

ACCEPTANCE AND RISK PERCEPTION OF LANDFILL SITE

Kaoru Ishizaka, Yasuhiro Mastui, Masaru Tanaka, Chika Mastushita

Graduate School of Natural Science and Technology, Okayama University,
3-1-1, Tsushima-Naka, Okayama 700-8530, Japan

Landfill site is an essential disposal facility for waste management, however, associated with uncertain risks and public protests. In Japan, this problem is aggravated due to acute shortage of land for industrial waste disposal. In order to improve the public acceptability for the landfills, practical use of risk communication is necessary. This calls for analysis concerning to psychological aspect about the structure of risk perception. Thus, this study attempts to analyze the factors relevant to the acceptance and risk perception of landfill site through the questionnaire survey.

One thousand residents living in 3 cities in the Okayama prefecture (Yoshinaga Town, Kurashiki City and Okayama City) were selected by systematic random sampling from the telephone directory, and investigated by the mailing method. The number of valid responses was 423. The survey contained 72 questions. The acceptance of landfill site was measured by one question (Can you accept the landfill site near your residence?). Risk Perception was measured by 2 questions, viz., a possibility of leak accident in controlled landfill site and a seriousness of environmental pollution caused due to the accident. To measure the factors relevant to the acceptance and risk perception of landfill site, the authors designed the question addressing this issue like the credibility of waste management company, disposal technology, knowledge of hazardous substances, information sources of waste management, social characteristics of the inhabitants etc. Questions were answered by 7 point Likert scale. Initially, the scales relevant to acceptance of landfill site and risk perception were constructed through the factor analysis, subsequently; structural model was developed through path analysis.

The result showed that the factors which influence the acceptance of

landfill site were "risk perception", "the acceptance of toxic substance", "the reliability of disposal technology", and "the credibility of sincerity of waste management company (at normal situation)". The factors which influence the risk perception were "the acceptance of toxic substance", "the reliability of the disposal technology", "the adverse feeling for the perception of industrial waste", and "the trust in waste management company for compensation for the damage and remediation for the degradation of environmental quality (in case of accidents)". This study identifies a need for the measure to improve acceptance of landfill site based not only upon risk perceptions but also on the lack of trust and credibility in waste management company and disposal technologies. Suggestions dealing with these concerns are discussed relating to the details of risk communication and the measures to improve trust and credibility.