

# **Mercury Pollution and Contaminated Sites: Case of ASGM and Other Hotspots in Kenya**

**IPEN Side Event  
Minamata COP 3, Geneva, Switzerland  
Tuesday, 26<sup>th</sup> November 2019,**

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# About CEJAD

CEJAD public interest NGO based in Nairobi, Kenya

- Plastics and Waste Management
- POPs Elimination
- Lead in Paint Elimination
- Highly Hazardous Pesticides (HHPs) Elimination
- Mercury and Minamata Convention on mercury



# ASGM - Background

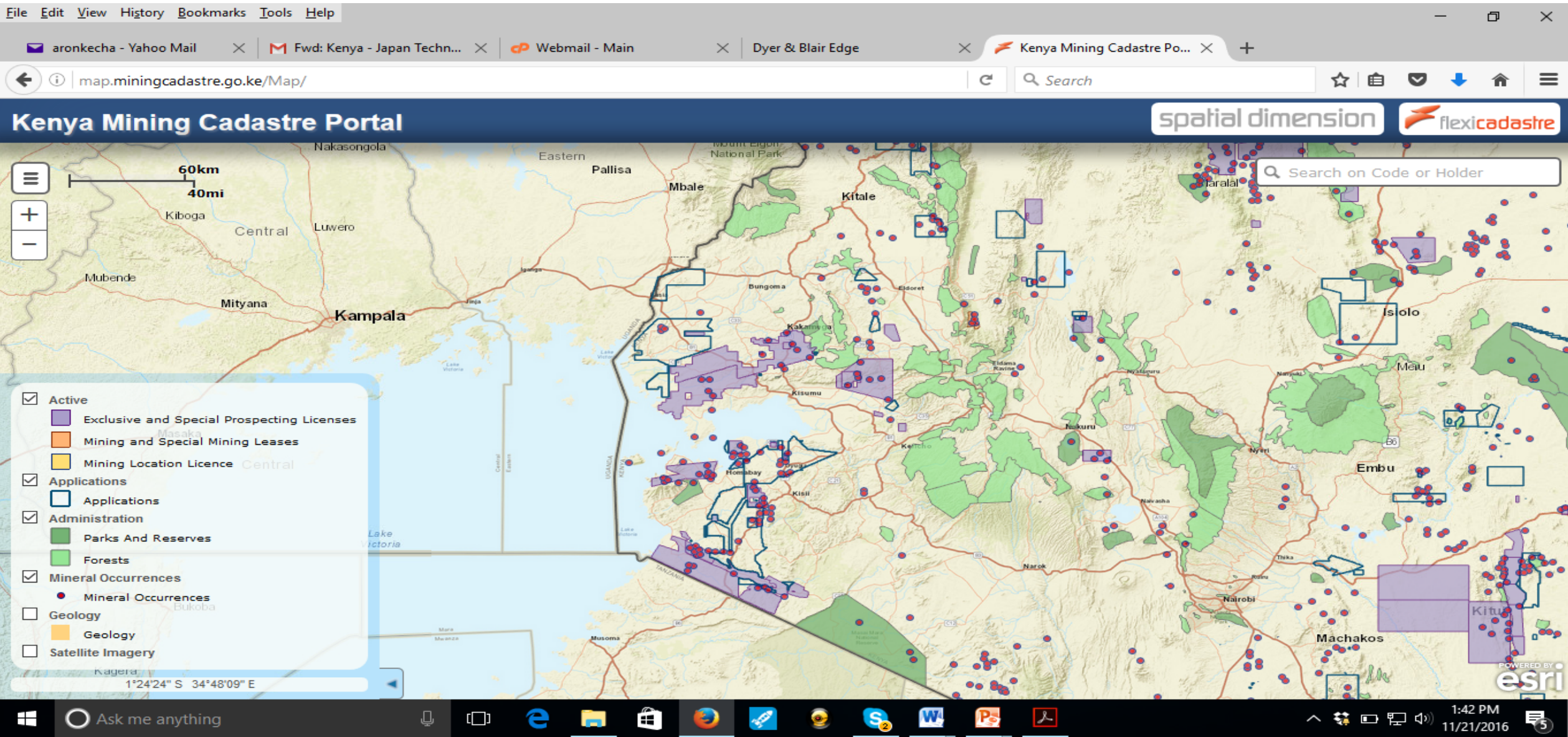
- Gold mining dates back to 1920s (largely industrial mines)
- ASGM mostly in old sites where industrial mining occurred.
- Key areas include Migori–Transmara, Kakamega, Vihiga in Western Kenya region,
- More people joining ASGM due to variety of push and pull factors- key livelihood source in the region



The screenshot shows the Kenya Mining Cadastre Portal web application. The browser's address bar displays the URL [map.miningcadastre.go.ke/Map/](http://map.miningcadastre.go.ke/Map/). The page header includes the portal title "Kenya Mining Cadastre Portal" and logos for "spatial dimension" and "flexicadastre". A search bar on the right allows users to "Search on Code or Holder". The map itself shows a portion of Kenya, with various mining licenses and mineral occurrences overlaid. A legend on the left side of the map lists the following categories:

