

# Calculating the ecological debt for a private company in the North: an explorative study with conflicting results

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## CEECEC: Activist – Scientist collaboration

CEECEC (Civil society Engagement with ECological Economics) is a European Commission FP7 funded project that aims to enable Civil Society Organisations (CSOs) to lead collaborative research with ecological economists. The overall focus is not on theory but on case studies in areas such as heavy industry, energy or forestry.

End result: online materials + a handbook in several languages explaining principles, tools and methods of Ecological Economics



## Environmental justice

-A concept initiated by **CSOs in the North** and appropriated by **philosophers**; "find a way to distribute the benefits and burdens of environmental commodities" (Jamieson, 1994)  
-Raises hard political and ethical questions



**Deliberative justice:** dialog platforms to encourage participative democracy on environmental issues, and the role of communities into decision making

**Distributive justice:** ideal equitable distribution of environmental amenities toward local communities (present looking justice)

**Reparative justice:** actions that should be made to repair damages (backward looking justice)

## Ecological debt

- A concept initiated by **CSOs in the South** and appropriated by **economists**: the debt accumulated by northern industrial countries toward third world countries regarding pollution, theft of resources and disproportionate use of the environment" (Accion Ecologica, 1999; Alier, Simms, Reinhout 2002)  
- Raises hard political and ethical questions  
- Debates on monetization of environmental services

**Public debt:** a debt a country has towards other countries

**Generational debt:** a debt a nation has toward future generations in its own country

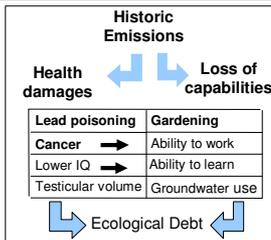
**Private debt:** an ecological debt a private company has towards a defined group of people

## DEGROWTH

decreasing the exploitation of natural resources by calculating external costs

## Our case study

- 1) The **largest precious metals recycling unit** in the world, in production since 1888. Manipulating arsenic, lead and cadmium.
- 2) Many **environmental and health problems**: water and soil pollution, lead poisoning, high incidence of cancers (Hoboken> Flanders)
- 3) In 2004, the company paid 77 million € for a big clean-up operation of the soil. They claim to recognise their '**historic responsibility**'.
- 4) **Secret compensations** have been given for **poisoned cows, but not for sick people**, neither for economic losses



## Our methodology

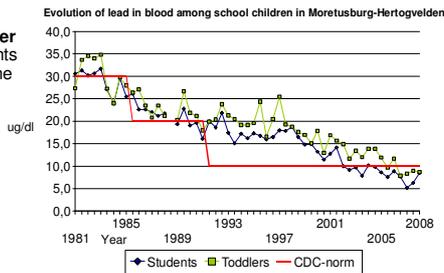
- 1) **Establish cause-effect relationships between this unit and damages**  
Increased lead in blood, ground and water pollutions.
- 2) **Establish a cut-off date**  
When state recognised that lead pollution came from the company
- 3) **Define the scale of the damage**  
Lead poisoning, loss of the capability of gardening, probably also cancer
- 4) **Use reference works to calculate the economic value of the damages**  
The cost of illness handbook - value of human life in comparable cases

## Health damages

### Example: Lead poisoning

Since 1978: most important factor for explaining the **higher lead level in blood** of students and toddlers in Hoboken is the combination of time and distance to the factory.

The Provincial Institute of Hygiene analyses **blood samples every six months** since 1978. Results in graph



CDC: Centers for Disease Control

risk class	cost in 2009 €
I	149.8
II	294.4
III	3215.1
IV	6351.9

All cases are classified according to the CDC risk level classes in place at that time. **The Cost of illness handbook** calculated the associated costs of treating patients for every risk class. The total cost in Hoboken since 1978 totals **11 753 334 €**

## Loss of capabilities

### Example: Gardening

Since 1973, the Ministry of Health began telling all people in Hoboken **not to grow vegetables and fruits** themselves, because of the pollution coming from the industrial plant

14 626 households in Hoboken ≈ 2340 private vegetable gardens ≈ 93600m<sup>2</sup> + 24500 m<sup>2</sup> common vegetable gardens ≈ 118100m<sup>2</sup>

average size vegetable garden (40 m<sup>2</sup>) produces vegetables worth 920 € per year  
cost of maintaining the same 40m<sup>2</sup> garden is around 182 € per year for tools and seeds

≈ 738 € of profits per year, per household owning 40m<sup>2</sup>  
≈ 2 178 945 € of profits for private and common vegetable gardens of Hoboken

As the interdiction of gardening in whole of Hoboken lasted 26 years, the subtotal loss of capabilities regarding gardening in Hoboken totals **56.6 million €**. In the area nearest to the factory, the interdiction is still in place, bringing the total loss of capabilities regarding gardening in Hoboken to **58.8 million €**.

## DISCUSSION

**Exploratory study:** from public and global to private and local ecological debt

**Knowledge transfer** between scientists & CSO: capacity-building and tools appropriation

**Methodological difficulties:** no perfect datasets and no resources to do our own empirical research. Extrapolations needed.

### Ecological debt of the industrial plant:

Lead in blood: 12 million €  
Loss of capabilities: 59 million €  
Cancer treatment: 35 million €\*  
Cancer mortalities: 206 million €\*  
Total: 312 million €  
\*potential debt, if the likely causality is confirmed

### Draft study was sent to the company

**Meeting with the chairman**

**Letter rejecting the concept of a private ecological debt** + list of factual errors

After review: **draft published online**

**Company issued public statement** against

Now: **Publication in peer-review magazine?**

**Then start a new discussion with company and government?**

**Ecological debt:** a concept that could help CSOs in their activities but still hard to convince politicians and industrialists

**Should not be seen as 'right to pollute'** even if compensation for damage follows

**Company should recognise the concept**

**Government** should do further **research**, adapt **norms** to latest health research and ensure **corporate accountability**

To be continued...