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Geoinformation as a planning instrument for location  
analysis for semicentralized supply and disposal units in  
Hanoi

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Hanoi



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## Situation in Hanoi

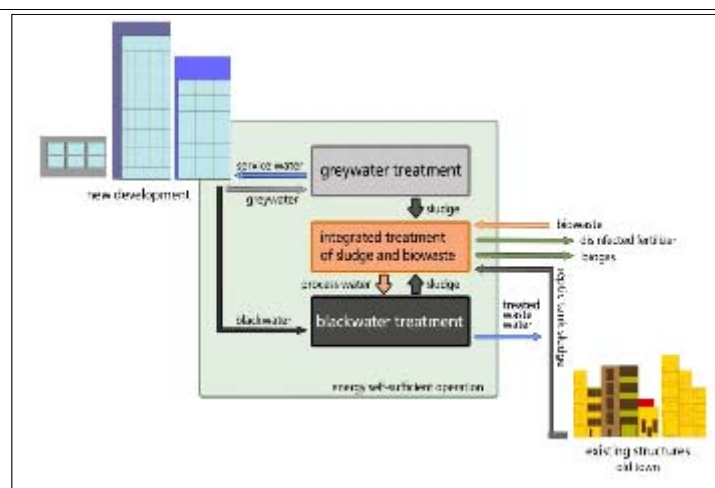


- Hanoi is a rapidly growing city
- Infrastructures and public services (energy, water supply and disposal) have to be adapted to the rapid urbanization, often caused by immigration
- Actual there are only so called **septic tanks** (ST)
- Concept of ST is to collect the wastewater from the toilet and other housing sewages
- Problem is the marginal control of clearing the septic tanks
- Sludge in the ST sinks down and the remaining water runs into the channels and finally untreated into the river
- Main problem is the water supply and treatment of wastewater
- Untreated waste water contaminates the ground water
- The consequence is the odour nuisance and damages caused to habitants' health



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## Concept Semicentral



Semicentralized supply and Disposal Centre (SDC)

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## GIS as a planning instrument for location analysis for semicentralized supply and disposal units



- A status analysis in a district of Hanoi is necessary
- Data Acquisition and Database is needed
  - Secondary Data
  - Primary Data
- The results of data collection will be combined in a Geographical Information System (GIS)
- The results of the inventory and collected data with spatial reference could be presented in form of digital maps and are a foundation for further analyses
- The GIS is a planning foundation to develop a transport concept for the wastewater and organic waste treated in the semi central center



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## Results of using a GIS



### Semicentral supply and Disposal Center

- A location analysis is necessary
- Following parameters have to be considered concerning the location analysis :
  - Dimension of the SDC,
  - Patch,
  - Amount of septic tank sludge and organic waste,
  - Short distance to recipient,
  - Spacing to next constructions,
  - Combining of new and old structures and
  - Existing infrastructure, ...



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## Results of using a GIS



### Transport concept

- After defining a location of the SDC the transport concept could be developed
- Finally different transport concepts could be compared with each other using the GIS
- Analysis of accesibility of buildings depending on distance to the next larger road which is drivable with a big suction vehicle



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