

Mercury issue in health-care waste management in Kiribati

UNEP Global Mercury Partnership (Waste
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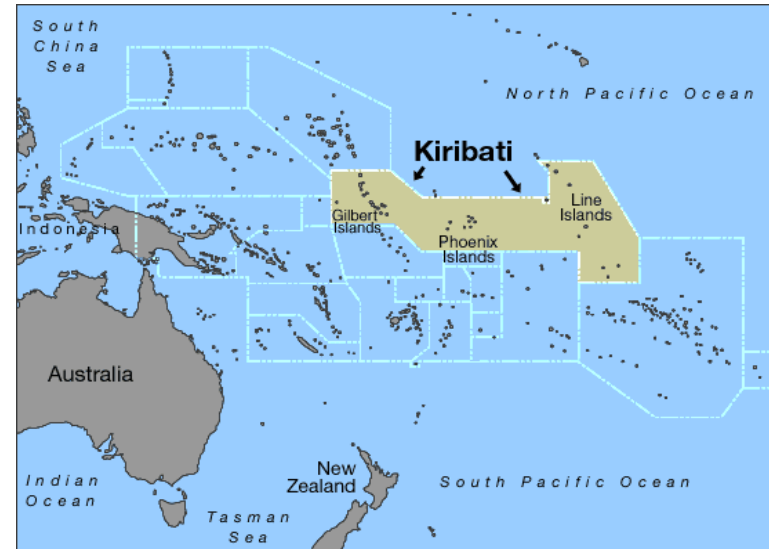
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Presentation overview

- Kiribati geographical setting
- Health-care waste management
- Imports of mercury thermometers
- Mercury issues(thermometer) in health-care waste management
- Challenges faced with health-care waste management
- Mercury levels found in Kiribati
- Way forward

Kiribati geographical setting

- Made up of 33 atoll islands including one raised limestone straddling the equator
- Divided into 3 main island groups – Gilbert (west), Phoenix (middle) and Line islands (east)
- Total land area – 811km² and EEZ – 3.5 million km²
- < 2-3m height and islets are narrow, rarely more than 100 to 400m wide
- ~100K population in 2005
- Drinking water from the ground



Health-care waste management

- No Health-Care Waste Management Plan/Strategy
- There is a health-care waste management committee made up of Ministry of Health and Ministry of Environment.
- The committee is not well supported and seldom meets
- In 2009, the WHO commissioned a study focused on the health-care waste management assessment and short term improvement plan for South Tarawa.



Imports of mercury thermometers in Kiribati

- No comprehensive inventory has been done on medical products containing mercury
- Approx 50Kg of mercury has been imported to Kiribati through (Hg thermometers) during the last 10 years (0.5 – 3gm)
- Blood pressure meters (Sphygmomanometers) - import stopped more 10 years ago. Now replaced with equipments not containing mercury
- 8 electronic thermometers (imported during H1N1 outbreak in May 2009)

Mercury issues in health-care waste management

- There are no existing legislations targeted directly at addressing mercury
- In the hospital all broken mercury thermometers in the Wards are mixed up with clinical wastes in non labeled containers.
- There is no existing system for recording broken thermometers
- Clinical wastes are transported in bins by orderlies disposed off by incineration in the hospital compound
- High temperature incinerator at the main hospital is currently nonoperational. The interim small incinerators use kerosene as fuel
- There is a new high temperature not yet operational donated by JICA

Health-care waste container bins



Ordinary garbage bags used as lining for clinical waste unlabeled bins in hospital wards



Specialized bio-hazard plastic bags used in the Laboratory Unit

Transport of health-care waste



Health-care waste pushed to “incinerator” in unstable “supermarket” trolleys along sand track

Hospital incinerators



“Beehive” incinerators being used in interim until new high temperature incinerator arrives



New high temperature incinerator received from JICA in January 2010



Challenges faced with health-care waste management

- No Health-care Waste Management Plan
- Lack of ownership of the problem - Ministry of Health considers health-care issue as a 'waste management' issue, not 'medical risk reduction' issue
- Lack of awareness/training to orderlies, incinerator operator and other health care waste workers on the handling of waste
- No legislation dealing with mercury in waste
- High salt spray environment on an atoll which accelerates rusting of the high tem incinerator
- New high temperature incinerator is not yet operational

Mercury levels found in Kiribati

- WHO study on mercury levels in fish conducted by the University of the South Pacific Institute of Applied Sciences. The results were used to determine whether there might be significant health risks involved with fish consumption
- The study found 2.06 mg/kg in the shark which was roughly twice the FAO/WHO Codex guideline of 1 mg/kg set for predatory fish
- Preliminary investigation on marine sediments in Tarawa, the capital island
- The study found the concentration of mercury to exceed the SQGs indicating potential adverse ecological effects on the local benthic communities

Way forward

- Inventory on imported products containing mercury including medical products
- Development of national health-care waste management plan
- Implementation of appropriate BAT/BEP and training to health-care waste workers
- Project on mercury – capacity building on further investigation on mercury levels, human breast milk, public awareness, introduction of environmentally safe alternatives to mercury thermometers, etc



Acknowledgement

- Thanks to the Ministry of Environment, Japan for inviting Kiribati to participate in the UNEP Global Mercury Partnership (Waste Management Partnership Area) Meeting
- Also acknowledge the assistance by the Environmental Health of the Ministry of Health for the information provided on health care waste management

Thank You