



The 6th International Forum for Chemical Safety (IFCS)

**Study on the Possible Effects of the Trade
of Products Containing Lead, Cadmium
and Mercury on Human Health and the
Environment in Africa**

Presented by

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The African Roundtable on Sustainable Consumption and Production
(ARSCP)**

Dakar , Senegal, 17 September 2008



Structure of Presentation

- 1.0 About ARSCP**
- 2.0 Introduction of the Study**
- 3.0 Preliminary Findings**
- 4.0 Challenges**
- 5.0 Way-forward**



About ARSCP

- **ARSCP is a regional NGO established in May 2004**
- **49 Founder members (institutional - 12 & individual - 37)**
- **Currently 81 members**
- **Organizational structure:**
 - **The General Assembly**
 - **The Executive Board**
 - **The Secretariat**
- **The Cleaner Production Centre of Tanzania (CPCT) serves as the Secretariat**
- **EB members elected for two-year period**
- **Currently 7 elected EB members (2008 – 2010):**
 - ⇒ Prof. C. L. C. Migiro (Tanzania) – President
 - ⇒ Ms. Jane Nyakang'o (Kenya) – Secretary
 - ⇒ Ms. Hanan El Hadary (Egypt) – Treasurer
 - ⇒ Dr. John Afari Idan (Ghana) – Member
 - ⇒ Prof. Toolseeram Ramjaewon (Mauritius) - Member
 - ⇒ Mr. Ndivhuho Raphulu (South Africa) – Member
 - ⇒ Mr. Ramatoulaye Dieng (Senegal) - Member



About ARSCP ...

More information ?

- Visit our website: www.arscp.org

Pour en savoir plus

- Visiter notre site: www.arscp.org



Introduction - Background

- 23rd Session of UNEP Governing Council in February 2005
- Interim scientific reviews made available at the 24th Session of UNEP GC in February 2007
- The Interim scientific reviews identified a number of data gaps and needs including **the need to examine global flow of lead and cadmium in products.**
- **This study is an attempt to fill some of these gaps**



Introduction - Aim

- To fill some of the data and information gaps identified in the Interim Scientific Reviews on lead and cadmium) respectively, and for mercury information gaps identified in the Global Mercury Assessment Report



Introduction - Methodology

- **Data Collection**
 - UN COMTRADE
 - Questionnaires
- **Literature review**
- **Laboratory analyses of products**
- **Data Analysis & report writing**



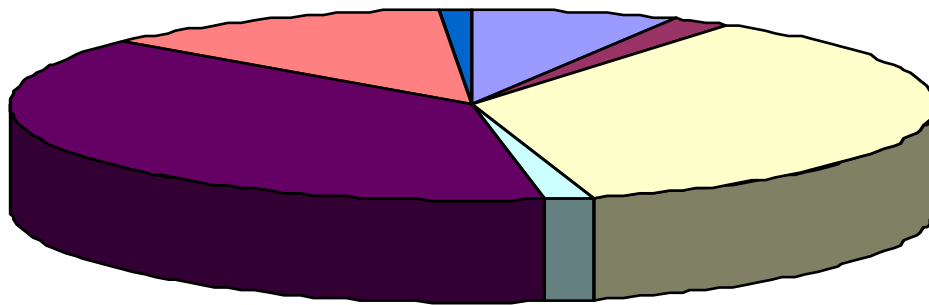
Introduction – Common Traded Products

- Cadmium: Ni-Cd batteries, pigments, stabilizers, coatings, alloys
- Mercury: Fluorescent light, energy saver bulbs, instruments, switches, flame sensors, jewellery, dental filling.
- Lead: Wrought lead, paint, batteries, antiknock, sheets, electronics



Preliminary Findings – Imports of Lead Products

Lead Products Imported by Africa: 2000 - 06

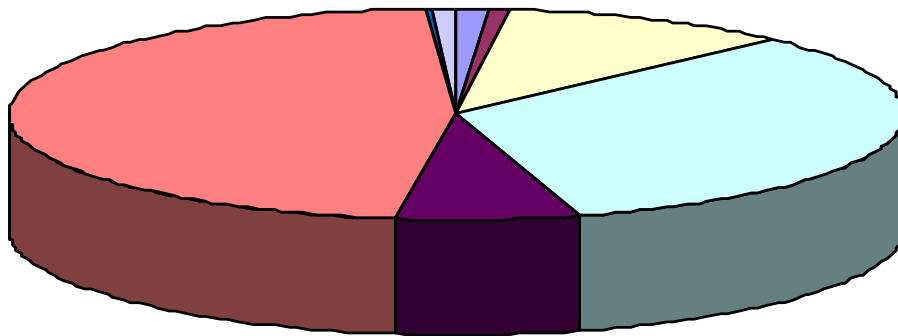


- LEAD -ACID ELECTRIC ACCUMULATORS FOR VEHICLES
- LEAD BATTERIES- OTHERS
- LEAD ALLOYS
- ANTI-KNOCK
- UNWROUGHT LEAD
- COMPUTERS
- OTHERS



