

A New Approach to Municipal Solid Waste Governance based on a Sound Material – Cycle Society Initiative in Hanoi, Vietnam.

ベトナムハノイの健全な物質循環イニシアティヴに基づく一般固形廃棄物管理に関する新しい手法

Supervisor: Helmut YABAR

1. Introduction

Municipal Solid Waste Management (MSWM) in Hanoi, Vietnam at present is causing many serious impacts on the environment and has become a burden for local government to deal with. The current MSW generation in Hanoi is around 4,773 tons/day and it is estimated that the MSW amount will increase threefold in the coming years. MSW composition has been changing significantly because of living standard and habit changes. However waste collection and waste treatment systems in Hanoi have not changed and adapted with these increasing trends. This study aims to analyze the Japanese Sound Material Cycle Society (SMCS) initiative and its potential application in Hanoi, Vietnam at the first step: waste classification.

2. Methodologies

Because of complicated changes from old Hanoi to new Hanoi so the fieldwork was just conducted at 4 main wards in Hanoi (Nguyen Du, Lang Ha, Thanh Cong and Phan Chu Trinh) and some main markets in urban areas. The main methodologies are listed below:

- Selection and analysis secondary data
- Research and target areas (household, markets, restaurants)

- Questionnaire survey and quick interview
- Expert interview
- Collective, statistical and analytical methods.

3. Results and Discussion

Four alternative scenarios are designed based on the social-economic conditions of Hanoi City and local government target toward MSWM to become a sustainable city. Each scenario has different type of waste collection and waste treatment. The scenario I is current MSWM system in Hanoi. New treatment technologies such as bio-gastification and incineration are assumed to apply in scenario III and IV. The final landfill disposal amount, environmental impacts and human toxicity is observed as comparative indicator for scenario selection.

4. Conclusion

The results in scenario analysis show that scenario III is the best selection for Hanoi City to realize the SMCS initiative in the future. The key method to achieve the goals of both economic benefits and environmental protection at the same time is improvement of people awareness about waste separation at source and a proper strategic general plan from local government.

Keywords: *A Sound Material-Cycle Society, Municipal Solid Waste (MSW), Waste classification, landfill, recycling, Hanoi, Vietnam.*