

## ECO-ETHICS INTERNATIONAL-KENYA CHAPTER



## Chemicals and toxic waste management program

Special  
points  
of in-  
terest:

E-waste-  
a global and  
national environ-  
mental  
concern

- Eco-Ethics  
-Kenya  
partners  
with GEF-  
SGP to ad-  
dress POPs

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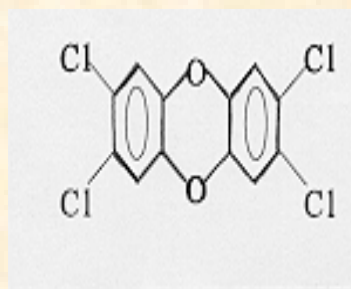
## Introduction

Chemicals are increasingly being used in nearly all sectors of the Kenya's economy and represent a significant proportion of the county's imports. For example, chemicals contributed to about 16.5% of all the imports in 2005 and 2006.

Although improper use and disposal of chemicals are both public and environmental health hazards, inadequate attention from relevant sectors including the government is continually being witnessed. In the global arena, a number of chemicals have been classified to be toxic and their use in the manufacturing of various products is limited or banned.

As an important player in ensuring a safe and clean environment, Eco-Ethics -Kenya is concerned with the ignorance portrayed by "common consumers" and informal sector artisans on specific toxic chemicals and substances. Our chemicals and toxic waste management program has therefore been developed to respond to such challenges and at least bridge the gaps.

Presently, the program focuses on Persistent Organic Pollutants (POPs), heavy metals and Greenhouse Gases.



2,3,7,8 tetrachlorodibenzo-para-dioxin (TCDD)

The Stockholm Convention on POPs calls upon parties (including Kenya) to develop National Implementation Plans to eliminate or limit the use and production of POPs. Lead, Mercury and Cadmium are some of the

known toxic heavy metals. Four main approaches are used in this program currently:



Live- stock and humans scavenging on waste pile at VOK, Mombasa

**Baseline studies** - to map out POPs (especially dioxins and furans) hotspots in Mombasa, verify the use of heavy metals and other toxic chemicals in products such as paints and document the status of such toxic wastes as e-wastes in Kenya, specifically Mombasa.

**Public awareness and education** - to raise the consciousness of people about POPs, heavy metals and other toxic chemicals used consumer products. This is done through open forums, professional discussions, workshops and media discussions

**Promotion of Best Available Techniques and Best Environment Practices**- to demonstrate the practicality of the principles of substitution and alternatives in chemicals management proposed in the Strategic Approach to Chemicals Management (SAICM).

**Lobbying for greener policies** -by building a stronger network of Civil Society Organizations (CSOs) which campaigns and advocates for policies that enhance sound management of toxic waste and chemicals in order to protect the citizens, especially the vulnerable groups.

## Emerging chemicals and toxic waste concerns

### Trade in toxic e-waste

The world's development and civilization trend has seen the innovation of some of the most sophisticated equipments ever known. Electronic equipments form a major fraction of such massive innovations. Nearly every average Kenyan owns a variety of electronic gadgets and nearly all offices use computers and related appliances. However, one of the major global environmental concerns is the disposal of electronic waste (e-waste). UNEP estimated that by 2007, between 20 to 50 million metric tonnes of e-waste could be generated globally each year and much of it finds its way to Africa, Kenya included.



A pile of imported non-usable computer parts

The survey also revealed that up to 20% of the imported refurbished computers are faulty and unrecyclable, while the remaining 80% have a life span of about 3 years.

E-waste is considered toxic yet it floods a number of dumping sites including Dandora (in Nairobi), Kibarani and Mwakirunge (in Mombasa). Like in China and Nigeria, a considerable number of people try to eke a living out of e-waste through extraction of precious metals such as lead, mercury, cadmium and gold. Our survey indicated that the methods used in the extraction of the metals are crude and pose a great risk to human health and the environment. Some chemicals found in the e-waste are known to be persistent and accumulate in fatty tissues of living organisms. They are suspected to be causing cancer, kidney defects, affecting the nervous system and weakening of the immune system.

E-waste is presently addressed through a number of multilateral environmental agreements including Basel Convention, International Conference on Chemicals Management, Intergovernmental Forum on Chemicals Safety and the Stockholm Convention on Persistent Organic Pollutants. The developed countries, which are the major exporters of e-waste, have relatively stringent measures on disposal of e-waste. Unfortunately, it has been argued that they exploit weaker environmental standards in developing countries including dumping their e-waste in forms of donations. Our survey also showed that ignorance on the human health effects and environmental hazards of e-waste aggravates the problem. "Scavengers"

at the main dumpsites visited by the investigators dismissed the health hazards posed by e-waste and described their pressing goal as finding something to eat and precious metals to convert to money. Scrap metal dealers in many parts of Mombasa, Ganjoni included, who burn the e-waste in the night, dismiss complaining



Electronic parts of computers ready for dumping

local residents that if the e-waste was harmful, they would have died.

As part of its recommendations, Eco-Ethics -Kenya, is advocating for "e-waste take back system" where manufactures of the equipments should buy back unusable ones.

We further challenge the government of Kenya to ensure that Kenya is not made a dumping ground of e-waste by ensuring that all imported electronic equipments pass the PTA test. In addition, e-waste management policy/plan should also be in place. Last but not least, awareness and education on e-waste should be enhanced especially in the informal sector.