Preliminary Findings— Exports of Lead Products

Lead Products Exported by Africa: 2000-06



- LEAD -ACID ELECTRIC ACCUMULATORS FOR VEHICLES
- LEAD BATTERIES-OTHERS
- LEAD ALLOYS
- LEAD ORES & CONCETRATE
- UNWROUGHT LEAD
- COMPUTERS
- ANTI-KNOCK
- OTHERS



Preliminary Findings ... Major Importers of Lead Products

Product	Major Importers
Unwrought Lead	Namibia, S. Africa, Morocco
Lead Alloys	Namibia, S. Africa , Tunisia , Algeria
Lead Acid Batteries (Vehicle)	Sudan, S. Africa, Ghana
Lead Ores and Concentrates	Morocco
Antiknock Preparations	S. Africa



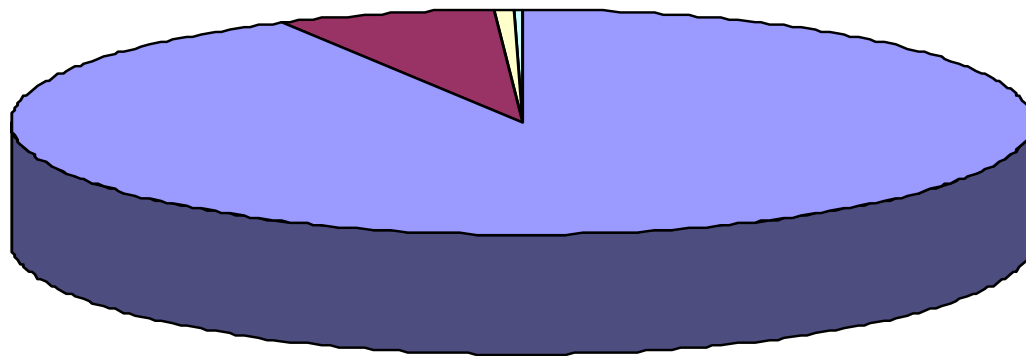
Preliminary Findings ... Major Exporters of Lead Products from Africa

Product	Major Exporters
Lead ores	South Africa
Lead Alloys	Morocco
Lead Electrical Accumulators (Veh)	South Africa
Lead Accumulators (Non Veh.)	Tunisia
Antiknock Preparation	South Africa
Computers	South Africa



Preliminary Findings ... Imports of Cadmium Products

Cadmium Products Imported by Africa: 2000-06



- Chem. Fertilizer Phosphates
- Plastic and rubber stabilizers
- NiCd Accumulators
- Pigment and Prep



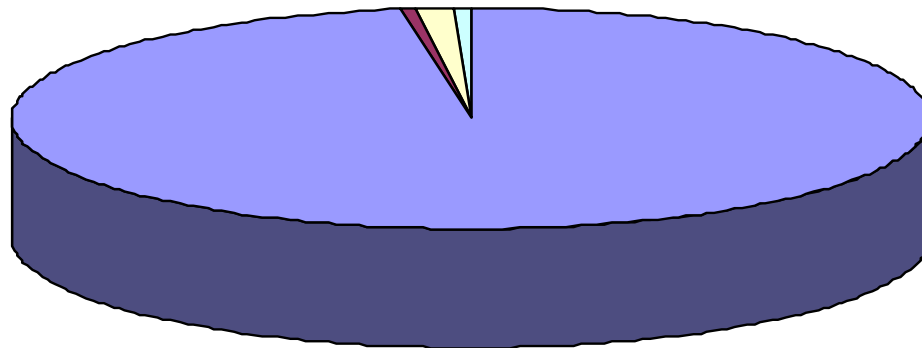
Preliminary Findings - Major Importers of Cadmium Products in Africa

Product	Major Importers
Phosphate Fertilizers	S. Africa, Algeria, Kenya
Plastic and rubber stabilizers	S. Africa, Mozambique, Algeria, Zambia
NiCd Batteries	S. Africa, Eritrea, Algeria
Pigment and Preparations	Egypt, S. Africa, Ghana



