

Hungary Toxic Mud Flood

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01

OVERVIEW OF THE DISASTER



INTRODUCTION

- Abnormal progressive rise in the water level of streams or rivers
- Toxic floods include contaminants ranging from oil and gas to toxic metals
- Carry serious health consequences





WHAT HAPPENED?

- On October 4, 2010 due to heavy rain in the area, a dam in the trajectory of Ajkai Timfoldgyar Zrt alumina plant, owned by MAL Zrt, broke.
- “Part of the wall of this 10th pool was weakened” Figecky said. (CEO of WWF Hungary)
- “The existence of unstable soil beneath the storage pond is a cause of the flood.” stated the Judge in the city of Veszprem.
- Flooded Devecser and two nearby villages, Kolontar and Somlónásárhely.

AFFECTED REGIONS

Devecser

Kolontar

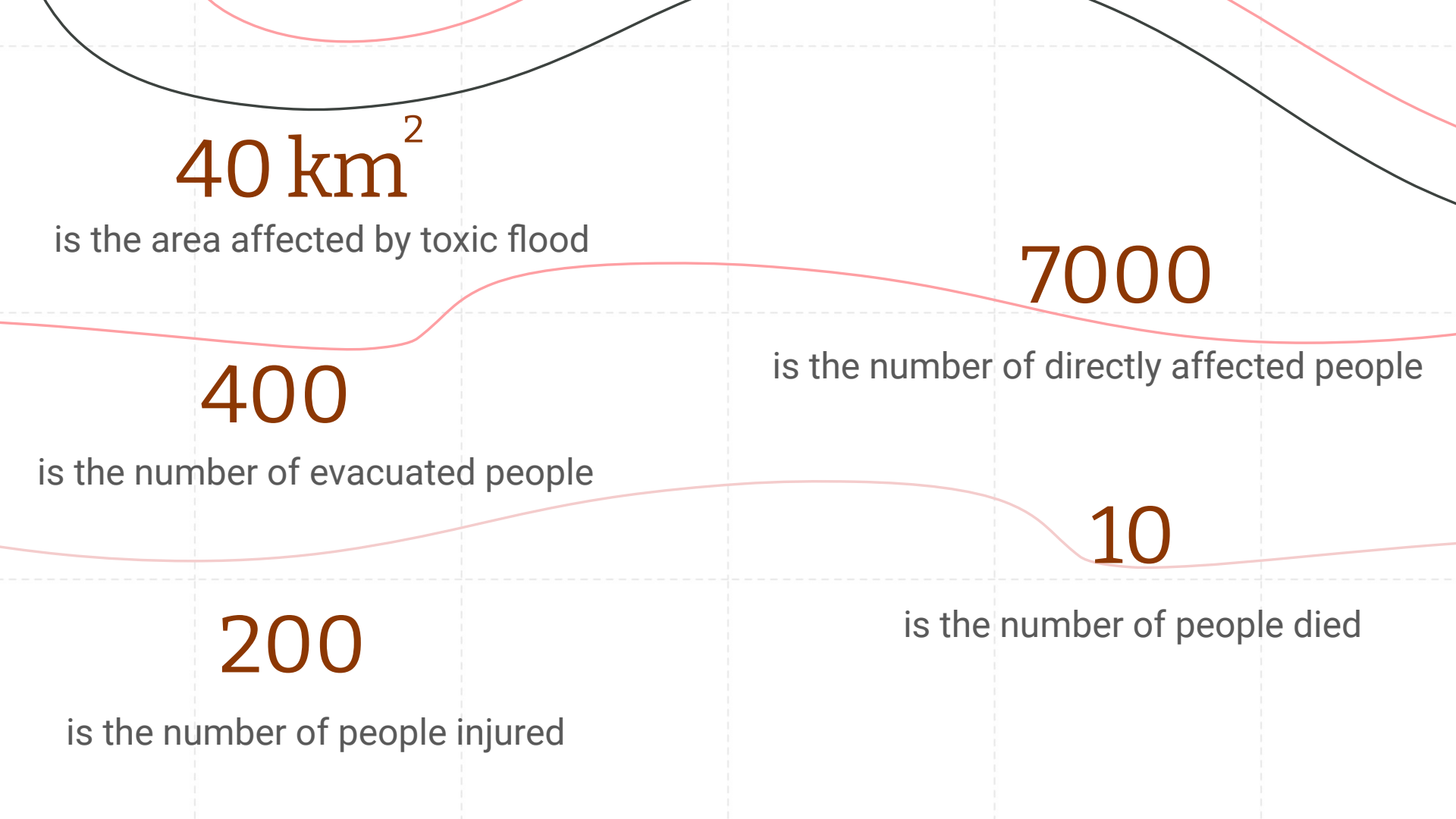
Somlóvásárhely





WHAT HAPPENED?

- State of the Kolontár reservoir was particularly worrying because of its close location to family houses.
- Viktor Orban, Prime Minister: "The flood was caused by human error."
- No threat of radiation.
- Only 21 homes were unharmed due to their placement in the hill.
- The ground has been leveled and half the village has disappeared.

An infographic with a light gray grid background. It features several wavy lines in black and red. The text is arranged in two columns, with each number and its description separated by these decorative lines.

40 km²

is the area affected by toxic flood

7000

is the number of directly affected people

400

is the number of evacuated people

10

is the number of people died

200

is the number of people injured



02

PRECAUTIONS



PRECAUTIONS



The Clean Air Group (Levegő Munkacsoport) has been warning the government for ten years regarding the risks of the Ajka plant and many more in the area.



The state of these pools and plants should have been inspected regularly with particularly strict measures. WWF is waiting for an explanation of this failure.



No further precautions taken by the government or the company regarding the location period of the plants has been found.



03

DISASTER MANAGEMENT

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Pre-Disaster



Mitigation & Preparedness

Response