- ☒ Active
  - Exclusive and Special Prospecting Licenses (purple)
  - Mining and Special Mining Leases (orange)
  - Mining Location Licence (yellow)
- ☒ Applications
  - Applications (blue outline)
- ☒ Administration
  - Parks And Reserves (dark green)
  - Forests (light green)
- ☒ Mineral Occurrences
  - Mineral Occurrences (red dots)
- ☐ Geology
  - Geology (orange)
- ☐ Satellite Imagery

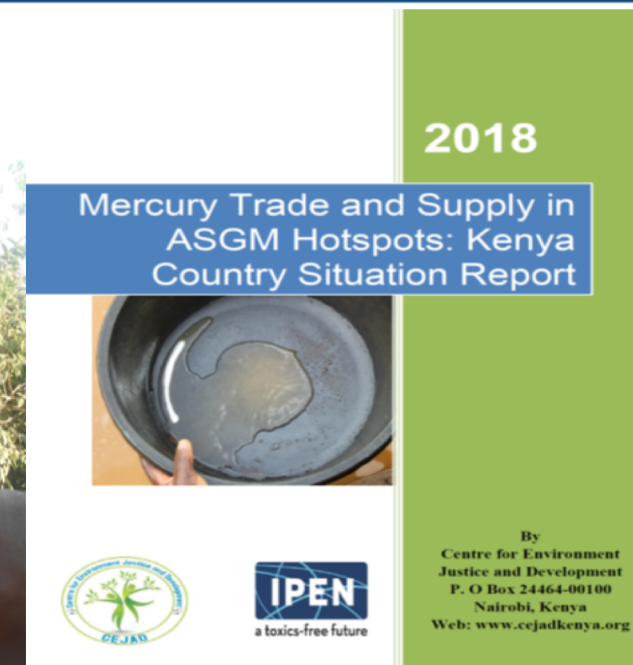
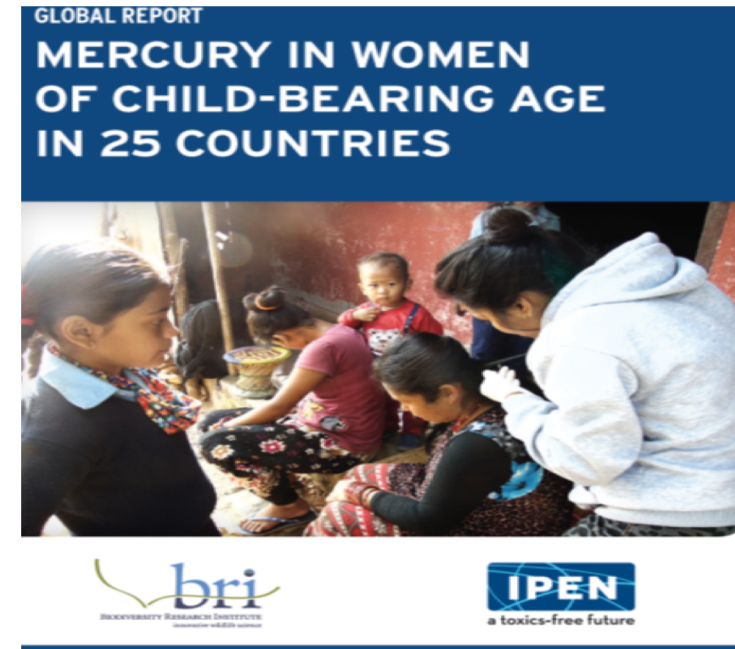
The map also features a scale bar (0 to 60 km / 40 mi), a compass, and a coordinate display at the bottom left showing  $1^{\circ}24'24''$  S  $34^{\circ}48'09''$  E. The bottom of the image shows a Windows taskbar with various application icons and a system clock indicating 1:42 PM on 11/21/2016.





# CEJAD Work on Mercury Use in ASGM

- Situational Studies of ASGM in Kenya and Developed a mercury hotspot profile of the ASGM sites in Migori
- User friendly web-based interactive map on the hotspots
- Produced a video documentary on documentary on prevailing conditions in ASGM for media outreach
- Implemented Sensitization programmes on Environmental and Health impacts of mercury use in ASGM in liaison with local miner groups
- Participated in Project for Sampling Human Hair to test for Mercury poisoning among women of Child bearing age in ASGM Areas





# Lolgorian

## Field Findings





# POLLUTION

- Various studies in Migori–Transmara region revealed high levels of Mercury contamination in soils, water bodies, and plant matter.
- High Hg contents quantified in soil, sediment and tailings in the Migori–Transmara gold mining areas.
- A study by Odumo et al 2014, revealed a mean Hg concentration of 140  $\mu\text{g kg}^{-1}$ . Concentration in soils ranged between 20 and 1,100  $\mu\text{g kg}^{-1}$ .
- Hg concentrations in the sediments collected from the bottom of rivers ranged from 30 to 2,380  $\mu\text{g kg}^{-1}$ , with the lowest and the highest levels recorded from the Migori River and the Lolgorien River.

# REFERENCE

- Odumo OB, Mustapha AO, Patel JP, Angeyo HK (2014) Multielemental analysis of Migori (Southwestern Kenya) artisanal gold mine ores and sediments by EDX-ray fluorescence technique: implications of occupational exposure and environmental impact. Bull Environ Contam Toxicol 86:484–489



## Our contacts

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**THANK YOU FOR YOUR ATTENTION**