Preliminary Findings – Exports of Cadmium Products from Africa

Exports of Cadmium Products from Africa: 2000-06

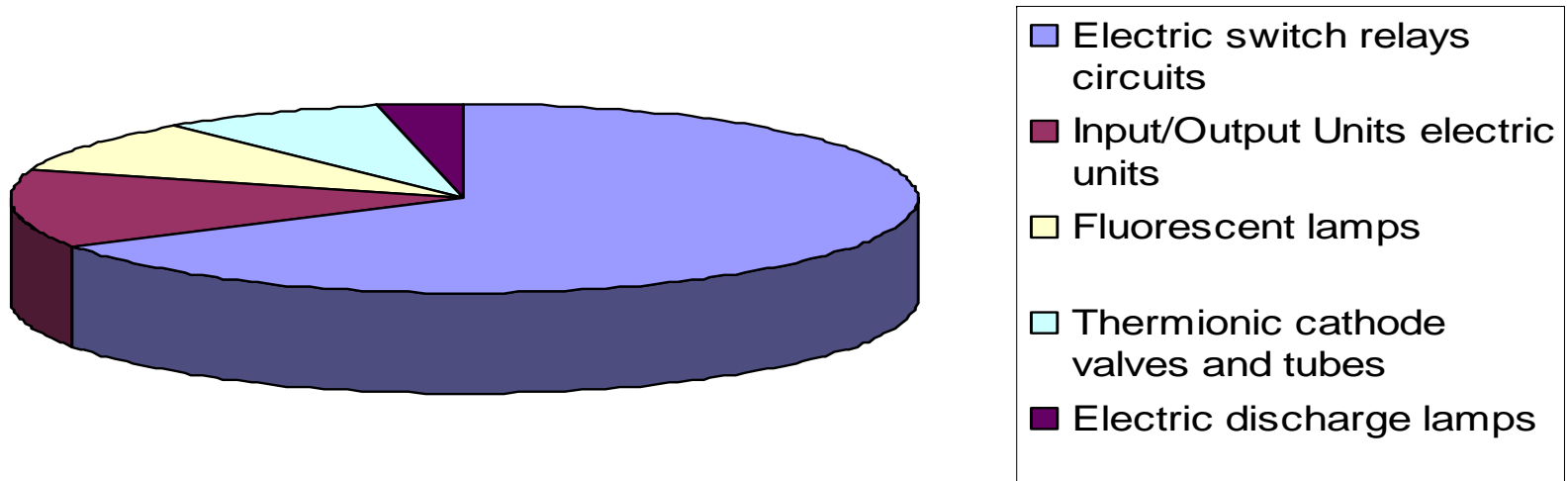


- Chem. Fertilizer Phosphates
- Plastic and rubber stabilizers
- NiCd Accumulators
- Pigment and Anti Oxidizing Prep



Preliminary Findings - Imports of Mercury Products

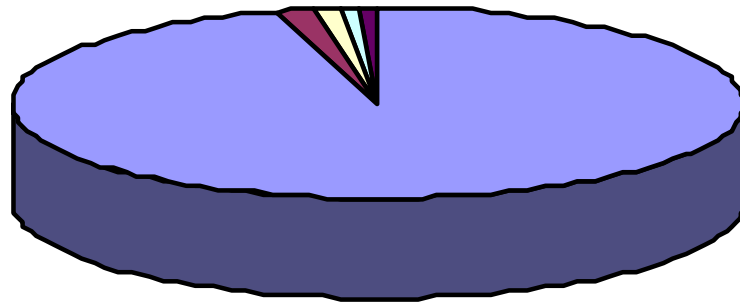
Mercury Containing Products Imported by Africa: 2000-06





Preliminary Findings – Exports of Mercury Products from Africa

Total Mercury Products Exports



- Electrical Switches
- Mercury
- Fluorescent
- El. Discharge lamps
- Input/output units



Preliminary Findings– Major Importers of Mercury Products in Africa

Product	Major Importers
Electric switch relay circuits	Kenya, S. Africa, Tunisia
Input/Output electric units	Algeria, Morocco, Tunisia
Fluorescent Lamps	Nigeria, Morocco, Algeria
Thermionic cathode valves & tubes	Tunisia, Algeria, Nigeria
Electric Discharge Lamps	Morocco, Algeria, Tunisia



Preliminary Findings– Major Exporters of Mercury Products in Africa

Product	Major Exporters
Electric switch relay circuits	Morocco, S. Africa
Mercury	Algeria, S. Africa, Swaziland
Fluorescent Lamps	Tunisia, Morocco
Electric Discharge Lamps	Tunisia, Egypt