Relief Operations

First phase: Shelter, medics

Second phase: Food & Water
Supply Chain Building

Logistics Stages

23 Ground Ambulances

4 Helicopters

5 Water Tanker Trucks

Post-Disaster



Recovery

Sludge Cleaning

Bulldozing & Rebuilding Homes

Afforestation of the damaged area

Healing the community

Disaster



04

RIGHTS &
WRONGS



RIGHTS & WRONGS

- The Hungarian government acted quickly, spending around €127 million on dredging mud out of rivers and removing it from the flood plain.
- 230 Communist-era relics of Vladimir Lenin have been auctioned to benefit the victims of the red sludge flood, on December 6, 2010 in Budapest.
- Unsafe location of the plant
- Not knowing the properties of the red sludge immediately
- During the rescue, 8 firefighters, 1 soldier, and 8 police officers suffered serious injuries



05

LESSONS LEARNED

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- Dr. Will Mayes, Environmental Science Professor, states that they have gathered a lot of information in a short time and will manage the risks better in the future.
- The three men found responsible for the disaster worked as MAL's CEO, its deputy CEO and plant manager at the time.
- They are currently serving their sentences handed to them by the Győr appeals court last year.

RESOURCES

1. <http://nemo.gov.vc/nemo/index.php/hazards/flooding/266-what-is-a-flood>
2. <http://progressivereform.org/our-work/energy-environment/virginia-toxic-floodwaters/>
3. <https://hungarytoday.hu/kuria-sentence-mal-prison-responsible-red-sludge-disaster/>
4. <https://www.bbc.com/news/world-europe-12060701>
5. https://wwf.panda.org/wwf_news/?195541/Hungary-toxic-mud-disaster-could-have-been-avoided
6. <https://www.bbc.com/news/world-europe-35428382>
7. <https://www.theguardian.com/world/2010/oct/05/hungary-toxic-sludge-spill>
8. https://digitalcommons.fiu.edu/cgi/viewcontent.cgi?article=1006&context=drd_student&httpsredir=1&referer=
9. <https://www.theatlantic.com/photo/2011/09/a-flood-of-red-sludge-one-year-later/100158/>
10. http://archive.boston.com/bigpicture/2010/10/a_flood_of_toxic_sludge.html
11. <https://earthobservatory.nasa.gov/images/46360/toxic-sludge-in-hungary>
12. <https://nerc.ukri.org/planetearth/stories/1767/>