

# Market Capacity Model And Solid Waste Disposal Systems In Metropolitan Jakarta: A Case Study On Kramat Jati Central Wholesale Market For Fresh Produce

**Authors:** T. Araki, T. Koyama, Y. Sagara, A.H. Tambunan

**Keywords:** maximum acceptable amount, minimal floor space, solid waste management, stakeholders analysis, supply chain management

**Abstract:**

A market capacity model is proposed to predict the maximum acceptable amount of incoming fresh produce per unit area in the *Kramat Jati* central wholesale market in metropolitan Jakarta. Engineering fieldwork as well as stakeholder analysis were carried out for nine months to investigate the performance of the market as a part of the supply chain for fresh produce and the impact of solid waste from the market on the terminal garbage dump. The results of the stakeholder analysis revealed that eighteen or more stakeholders were involved in the problems of solid waste disposal in metropolitan Jakarta. The total solid waste from 151 fresh produce markets in Jakarta was 1,034 m<sup>3</sup> per day, which corresponds to 4% of the gross volume of solid waste in Jakarta. The central market disposed of 199 m<sup>3</sup> per day of solid waste, which was not significantly affected by the total amount of incoming fresh produce. Moreover, three problem-solving approaches are proposed to manage the issues in the long run; consensus-building, top-down and bottom-up.