

# Any lessons learnt from Kolontár disaster?



*Simon Gergely*  
*2015-10-05*

# **Red sludge – Hungary: Hungary stores around 30-55 million tonnes of red mud: Ajka, Almásfüzitő and in Mosonmagyaróvár.**

On 04. 10. 2010, due to the ruptured dam, a mixture of 1 million m<sup>3</sup> of red sludge and caustic water flooded

**10 people died and hundreds of people injured, some seriously**



# GREENPEACE

[www.greenpeace.hu](http://www.greenpeace.hu)



# CAUSES: Location and geology

- Satellite images reconstructed the past of the dam.
- Hungarian Institute of Geodesy and The European Space Agency:
  - **the red mud reservoir dam has been moving significantly for years. These dislocations are not only intensive, (extent exceeding 1-2 cm/year)**
  - The dam broke at the point of both the largest demonstrated movement and the largest differentiated movement.

•The results of the investigations have proved that through monitoring the stability of the dam, these movements could have been demonstrated years ago.



# Lack of proper hazard assessment



Around 1M m<sup>3</sup> of red mud spilled to the contrary, the disaster management plan only calculated with 300-400.000 m<sup>3</sup>.

**Flood was reaching 2m, instead of max. 1 m**

Authority inspected few days before disaster, without noticing this

- **None of the authorities substantially considered the risk of a dam break. The IPPC permit does not identifies dam break as a risk factor.**
  - *Neglecting this risk is surprising given that the operators had direct experiences of such events: failure of dam and pollution in 1991*

# Misclassification of waste category?

- In Hungary before 2002: red mud is hazardous waste
  - Depositing hazardous waste: stringent criteria, more inspections.
- In 2003 MAL successfully contested the authority's first decision ordering to treatment the red mud as hazardous waste
  - This substantially easing the requirements concerning the disposal and the monitoring.
- Local notary prohibited disposal of hazardous waste, but **no action was taken against de facto disposal of hazardous waste**

EC: the red mud causing the disaster is considered hazardous by the EWC, Hungarian authorities made an error when they did not classify it as hazardous waste.

Basel Conv. bauxite residues are hazardous waste, as long as their pH is higher than 11.5



# GREENPEACE

[www.greenpeace.hu](http://www.greenpeace.hu)



- **The Inspectorate failed to engage the competent District Mining Inspectorate in the licensing process.**



- **From 2002, no authority was checking the stability of the reservoir**

# Causes: no financial liability

## Lack of mandatory financial security deposits

- EU Directive on environmental liability and the prevention and elimination of environmental damage:
  - Aim to make the polluter pays principle mandatory in the field of environmental damages.
  - The provisions of the Directive on mandatory financial security deposits were formally taken over by Hungarian legislation
  - The actual financial liability has not been implemented:

**Insurance of MAL: 20 million HUF**

**Total clean up cost: 40 billion HUF**



**GREENPEACE**



# Composition & hazard of the sludge

- No proper information on the composition of the sludge
- October 4th, Disaster Management's website: *"sludge contains heavy metals, including lead, and is mildly radioactive, inhaling the dust may cause lung cancer"*.
- MAL on the 5<sup>th</sup>: „the sludge is harmless, it was a natural disaster"
- ÁNTSZ on the 5<sup>th</sup>: „red mud is very low in toxic content, including toxic metals" **measurements from 1987**
- MTA (Academy) on the 7<sup>th</sup>: sludge contains no toxic metals, or heavy metals soluble from the sludge to excess of minimal risk levels. (based on 2003 tests, no As tests)

**Greenpeace test results on the 8<sup>th</sup>: (6<sup>th</sup>): arsenic conc. two magnitudes higher as published by ÁNTSZ.**

**As & Pb, Ni, Cr exceeding soil, and groundwater limits.**

- MTA statement used for challenging the results of Greenpeace tests. Later MTA removed Oct. 7th statement from their site

- 13<sup>th</sup>: MTA results similar to GP, but **compared with much higher sewage sludge limits – exceedence only for As**





## Causes: Privatisation

- MAL bought the Ajka plant for **10 million HUF** (around 35 000 EUR) in 1997. The company was estimated to worth 4 billion HUF (14 million EUR) but the new owners were obliged to undertook billions worth environmental remediation before 2011.
- **MAL only partially carried out the remediation of hazardous waste produced in the past or during every day production, - competitive advantage.**
- **The privatisation contracts were classified, and they have just been disclosed**

## Causes: Dismantling the authorities

Lack of strong and independent authorities in Hungary



•Statement of 26 NGOs : ..at the environmental protection and nature conservancy inspectorates there is an average of less than half an hour allotted to a case. Site visits usually cannot be fit in this amount of time, office workers mostly make their decisions based on the paperwork turned in.

# Conclusions

- *This accident would not have happened in this form and with such a severe impact, if all the authorities involved as well as the company adhered to existing regulations and carried out the tasks derived from the legislation in the course of authorizing and monitoring the reservoir at Ajka.*
- The factors leading to the gravest results (large amount of water, it's pH, sinking of the dam) can be traced back to omissions and faults in interpreting and applying the law

**•Politics also contributed to preparing the disaster by failing to include environmental guarantees in the privatization contracts, lack of financial environmental liability and weak incompetent authorities.**





# Almásfüzitő



15-18 million tons of red sludge is stored right next to the Danube, and hazardous waste is being piled on top of it .