### Persistent organic pollutants (POPs)

#### What are POPs?

Persistent organic pollutants, or "POPs", are a class of toxic chemical pollutants. They resist breakdown by natural chemical and biological processes, and can persist in the environment for decades. POPs also tend to bioaccumulate in fatty tissues of humans and animals and can remain in the body for months or years. POPs are organic chemicals in that they are carbon-based compounds and once they are released into the environment, they contaminate our air, water, soil, food, animals and our own bodies. They are amongst the most toxic chemicals created by humans.

POPs are present in three main forms- pesticides (DDT, dieldrine, chlordane etc), industrial chemicals (e.g. Polychlorinated Biphenyls or PCBs used in transformers and capacitors) and unwanted by-products (dioxins and furans formed during open burning of chlorine containing substances). POPs have been linked to a variety of serious human health effects, including cancer, endocrine disruption, damaging effects on reproduction and early development, neurological harm, immune toxicity and suppression and diabetes mellitus. Globally, POPs are addressed through the Stockholm Convention.



## Reducing dioxins and furans in Mombasa

Open burning of wastes is one of the many unethical environmental practices common in Mombasa town. There are two main reasons for this; it is the easiest way of reducing solid waste piles and it is also an easier way of extracting valuable metals from waste.

At Kibarani, a thick huge smoke goes into the air every evening and most scrap metal dealers fills the air of residential places with



*Open burning of car tyres and other wastes at Kibarani, Mombasa*

very toxic fumes from burning electronic wastes. Furthermore, some of the waste piles going up into smoldering flames contain medical wastes. The knowledge that this practice leads to greenhouse effect overrides human health problems associated with it. Thus, fewer people in Mombasa link the practice to the production of dioxins and furans.

Recognizing the need to address the health and environmental effects of dioxins and furans, Eco-Ethics –Kenya, with financial support from UNDP/GEF-SGP is now working with the informal sector and several community based groups in Mombasa on a pilot project dubbed *“Reducing unintentional POPs produced by the informal sector of Mombasa”*. Earmarking of the dioxins and furans hot spots in the municipality is the first milestone of the project.

This include mapping out and documenting areas prone to activities that lead to the formation of the dioxins and furans such as open burning of car tyres, plastics, e-waste and medical wastes. Quantification of dioxins and furans is necessary but may require a lot more financial and technical investment and will form the second phase of the project.

The second milestone of the project is to raise the consciousness of the public, especially the informal (*juakali*) artisans on dioxins and furans and other POPs.

People need to know that these chemicals are hazardous to our health and environment, that our actions are responsible for their formation and that we can prevent ourselves from exposure and reduce the formation of dioxins and furans amongst other POPs. Eco-Ethics –Kenya has therefore created a forum where inter-

ested individuals and institutions can debate on POPs and take actions to fix the problem including advocating for greener policies. These forums include bi-monthly talk series on POPs facilitated by some of the leading local and foreign human and environmental health scientists and activists. Registration for the bi-monthly talk series can be done by sending an e-mail to the [eco-ethicsiuk@gmail.com](mailto:eco-ethicsiuk@gmail.com).

The third milestone is to build the technical and financial capacity of selected informal sector groups to develop feasible alternatives to open burning of car tyres and e-wastes. This builds on the principle of substitution and alternatives. Some of the alternatives that have been proposed are collecting and selling the tyres back to the manufactures, collecting and selling e-wastes to recyclers and making of crafts from the tyres.

As a forth milestone, this project will sensitize and motivate the municipal council of Mombasa to review its by-laws on solid waste disposal so as to provide for regulations to reduce open burning of wastes and ensure proper disposal of medical waste.

Finally, this project endeavors to build a strong network of adequately informed CSOs to lobby for policy actions both at municipal council and at the ministry level to address the challenges of POPs with specific reference to processes that lead to the formation of dioxins and furans.

## Protect yourself and community from POPs

It is possible to protect yourself and community from these toxic chemicals especially dioxins and furans by:

- When shopping, looking for products packaged in recyclable materials, not PVC plastic
- Buying, and encouraging your workplace to buy, paper products processed without the use of chlorine.
- Properly treating medical waste – incineration in acceptable standards
- Avoiding foods high in animals fats
- Always following fish consumption guidelines
- Learning more about POPs

*This newsletter was printed with support from:*



# ECO-ETHICS INTERNATIONAL-KENYA

*Pride in harmonizing the relationship between human and nature*

## ORGANISATIONAL BACKGROUND

Eco-Ethics International-Kenya (EEI-Kenya) is a non governmental organization founded under Eco-Ethics International Union (EEIU) a German based organization with its head offices in Oldendorf/Luhe, Germany.

Eco-Ethics aims at having a world of human communities that value and are adequately informed about their actions to the natural environment

### Mission:

To investigate, demonstrate, promote and enhance harmonious relationships between human communities with their natural or environmental resources building on the principle of sustainability.

### Vision:

To have a world of human communities that value and are adequately informed about their actions to the natural environment.

### Long-term goal:

Having human communities that are responsive to new research findings and are willing to adapt to alternative livelihoods for sustainability of world coasts' and environmental resources.

### Implementation of Mission and Long-term goal:

Eco-Ethics International- Kenya Chapters' Mission and Long-term goal will be implemented in Kenya and in Africa through participation in EEIU-African Summit, NEPAD initiatives, Nairobi Convention programs and in collaboration with other institutions through community initiatives, public-private partnerships and linkages that promotes and invests in environmental awareness creation, interdisciplinary research, experimentation, socio-economic programs, education and information exchange on possible livelihood alternatives.

### Core Values

- Integrity
- Honesty
- Creativity and resourcefulness
- Extraordinary delivery service
- A lasting legacy



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