Capacity Development as an instrument for Environmental and Climate Protection as well as a sustainable waste management in Jundiaí, Brazil

Partner

LÜNEBURG die HANSEstadt

JUNDIAI PREFEITURA DESENVOLVIMENTO SUSTENTÁVEL

Support

GFA www.gfa-lueneburg.de

Technische Universität Braunschweig

Financing

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Main project pillars:

Environmental Education, Capacity Development & Operational Training

Institutional setting

- National Waste Policy in Brazil came into force in 2010, but still about 40% of waste is being disposed of on dumpsites and water bodies → there are almost no technologies for valorization of municipal solid waste
- Political barriers but also potentials for improvement due to a new municipal administration in Jundiaí since 1st January 2017
- New Administration plans to improve and expand the waste collection as well as introduce waste treatment technologies, but not enough technical capacities for the execution of these plans

Target groups: public staff and administration, companies and educational institutions

Involved stakeholders: Prefecture of Jundiaí and Lueneburg, GfA Lueneburg, TU Braunschweig, Public schools in Jundiaí

Starting point

- **Convincing** the new **administration** to execute the project.
- How to make up for the **lost time**: project started only in February 2017?
- How to reach the **population**, or better, the **highest possible** population?
- Which **district** is suitable for the **project** and the **survey**?

Approach

www.nakopajundiai.com.br

- Elaboration of **scripts, reports and presentations** in Portuguese and German
- Dissemination of information in **seminars and trainings** as well as a **project homepage**
- Participation at **Master engineering courses** at the university PUC in Rio de Janeiro
- Technical visits of various **waste treatment plants in Brazil and Germany**
- **Educational programs in public schools**
- **Survey** about the **causes for irregular disposal** of **waste** and he populations opinion for improvement.

Project goals

- **Optimization of the waste collection** services and improvement of the selective collection of recyclables
- **Environmental education** and **raise awareness** for the topic waste and its negative impacts on the environment, climate and public health
- **Multiplication and dissemination of knowledge and experiences**
- **Sustainable improvements of environmental**, climate and health conditions for the population

Success and results

- **2.000 students and 160 teachers** and educational staff participated at seminars and environmental education lessons, **500 participants** at technical seminars.
- **451 applied** questionnaires represents the opinion of **28.000 inhabitants**.
- **30% less rejects at recycling centers** and transformation of two so called “voluntary delivery points” to recycling points with trained supervision in the studied district
- **70% less irregular disposal** of waste on green areas and water bodies.
- Elaboration of a **Technological Manual** with the title ***Sustainable Waste Management***

Cleaning and transformation of uncontrolled “voluntary delivery points”

Lessons

- **Continuous educational programs** in all **public schools** and **further trainings** of the public staff are necessary → there was a great demand at schools, also by teachers and directors.

- **Population is concerned** about the waste problem and is willing to cooperate, but therefore need to receive **correct and comprehensive information** → improve **dialog** between population and city administration

- Survey results showed that the population **does not have fundamental information** about the municipal waste management

- Main reasons for the waste problem are **lack of education** and **lack of interest by the population**

- What needs to be done for **improvement**: **more environmental education programs** and more information from the city administration

What are the next steps?

New project? Expansion of survey to the entire city?

Introduction of a waste treatment facility?

Pilot project as model to improve the waste management?

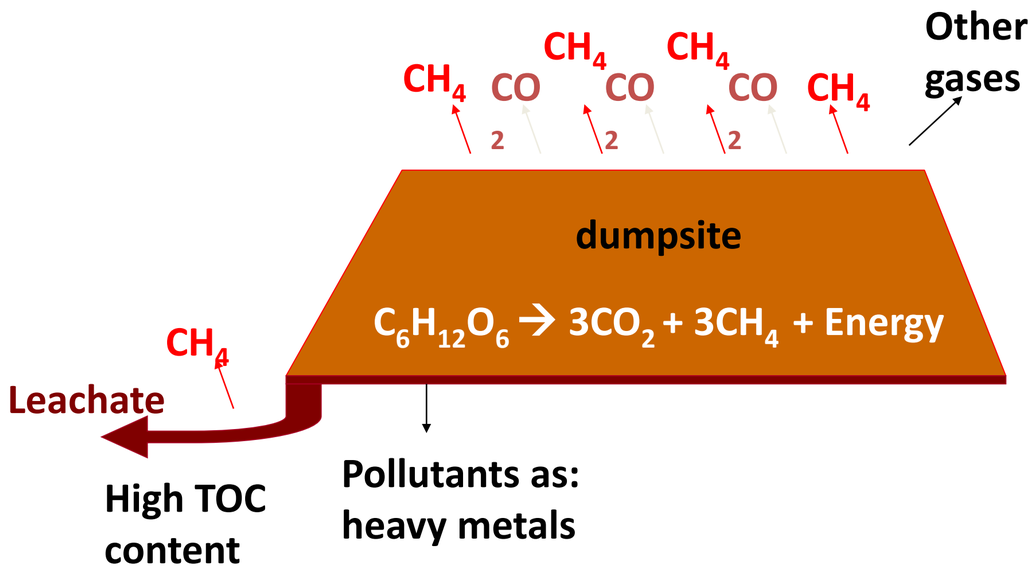
Climate protection

- Inappropriate waste management (**dumpsites and landfills**) in developing countries contribute up to **8-12% to the worldwide GHG emissions, e.g. 42,2 Mio t CO2eq are emitted from Brazilian landfills every year (~80 Mio. t MSW)**

- By **reducing or eliminating** illegal disposal of waste on dumpsites → reduction of emissions

- Continuously increasing **diversion rate of waste** disposed of on landfills through technology implementation

- Waste as **resource** for the production of **energy and secondary products (compost, recyclables and energy)**



Credits from energy production (substitution of fossil fuels), **grid factor Brazil: 0,2677 t CO_2eq/MWh**

Treatment Option	Saving I	Saving II	Credits	CER I	CER II
	(t CO_2eq)				
LFG & flaring	2,01	0	0	2,01	0
LFG & gas utilization	2,01	0	0,46	2,47	0,46
Agriculture	4,03	2,02	<<<0,5	4,03	2,02
Digestion & agriculture	4,03	2,02	0,74	4,77	2,76
Incineration	4,03	2,02	1,12	5,15	3,14

Baseline I:
4,03 t CO_2eq (without LFG)

Baseline II:
2,02 t CO_2eq (with LFG)