



Application of Geographic Information System on hazardous waste management

A case study of Ninh Kieu District, Can Tho City

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INTRODUCTION

- GIS (Geographic Information System) have been significantly developed to support monitoring and management geo-spatial database.

→ An example of such application is the municipal solid waste.

- Difficulties in managing hazardous waste (HW) in the cities include:

- (1) Database is saved in form of hard-copy (difficult to update and prone to data-lost),
- (2) Attributes data are not geo-referenced (difficult to access the information).

❖ The study aims:

To build a geo-referenced database to support HW management at the Ninh Kieu District, Can Tho City to:

- (i) Evaluate trend of changes (in terms of quality and quantity) of HW generated through the study period (2010 - 2013); and,
- (ii) Support the management and collection HW efficiency.

METHODOLOGY

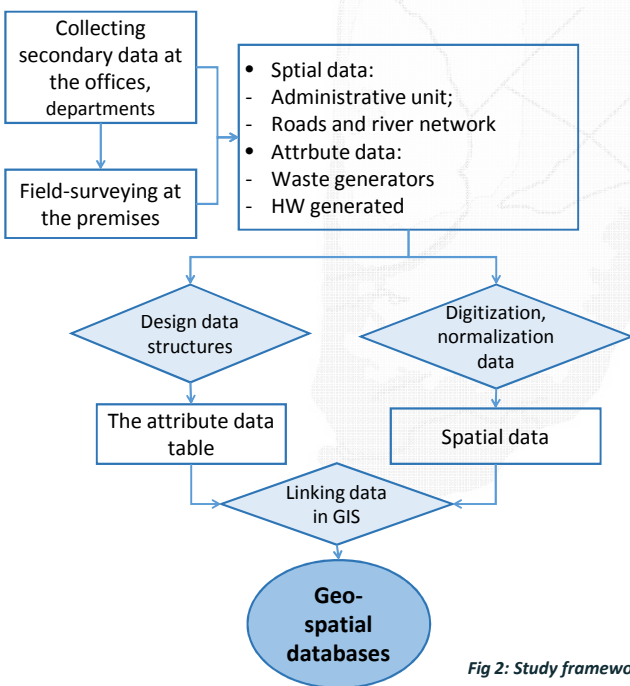


Fig 2: Study framework

RESULTS

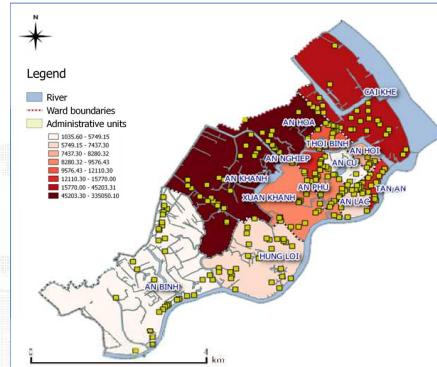


Fig 3: Distribution of facilities generating HW and amount of waste-generated (kg) in the administrative units (2013)

- The HW-generated facilities are characterized as (Fig. 3):
- Small scale (clinic, garage, hotel, etc.) with dramatically HW rise during the study period 2010 - 2013.
- Allocated along the canal systems.
- Scattered largely in the district.

- Amount of hazardous waste and the number of facilities has been raising (Fig. 4 and 5)

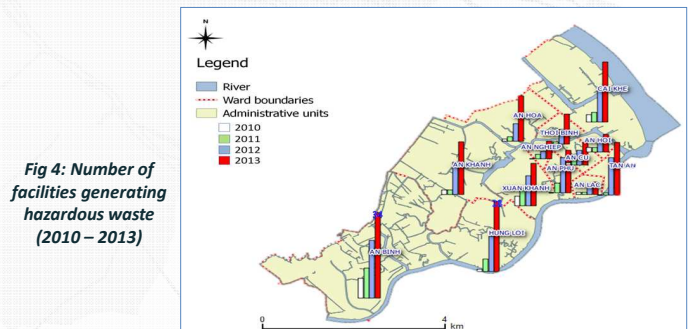


Fig 4: Number of facilities generating hazardous waste (2010 - 2013)

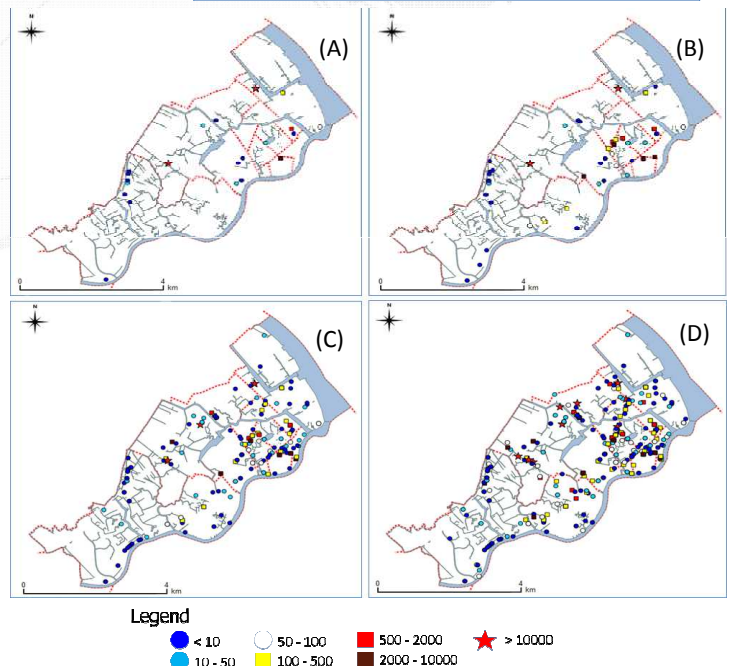


Fig 5: Facilities and amount of hazardous waste-generated in 2010 (A), 2011 (B), 2012 (C), and 2013 (D)

CONCLUSIONS

- HW-generated facilities and quantity of HW are increasing and distributed unevenly across space.
- The GIS-database was developed to manage HW at Ninh Kieu District by type of waste corresponds to a different code.
- The GIS-database should be developed to be able to share many of the same uses.

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