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# TOWARDS ZERO POLLUTION

4 June 2021

Launch of the  
Global Assessment  
of Soil Pollution Report



INTERGOVERNMENTAL  
TECHNICAL PANEL ON SOILS

UN  
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Food and Agriculture  
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# Soil pollution in Sub-Saharan Africa

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# *Sub-Saharan Africa*

Forty-eight (48) countries that categorises into five different sub-regions based on geographical position

Rapid population growth between 1960 (227 million) and 2018 (1.08 billion)

The region's cancer burden is projected to double between 2008 and 2030 with some carcinogens already identified as main soil contaminants

No large-scale assessment of regional soil pollution conducted yet

Mining regarded as the most significant source of soil pollution followed by waste and industrial activities, agriculture and oil extraction

Research and reports on soil contamination dominated by trace element pollution, followed by hydrocarbons, pesticides and polychlorinated biphenyls (PCBs)

# Mining and oil extraction

- Wealth of mineral resources, gemstones and oil that are extracted in many of these countries either by large-scale mining operations or artisanal and small-scale mining.
- Soil contamination at large scale mines caused by dust fallout, ore processing (smelters), waste storage, ore transport, dust suppression on haul roads and acid mine drainage.
- The two main soil contaminants associated with artisanal and small-scale extraction of gold is mercury (75 registered polluted sites affecting approximately 2.4 million people) and cyanide (used in countries such as Mozambique, United Republic of Tanzania, Zimbabwe and Burkina Faso).
- The majority of reports on oil spills that cause soil pollution with hydrocarbons hails from Nigeria (> 4000 spills between 1960 and 2010) and Angola (since 2009 in the provinces of Cabinda and Zaire)

# Urbanisation and waste management



Urbanisation in the region predicted to increase from 567 million (2015) to 950 million people (2050) – accompanied by an increase in generation of Municipal Solid Waste (MSW) from 81 million tonnes (2012) to 244 million tonnes (2025)



The current recycling rate of MSW in the region is 4% and most waste ends up on open waste sites where waste is burned without prior sorting (the waste mixture that is burned often includes electronic waste).



Soil at and around waste sites have been contaminated by trace elements (cobalt, copper, chromium, lead, mercury, nickel, vanadium, zinc, etc.) and Persistent Organic Pollutants (PCBs, chlorinated and brominated dioxin-like compounds)



Rapid urbanisation resulted in settlement directly next to active mines, industrial areas and busy roads – industries and activities that contribute to soil contamination and increase the human health risk caused by contaminated soil.

# Addressing soil pollution – Legal frameworks

International (Conventions of Basel, Rotterdam, Stockholm, Minamata)

Regional (Bamako Convention - 1991, Revised African Convention on the Conservation of Nature and Natural Resources – 2003, Libreville Declaration -2008)

National legislation that address aspects of soil pollution (45 out of 48 countries)

Reference values for soil contaminants within legislation (Burkina Faso, South Africa, United Republic of Tanzania)

Legal instruments specific for soil pollution prevention and management (Namibia and Burundi)

# Addressing soil pollution - monitoring

- The detection, reporting and monitoring of soil pollution in the region has so far largely been done by academic institutions and NGO's (with available funding) as well as consultancies that assist industries with environmental compliance.
- Similarly, soil pollution remediation research and implementation are either conducted by academic institutions (with published results) while industry-based remediation efforts are often subject to non-disclosure agreements.
- South Africa and Nigeria implemented systems that can be used for voluntary reporting of contaminated sites.
  - The Nigerian National Oil Spill Detection and Response Agency (NOSDRA) encourages both companies and concerned citizens to report pollution incidents and provides templates that can be used to record incidents.
  - The South African Waste Information Centre (SAWIC) of the Department of Environmental Affairs maintains an online registry of contaminated sites developed from information volunteered by the companies responsible for the contamination.

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# Towards an unpolluted region

- Coordination of the efforts of academia, government departments, NGOs and industry already working in the fields of soil contamination and remediation
- Strengthening of the regional and country-specific capacity for soil contamination assessments and analytical facilities
- Improved soil-specific legislation with clear guidelines on assessment and interpretation of soil contaminant concentrations
- Large-scale communication and education efforts to alert people to the risks and prevention of soil contamination