



# **Wastewater management in the industrial zones of the Vietnamese Mekong Delta: A spatial approach to understanding failures**

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- Field findings: Wastewater management (WWM) failure
- Comparison with other similar research
  - 3 broad analytical approaches
    - Different country, different day, same problem
    - Aspatial
- My analytical approach: spatialised one
  - What is “spatialising”, how to spatialise analysis
  - Why? Contextualises the problem. Gives new insights.



“How does the *institutional environment* in industrial zones of the Vietnamese Mekong Delta affect wastewater management?”

## WHY

Institutional analysis: considers actors, rules, strategies, community attributes, physical conditions, material conditions, transaction costs of coordination, and outcome

## HOW

Semi-structured interviews with authorities, companies, and households in 4 provinces along the Hau River (An Giang, Can Tho, Hau Giang, and Soc Trang)

Media analysis

Literature review: IO reports.  
Legal documents in Vietnam

## WHAT

Overview of industrialisation.

Effects of industrial production on water.

Current situation of WWM in industrial zones



- ◆ Industrialisation in Delta: “light” and low-tech
- ◆ WW Management has failed
- ◆ Reasons concur with previous analyses:
  - ◆ Low capacity
  - ◆ Weak institutions; fragmented institutional arrangement
  - ◆ Weak legal framework
  - ◆ Poor monitoring and enforcement
  - ◆ Unfavourable economic conditions



- ◆ Main categories
  - ◆ Economic
  - ◆ Legal
  - ◆ Capacity/ institutional
- ◆ Shortcomings
  - ◆ Descriptive and also mostly prescriptive
  - ◆ Yet also acontextual
  - ◆ Doesn't address the socio-economic-politics of Vietnam

**No real or new insights!**



- Inductive process.
- Literature review of Vietnam’s socio-political economy
  - Administrative-geographical motif in literature:

Central govt  
Ministry  
Department  
Division  
Office

National level  
Province  
District  
Ward/Commune  
Area/Hamlet

- Analysis of legal framework → organisational and operational territories, administrative scales and hierarchies
- Analysis of interviews. Actors’ perceptions → place meanings

## “The spatial”?

- Territory, place, scale, boundaries, networks, regions, etc.
  - Physical and/or abstract
- Literature: tends to mono-dimensional work.
- Multidimensional analysis more fruitful (Jessop et al 2008)

## Why (not)?

## And how?

- Inductive but can be turned deductive: Looking for spatial parameters in subject of study, actors and rules involved with it.



## Understanding WWM in industrial zones

Where do territory, place and scale feature?

### Looking at:

Interviews with provincial authorities, environmental protection bodies, households suffering from pollution

Legal framework for WWM

### And finding:

:: Meanings they associate with the IZ as **place**

:: Operational boundaries/**territory**

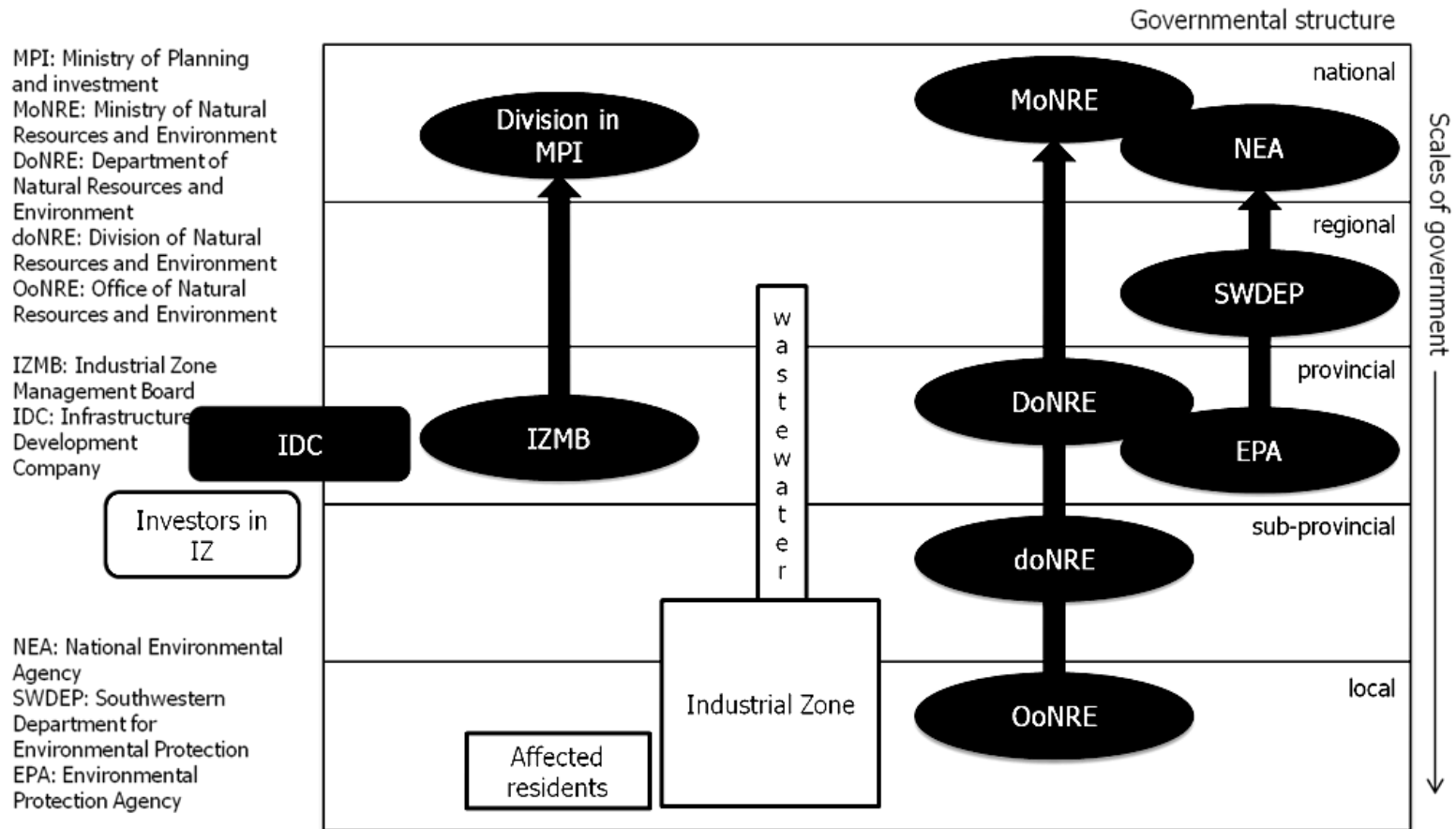
:: Prescribed operational boundaries/**territory**

:: Administrative or organisational hierarchies. **Scales** of environmental governance



# Results: Spatialised analysis of WWM failure

“Administrative positions” of entities involved in environmental protection in IZs



- Organisational scales of administration correspond to the physical scales of administration.
- Governmental organisations have clear physical territories of operation.
- Unlike the industrial zone management agencies (to left), the environmental protection agencies (to right) have a more pronounced hierarchy, which circumscribes their operations.





# Conclusion

- Basically: problem of "spatial fit"
- Benefits of considering more than just one spatial aspect
  - Administrative and organisational hierarchies [scale]
  - + Operational mandates [territory]
  - Place meanings that shape (in)actions [place]
- Goes past the usual explanations for WW management failure. Contextualises.

**Questions and feedback are welcomed!**

