

REVIEW ARTICLE

Watershed Damage in Jakarta: Case Study on Ciliwung Watershed

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Abstract

The description of watershed damage and land degradation has shown an increase year by year. One of the watersheds that has been degraded due to the change of land use is Ciliwung watershed. The purpose of this study is to identify the damaged watershed in DKI Jakarta area in 2015 (Ciliwung Watershed study case). The methodology used in this authorship is a study of literature on a wide range of scientific articles in the form of journals, books, and research related to the subject title. The main factor causing the damage to Watersheds (DAS) in Jakarta is the increase of development and infrastructure which caused the transition of land function which initially functioned as water storage area now turned into building, settlement and others. From the main factors, it can be concluded that the causes of watershed damage in DKI Jakarta area are lack of watershed management in DKI Jakarta, the absence of personnel in charge of watershed management, lack of community awareness and participation in efforts to preserve the watershed and less firm law enforcement.

Keywords: *Watershed, Damage, Ciliwung River*

Introduction

Watershed (DAS) is defined as an area of land integrated with a river and its tributaries, which serves to accommodate, store and flow water from rainfall to the lake or into the sea naturally, of which the border on land is topographical and the border at sea is until water area which is still affected by land activities (Law No. 7 of 2004 on Water Resources).

Currently an estimated 13% or 62 watersheds out of 470 watersheds in

Indonesia are in critical condition, although soil and water conservation activities in watershed management have long been enforced. One of the watersheds that has been degraded due to the change of land use is Ciliwung watershed (Pawitan 2004) and belongs to 13 watersheds in very critical condition (Sobirin 2004). Ciliwung River being one of the major rivers enters and empties into the downstream in Jakarta area with a total watershed area of 347 km² or 34,700 ha and main river length is 117 km.

The development activities in the downstream and middle watershed that includes the area of Jakarta, Depok and Cibinong have taken place massively. Demand for land for settlement, trade, and other services has resulted in reduction of catchment areas including open green space (RTH).

Given such issue of watershed damage as aforesaid, the author is interested in discussing the watershed damage in Jakarta (Case Study of Ciliwung Watershed Damage) whereby watershed is a management unit by taking into consideration the coherence in the planning, implementation and management of a watershed in this case is useful to suppress even reduce the rate of damage to the watershed.

The main factors leading to the destruction of the Watershed (DAS) in Jakarta is due to the increased rate of development and infrastructure that cause the transition of land use from initially serving as a water storage area and now transformed into buildings, settlements and others. Given this phenomenon the author wants to illustrate issues concerning the transition of land use in the watershed in Jakarta especially Ciliwung river.

Methods

The methodology used in this authorship is by conducting a study of

literature on a wide range of scientific articles in the form of journals, books, and research related to "The damage of watersheds in DKI Jakarta 2016 (case study of Ciliwung watershed)". Then making a review of the scientific articles and analyzing descriptively with the aim to describe the existing problems.

Results and Discussion

The main factor that causes damage to the watersheds in Jakarta is due to the increased rate of development and increased number of infrastructures that lead to the change of functions of the land so that reducing the land for water storage and reduced number of types of land for storing water. The demand for very simple land in Jakarta indicates that 0.17 ha/person is still lack of land with an excessive population of 6,166,274 people, while the demand for medium land is approximately 0.70 ha/person is lack of land with an excessive population of 8,108,916 people.

The issue of watershed damage in Ciliwung River is largely due to the shift of the greening function into residential areas. The efforts to manage the Ciliwung watershed damage include relocation of citizens so that to normalize Ciliwung watershed in order to solve the problems. In addition, the Ministry of People Housing and Public Works will begin to normalize the Ciliwung river, namely by installing

Sheet pile by Ciliwung River, then dredged and widened around the Ciliwung river.

Watershed damage is part of the damage of natural resources that will certainly bring harm to humans and can have disastrous effects on life such as floods. The main factor causing the damage of the Watershed in Jakarta (DAS) is due to the increased rate of development and increased number of infrastructures that lead to the change of land function so that the water storage area decreases and the type of water storage area reduced. In addition, the issues that cause ongoing damage to the watershed is lack of watershed management in Jakarta, the absence of management of watersheds in Jakarta, lack of awareness and participation of the community in the effort to preserve the watershed, as well as weak law enforcement.

Conclusion

The efforts to save Ciliwung watershed from damage include relocation of people so that Ciliwung river can be normalized to manage the watershed problem. Therefore, there must be an integrated watershed management with the integration of all sectors and regions from upstream to downstream, conducted thoroughly starting from the determination of policies, setting goals and objectives, activity plans,

implementation of planned programs, monitoring and evaluation of results.

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