

Pollution and flood impacts Dar es Salaam



At a glance

Dar es Salaam's main river, the Msimbazi and its many tributaries are horrendously polluted and impose daily health risks for at least quarter of a million citizens. Like all of the city's rivers, it serves as an open sewer carrying a toxic mixture of industrial effluent, chemicals, abattoir waste and human sewage. The Msimbazi has been shown to have:

- 💧 pH levels as high as 12 which causes severe burns to skin. The Tanzanian legal limit is 8.5.
- 💧 Chromium VI at 75 times the legal limit. Chromium is very toxic: long-term exposure causes cancer and birth defects.
- 💧 Faecal contamination far above the World Health Organisation limits for safe use of wastewater in agriculture.

Local health professionals report that this pollution has profound health impacts on people, especially children.

The pollution has obvious sources. For example, significant pollution comes from Waste Stabilisation Ponds operated by DAWASCO and from NIDA Textiles Ltd (pictured above). These polluting discharges are in direct contravention of the Water Resources Management Act 2009 and the Environment Management Act 2004 and have grave implications for the people

of Dar es Salaam. Flooding and pollution by solid waste are also a major problem for communities along the river.

Affected communities have reported the issues to responsible authorities at the National Environment Management Council (NEMC), Illala Municipal Council and the Wami Ruvu Basin Water Office on several occasions since 2005. A formal report was submitted to the Directorate of Water Resources, the Basin Water Board and NEMC and a presentation in the presence of the Minister of Water at the Joint Water Sector Review 2014 resulted in a public commitment to address the problem.

Despite these reports, pollution of the Msimbazi continues. It appears that the main polluters are above the law.

Msimbazi River - What's happening?

Fact 1. Untreated industrial and municipal sewage waste are causing dangerous levels of pollution

- 💧 The Msimbazi River receives inadequately treated waste water from multiple industries and Dar es Salaam Water Supply and Sewerage Authority (DAWASA) facilities operated by DAWASCO such as Vingunguti waste stabilisation ponds.
- 💧 Industrial discharges include those from NIDA Textiles Ltd which has very high levels of heavy metals and pH.

- Pollution is also caused by sewer drainage from dwellings and dumping of commercial and household waste.
- Water in the river is a danger to health, and unfit for domestic and agricultural use, according to TBS/EMA standards.
- A Water Quality Survey carried out in 2014 found dangerous levels of heavy metals, pH and pathogenic material as indicated by high faecal coliforms.

We have been channelling complaints to government since 2005 concerning industrial pollution of the Msimbazi River. The pollution threatens our health as we eat vegetables irrigated with the water. Contact with the pollution results in burnt skin and disease

Environment Committee of Kigogo Ward, September 2014

Fact 2. Poor planning and waste management contributes to flooding with fatal impacts

- Serious flooding is common along the Msimbazi causing widespread destruction of roads, bridges, houses and loss of life. 2014 and 2015 were particularly destructive years. In Kigogo Ward in 2014, floodwater entered 600 houses, 13 were washed away and 283 patients were treated for waterborne diseases associated with flooding. In 2011 floods destroyed houses and caused a number of fatalities.
- Building houses within flood plains, dumping of solid wastes, poorly designed drainage systems and hydraulic engineering all heighten flood risks. The root cause of these problems is



the failure of land-use planning and control, and environmental management across the city.

Plate 1. Flood impact, Dar es Salaam 2015.

Fact 3. Pollution and flooding impose poor health & poverty on hundreds of thousands of citizens.

- Hundreds of thousands of citizens use or are affected by polluted Msimbazi: through irrigation, livestock watering, washing, digging sand and crossing on foot. The river water mixes with water feeding shallow wells and boreholes - major sources of domestic drinking water. Water delivery pipes with leaking joints are laid in the river bed and its drainage channels. Flooding of the river means that polluted water regularly enters dwellings, clinics and schools.
- Health professionals report that the pollution and flooding has a serious health impact on the population, especially children. Wards along the river report high levels of water borne disease and are hotspots for devastating cholera outbreaks. Up to 231,587 people face serious health risks.
- The Msimbazi is used to irrigate and wash many of the vegetables consumed in Dar - the pollution burden is huge.

Fact 4. Legal requirements and regulations to control pollution and flooding are being ignored

- The Wami-Ruvu Basin Water Board and NEMC have significant powers and a legal duty to control pollution: an offence punishable by fine or prison under WRMA 2009.
- Discharges from industries and DAWASCO cause pollution because of a lack of investment in treatment and lack of regulatory oversight. They do not comply with the requirement to have a wastewater discharge permit.
- Affected communities wrote letters of complaint to the Basin Water Board, and reports have been submitted to the Ministry of Water and NEMC in 2014. No formal response has been received and action taken is not clear.
- Stakeholders report that treatment facilities exist to remedy the pollution but that polluters don't want to invest small amounts - such as electricity running costs - to operate them properly.
- NEMC and the Basin Water Board 'do not have adequate budgets' to follow up on the issue or inspect the sites.
- There is confusion as to who is responsible to control and prevent flooding and enforce proper solid waste management.



What needs to change?

Locally: Of course we need industry for jobs and economic growth but this should not be at the cost of health and uncontrolled pollution. We recommend that:

- a. Polluting industries and DAWASCO be given a strict timetable to improve wastewater treatment and discharge quality by the Basin Water Board. Compliance monitoring and enforcement should ensure concrete action.
- b. All discharges to the Msimbazi should be controlled through discharge permits as required under law.
- c. A comprehensive flood prevention and management plan should be developed and enforced across Dar es Salaam.

Nationally: We must protect our water resources and manage our urban environments carefully. The Msimbazi case shows that:

1. Basin Water Boards and NEMC need reliable, adequate funding and personnel to deliver their important work.
2. UWASAs should be subject to the same pollution control law as everybody else. The frequency and results of compliance inspections and sampling for all discharges should be published annually.
3. Flood risk management in Tanzania requires leadership, investment and clarity of responsibilities.

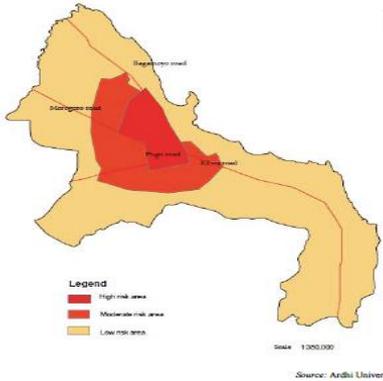


Figure 1. Cholera hotspots in Dar es Salaam coincide with polluted flow in the Msimbazi River