Tropentag, October 6-8, 2009, Hamburg

"Biophysical and Socio-economic Frame Conditions
for the Sustainable Management
of Natural Resources"

Problems and Critics Toward Water Management in Megacities: A Case in Indonesia

Soviana Soviana, Jofi Puspa

Justus-Liebig University Giessen, Department of Agricultural Economics, Germany

Abstract

Jakarta, the capital city of Indonesia, has been facing the problem of clean water shortage for years. In pace with rapid industrial and demographic development of the city, many buildings and households are consuming groundwater through private water drilling systems in order to fulfil the high demand of clean water. It leads to an over-exploitation of groundwater, which has further negative impacts; for example land-subsidence, severe flood, and seawater intrusion. These impacts have been becoming more evident in the last few years; *e.g.* the decrease of groundwater level by up to 5 m,year^{-1}, land subsidence rate of around 10 cm year^{-1}, and severe Jakarta flood in 2007 that caused total lost of 2.05 billion USD and 159 lives loss. These phenomena have been recognised in earlier studies about Jakarta's groundwater in 1983–1985 as well. Despite the early indication of negative impacts, there is no comprehensive published research so far. Therefore, the objective of this paper is to present the latest facts of these problems and critics concerning the water management accordingly.

We have found out that the core problematical issue behind the water shortage problem in general concerns with management of competences, which can be categorised into several groups: **(1)** technology — the choice, implementation, and control of technology; **(2)** networking — creating partnerships and maintaining cooperation; **(3)** behavioural — knowledge, abilities, and commitments; **(4)** regulation — water-law construction, enforcement, and control; and **(5)** marketing — promoting awareness, motivation, and active participation in water management. These competences are targeted to improve the effort to fulfil water demand not only in term of quantity, but also in term of quality by accomplishing the international safety standard of clean water. The implications of our research finding are to provide a scientific contribution by analysing the water shortage problem from management perspective and to stimulate further research projects in pursuit of providing sustainable water management solution.

Keywords: Clean water shortage, management competences, water management

Contact Address: Soviana Soviana, Justus-Liebig University Giessen, Department of Agricultural Economics, Senckenbergstrasse 3, 35390 Giessen, Germany, e-mail: s.soviana@yahoo.com