**The company TKV claiming that they do remediation of red mud site for 26 years.**

**Current permit 2 million tonnes of waste/year „composte”, including 165 kind of hazardous waste and more then 240 kind of non-hazardous waste can be ,deposited’ there**



**No monitoring of pollution by by the Danube,  
No requirement to measure the pollutants of the toxic wastes**

• Authority: TKV is modern, non hazardous facility, according to all EU laws & GP is making rumour

**GREENPEACE**

[www.greenpeace.hu](http://www.greenpeace.hu)



# Leaking reservoirs:

HU Academy of Sc. Geographical Institute: The polluted groundwater leaking from the tailing ponds flows towards the Danube is most of the year

- Greenpeace's own measurements

**December 2011.:**  
**Arsenic in soil piece**  
**324 mg/kg,**  
**Hungarian limit is**  
**15 mg/kg**

- Authorities could not find any pollution, but granted 111 times higher special groundwater limits for As



# GREENPEACE

[www.greenpeace.hu](http://www.greenpeace.hu)



# Greenpeace initiated an EU infringement case in January 2012.

- After pilot phase, infringement started in 2013

EC, 18-June-2015: „Contrary to EU waste law, hazardous waste has been mixed with other types of waste, and impact assessments required under the Habitats Directive have not been carried out. .... Hungary now has two months to notify the Commission of measures taken to remedy this situation. Otherwise, the Commission may decide to refer Hungary to the EU Court of Justice.”



Currently permit got withdrawn, but company appealed so hazardous waste still being placed on the red mud...

# GREENPEACE

[www.greenpeace.hu](http://www.greenpeace.hu)



**No liability, no control:**

## **Hazardous waste next to the Hortobágy national park**

NGOs reported about abandon toxic waste site right next to Hortobagy National Park – the oldest and possibly the most sensitive national park of Hungary.

3-4000 tonnes of dangerous chemicals were flowing out freely from the mouldering barrels into the ground. Warehouse has no walls and its top is almost completely in ruins.



Fotó: Török Márton - greenpeace

**GREENPEACE**

[www.greenpeace.hu](http://www.greenpeace.hu)

# Pollution next to the National park?

After media campaign and GP measurements (proved that pollution left the area). The government promised to investigate, but basically nothing happened in the past year.

Authorities again did not find any pollution....

In 2015 GP showed polluted sediment samples in the surrounding water runoff canals.

**Government announced:  
instant clean up is needed,  
and provided around 1.2  
million EUR**

**Polluter did not pay again!**

**Barrels are still there.....**



# GREENPEACE

[www.greenpeace.hu](http://www.greenpeace.hu)



# Authorities cannot control, polluter cannot pay - Hazardous waste in Central Budapest

- Leaking, rusted barrels full of toxic materials stored in the open at a defunct chemicals company in central Budapest at the site of the Budapest Chemical Works
- Most barrels on the ground, without any sealing, insulation
- estimated 2,800 tons of hazardous waste and leftover chemicals

**Benzene and chloro-beneznes  
in the ground water as far as 60  
metres below the surface and at  
concentrations up to 100,000  
times the EU limits.**

- In the soil DDT 500 times  
above Hungarian limits
- 2,4-D and 2,4-DT,
- mercury, arsenic



# GREENPEACE

[www.greenpeace.hu](http://www.greenpeace.hu)

# 3 districts of Budapest around the facility



**GREENPEACE**

[www.greenpeace.hu](http://www.greenpeace.hu)



# Chemical timebomb in central Budapest

- Environmental inspectorate could not prevent the illegal deposition of the barrels,
- later they could not do anything else then sending fines to the already bankrupted company
- Disaster Management authority: cannot act on non operating company.
  - Sent fines and ordered cleanup
  - Did not find reason to act



More then 1 billion HUF spent on ground water clean up EU Project  
– **with leaking barrels on the site!!!**

- Chlorine storage in the same plant with thousands of tonnes of uncontrolled explosives and flammable materials, no proper fire control
- Seveso's Domino effect?**

**GREENPEACE**

[www.greenpeace.hu](http://www.greenpeace.hu)

After loud media campaign government decided to remove the barrels, from more then 1 billion HUF  
No decision on clean up of the polluted area

- Last measurements on pollution from 2011?
- No assessment on affect of nearby settlers
  - Last assessment many years ago when there was no leakage & no info on DDT
- First real data from local activists & politicians
- GP measured 30x DDT in chicken eggs
- Currently GP's dust test
- Authorities showed air pollution (NO<sub>x</sub>, SO<sub>2</sub>, CO, benzene, PM<sub>10</sub>) to prove no harm...
- Local government found DDT in soil & GW

**As usual no responsible authorities &  
Polluter cannot pay, but taxpayers**



**GREENPEACE**

[www.greenpeace.hu](http://www.greenpeace.hu)



# Thank you for your attention!

