

ABSTRACT

The increasing of development rate in Indonesia on current conditions grows rapidly along with the relatively high population growth. An increasing number of these populations is directly proportional to the amount of waste that requires adequate waste management facilities. One of the most important facilities within the waste management's Landfill which is the final stage of a series of waste management processes. However, there are still open dumping landfills that disagree with the Standard Nasional Indonesia (SNI) about the landfill site selection and can lead pollution that can interfere with public health and the environment. Therefore the government through Law No. 18 of 2008 Chapter XVI urged the Transitional Provisions of Article 44 to cover the landfill area and replaced by open dumping landfill sanitary landfill. Therefore the government through UU No. 18 of 2008 Chapter XVI Article 44 Transitional Provisions urged to close the landfill area and replaced the open dumping with sanitary landfill.

Cirebon as a developing regency in is reasonably necessary to examine the alternative new landfill. It is important because the Cirebon Regency still apply the open dumping system generally in the final stages of the management of waste. Moreover, it becomes urgent considering Act No. 18 in 2008 which requires that local governments are already closing the open dumping landfill more than 5 (five) years since the enactment of the legislation. Therefore, the study of the location of the new landfill is expected to find locations that qualify in accordance with the regulations as well as meet the waste facilities required.

Landfill site selection in Cirebon Regency consists of two stages of information screening. Regional screening phase and opt-stage filtration utilizing Geographic Information System (GIS) that is in a way to overlay the thematic maps Cirebon Regency. This step will result in grade eligibility landfill in Cirebon Regency which was then narrowed down into some landfill alternative. The next stage of the phase is determination using the Analytic Hierarchy Process (AHP) to calculate the weighted selection criteria and assess each alternative landfill location. This stage will generate the weight of each selection criteria and ranking of alternative examined.

This study managed to get four location as a viable alternative location to become future landfill i.e. the Village Walahar, Galagamba Village, Guwa Lor Village and Jagapura Wetan.Village. Recommended landfill location with the highest rank is Walahar Village with a potential area of 119.8 ha. Methods and results of this study have validated with the user namely Dinas Cipta Karya dan Tata Ruang Kabupaten Cirebon. The users said that the research conducted is important, methods developed is appropriate, and results are applicable and useful for Cirebon Regency.

Keywords: Landfill site selection, GIS, AHP.