical consideration, juridical and sociological?

Methods

1. Method of Approach

The approach used in the research problem is to use an empirical approach and normative juridical. Juridical empirical study with the aim to see problems in the field that can be resolved or sought legal foundation or reference yuidisnya. The study documents the analysis consists of legislation and various policies relating to the subject matter studied in Central Java province and the problems it faces and report the results of the various meetings, seminars, public hearings and so on.

2. Types and Sources of Data

The data used in this study can be classified into two types:

- a. Primary Data
The primary data sources such as interviews, questionnaires and observations from the field.
- b. Secondary Data
Secondary data sources include primary legal materials, secondary and tertiary, which include: laws, government regulation and other legislation relating to the policies in the Local Government as well as the applicable provisions that support the research data.

3. Methods of Data Collection

To obtain the data of primary legal materials and secondary legal materials and legal materials tertiary study conducted with business documents or literature studies which include data collection efforts by visiting libraries, reading, literature review and study materials that have a strong link with subject matter. Furthermore, the data obtained, edited, specifically identified objectively and systematically, clarified, presented and then analyzed further in accordance with the objectives and research problems. To obtain primary data conducted in-depth interviews (in-depth interview) with stakeholders, questionnaires, field surveys, and also performed in the form of colloquium with relevant sources, as well as intensive discussions with the participants is limited.

4. Methods of Data Analysis

Engineering data were analyzed inductively, all existing data is interpreted and translated by basing on the prevailing theories. The analysis model is used interactively (Interaktive Model of Analysis). This analytical model includes four phases: data collection, data reduction stage, stage presentation of the data and drawing conclusions stage of verification or interactive, as visualized in the following cycle materials.

Discussion

In describing watershed management model, each unit of the watershed, in substance and strategy, as well as the forms of the watershed should be studied carefully. This is necessary because the shape of the watershed is a reflection of bio-physical condition and is a form of naturally existing processes. The implication of this is to show that the management of the watershed is a hydrologic system and production system, and it is open institutional conflict of interest between the management components of the watershed system.

Watershed upstream section has an important role, especially as a provider of water to flow into the downstream. Therefore, the upper watersheds often have conflicting interests in land use, particularly for agriculture, tourism, mining, and settlement. Given the upstream watershed has had limited success, so any error would have a negative impact on the utilization of downstream. In principle, the upstream watershed conservation efforts can be made to include aspects related to water supply. Ecologically, it relates to ecosystem catchment (catchment ecosystem) which is a series of natural processes hydrological cycle.

Watershed management issues can be done through an assessment of watershed components and tracing relationships between components are interrelated, so that the management and control measures are carried out not only partial and sectoral, but has focused on the main causes of damage and consequences, as well as conducted integrated. One of the problems in the context of watershed management is the location of the upstream region which is usually located in a particular district and passes through several counties as well as their downstream regions are in other districts. Therefore, the areas through which the watershed should look as an integrated system, as well as a shared responsibility.

Biophysical linkage relationships upstream-downstream region of a watershed, according Asdak (1999), there needs to be some areas of concern, namely as follows:

- 1) Effective Institutional linkages should be able to reflect the biophysical and socio-economic environment in which it operates. If activity in the upstream watershed management will pose a real impact on the biophysical environment and / or socioeconomic downstream of the same watershed, hence the need for decentralized watershed management involving the upstream and downstream as a unit of planning and management.
- 2) externalities, is the impact (positive / negative) of an activity / program or policy and experienced / felt outside the region where the program / policy implemented. These impacts are often not internalized in the planning of activities. It can be argued that negative externalities may interfere with the achievement of sustainable watershed management for: (a) community outside the area of activity (spatial externalities), (b) people who live in a certain time period after the intervention ended (temporal externalities), and (c) the interests of various economic sectors which are beyond the location of activities (sectoral externalities).
- 3) Within the framework of the concept of "externalities", the management of natural resources can be said to be good if the overall costs and benefits incurred by the activities of the management can be borne proportionately by the actors (government organizations, community groups or individuals) which is engaged in natural resource management (DAS) and the actors who will benefit from these activities.

Treatment is directed at the upstream watershed area of cultivation (agriculture) due to the potential degradation process occurs more frequently in this region. For that to be the preservation of soil resources (land) will be guaranteed, then any agricultural or

farming area available classes and the ability to land suitability classes. With the availability of class capabilities and suitability of this class, which exceeds the ability of land use and does not fit the type of use can be avoided.

In one form of models watershed management, watershed management upstream-downstream problems associated with the economic-social-cultural development of the region in the form of ecological or administrative, which lead to the optimization of land use and make efficient use of water resources through improved institutional, technological, and provision of funding.

During this methodology in an integrated watershed planning less attention to those aspects that integrate the various interests of development activities, such as between the interests of the development of agriculture, industry interests, the interests of the carrying capacity of the environment (ecological demands). Developments in the field of residential construction, agriculture, plantations, industries, exploitation of natural resources such as mining, and forest exploitation causes a decrease in the hydrological conditions of a watershed that led to the watershed's ability to function as a store of water in the rainy season and is then used to remove water in the dry season. When it rains the water in the rainy season the water will flow directly into surface streams which often cause flooding and vice versa during the dry season water flow becomes very small even in some cases there is no flow of river water.

The importance of the position of the watershed as a whole unit management is a logical consequence to maintain the sustainability of forest resources, soil and water. Less precise planning can lead to watershed degradation resulting into a barren land, soil / land became critical and erosion on steep slopes. At the end of the degradation process can cause major flooding in the rainy season, the river discharge becomes very low in the dry season, soil moisture around the forest to be reduced in the dry season so as to cause a forest fire, the acceleration of sediment in reservoirs and irrigation networks there, as well as a decrease in water quality.

In principle, watershed management policy (DAS) in an integrated manner is very important in order to reduce and face problems of water resources in terms of both quality and quantity. This policy therefore forms an integral part of the environmental policy is based on the data both academic and technical, the diversity of environmental conditions in some areas and the economic and social development as a whole, and the development of the area. By varying the conditions, the specific variety and also the solution. These variables must be taken into account in the planning and decision-making to ensure that the protection and the sustainable use of watersheds exist in a continuum framework (framework).

Conclusion

Factors that influence the setting of sustainable watershed ecosystem are:

- a. There are linkages between various activities in resource management and development activities;
- b. Involves many disciplines that underlie and covers various fields of activities;
- c. The watersheds are not always coincide / coincide with administrative boundaries of government;
- d. Interaction region upstream to downstream which can be positive or negative impact that requires coordination between the parties.

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