



# River management: The importance of the roles of the public sector and community in river preservation in Banjarmasin (A case study of the Kuin River, Banjarmasin, South Kalimantan – Indonesia)



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## ABSTRACT

River management has a role for all parties concerned. The high population pressure on the environment of the Kuin River, Banjarmasin, South Kalimantan, Indonesia has resulted in serious degradation. These conditions call for an effort of improvement. The objectives of this study were to investigate the interaction between people and the river environment, identify the programmes of the local government to improve the river, and explore the roles and obstacles faced by stakeholders in river management. The data were based on semi-structured interviews, surveys and documentation. The results showed that the river community utilized the river for their transportation, trading, and daily activities. Various efforts from the stakeholders, especially local government and community organizations, have been made for improving the condition of the Kuin River, but obstacles still remain. Such constraints come from the community's lack of awareness of environmental preservation and the government's lack of synergy with those involved in river management, including the obscurity on who is authorized to manage the river area. Therefore, coordination, cooperation and consultation among the stakeholders for every policy related to the river is necessary. The involvement of the local community also becomes essential for the integrated and sustainable river management.

## 1. Introduction

A river is defined as a natural water container or catchment that flow from upstream areas to an estuary (Wetzel, 2001). Due to its versatile functions, rivers attract people to make settlements around it (van der Velde, Leuven, Ragas, & Smits, 2006). Based on the River Catalogue data in 2015 from the Department of Water Resources and Drainage of Banjarmasin, there are 102 rivers flowing in Banjarmasin, which consist of 3 large rivers (width of river > 50 m), namely, the Barito, Martapura and Alalak Rivers; 45 rivers of medium size (width of river between 15–50 m), including the Kuin, Duyung, Andai, and Awang Rivers; and 54 small rivers (width of river < 15 m), among others the Guring, Tatas, Keramat, and Kuripan Rivers. For this city, rivers provide a drainage system and give distinctive characteristics for the life of the people, especially those that live on the river banks. The rivers function as transportation infrastructure, a support for economic activities, and a socialization locus. In addition, the river also functions

for daily activities (bathing, washing, and toilet), and in some places, especially on the river side, it is used for the location of sawmill and sand-mining (Angriani, Sumarmi, Ruja, & Bachri, 2016) (Fig. 1).

However, in addition to these functions, there is a negative impact of human activities on the river. Pollution from household waste, commercial and industrial activities, garbage, chemicals, etc., can affect the water quality. This will especially affect the use of the river as a drinking water source or as habitat for freshwater ecosystems. Due to these conditions, an effort to maintain and manage the river is needed. In Indonesia, maintenance and management of large rivers are usually carried out by the government, both central and local governments (Fulazzaky, 2014; Raharja, 2009; Subijanto, Harianto, & Hidayat, 2013; Vollmer, Prescott, Padawangi, Girot, & Grêt-Regamey, 2015), such as the Barito River and the Martapura River in Banjarmasin. Management becomes the authority of the provincial government (Geenen, Miegheem, & Dens, 2015; Widodo, Damayanti, & Hadi, 2012). However, the use and maintenance of medium and small rivers is commonly

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