Preliminary Findings – Trend of Trade of Major Products Containing Cd, Pb, Hg (2000-06)



Preliminary Findings – Major Exporters of Cd, Pb and Hg Products into Africa



Preliminary Findings - **Waste Management Practices**

- **Unsorted Solid wastes disposed of together in open dump sites**
- **Open burning of solid waste including those containing lead, cadmium and mercury is common**
- **Recycling is practiced, but minimal**
- **Africa is increasingly becoming a dumping ground for used Electronic goods, e.g.**
 - ✓ **In Nigeria at least 7containers of used electronics are offloaded everyday containing computers, phones, and other electronic goods**
 - ✓ **Most of the imported used electronic goods work only for a short time then dismantled for parts and /or disposed off through dumping or burning.**



Preliminary Findings – Waste Management Practices ..



Open burning of e-waste in Ghana



Digital Dump in Nigeria

Source: <http://ewastedisposal.blogspot.com:80/>



Preliminary Findings ... Cases

- **Recently reported Outbreak of Lead intoxication causing Deaths of Children in Thiaroye Sur Mer Dakar, Senegal**
- **Epidemiological studies for children in Cape Peninsula , S. Africa recorded blood levels of 0.836g/l of Lead in the 1980s and 90s and down to 10mg/l in 2002 after banning leaded petrol. The IQ in children of same age also recorded tremendous improvements.**
- **Mercury Poisoning of AGM in several areas of Africa including in Sudan, Ghana, Mozambique, Tanzania, Zambia, Senegal, Guinea, Zimbabwe.**
- **Prevalence of high methyl mercury in oceanic fish (tuna) which is a major food for coastal people**
- **Recently reported case of electronic waste poisoning in Ghana**
- **Several reported cases of imported waste dumping in Africa resulting in health problems, e.g.**
 - **Koko General Hospital in Nigeria reported 7 premature births per week due to a dumpsite in the area**
 - **Cafo Ridge Kwa Zulu Natal waste dump site found out that the sludge contains 36% Hg and 610ppm in soils around it resulting in excessive Hg levels in urine of people**



Preliminary Findings ... **Env. Sound Initiatives**

- **Parties to International Conventions related to Chemicals (e.g. Basel, Bamako, PIC, Stockholm Convention, etc.)**
- **National legislations and regulations on chemicals exist**
- **Awareness creation activities by NGOs & IGOs**
- **Poverty Alleviation is a priority - one of the MDG**



Preliminary Findings - Summary of Trade

- **The most traded cadmium containing product is by far phosphate fertilizers with over 150,000 tons imported while 1.5m tons are exported. NiCd batteries follows.**
- **The most traded Mercury containing product is electric switches/relays with over 120,000tons imported . It is also the most exported product with over 60,000tons exported. Some raw mercury is also exported from South Africa**
- **The most traded lead containing product is lead alloys and wrought lead. Lead ores and alloy are most exported products.**
- **The most active countries in this trade are South Africa, Algeria, Morocco, Kenya and Namibia.**



Challenges – Data Discrepancies

Total exports of Unwrought Lead by United Kingdom into S. Africa

Period	Trade Flow	Reporter	Partner	Code	Trade Value	NetWeight (kg)
2000	Export	United Kingdom	South Africa	<u>7801</u>	\$43,820	5,026

Total imports of Unwrought Lead by S. Africa from United Kingdom

Period	Trade Flow	Reporter	Partner	Code	Trade Value	NetWeight (kg)
2000	Import	South Africa	United Kingdom	<u>7801</u>	\$19,197	11,402

Total exports of Unwrought Lead by China into S. Africa

Period	Trade Flow	Reporter	Partner	Code	Trade Value	NetWeight (kg)
2000	Export	China	South Africa	<u>7801</u>	\$2,168,414	4,485,678

Total imports of Unwrought Lead by S. Africa from China

Period	Trade Flow	Reporter	Partner	Code	Trade Value	NetWeight (kg)
2000	Import	South Africa	China	<u>7801</u>	\$2,267,450	4,977,321



Challenges - Data Discrepancies...

Imports of NiCd Batteries by Senegal from Sweden

Period	UN COMTRADE	SWEDEN	SENEGAL
2000			
2001			
2002			
2003			
2004			



Way forward

- **Compilation, analysis and comparison of data from filled in questionnaires**
- **Laboratory analyses for selected products**
- **Production of first draft report**



Thank you for your attention

Merci pour votre attention

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