

# SMALL ISLAND DEVELOPING STATES ISSUES IN CLIMATE CHANGE & DISASTER RISK MANAGEMENT

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# SIDS CLIMATE CHANGE ISSUES IN CHEMICALS & WASTES SECTOR

- Warmer temperatures cause chemicals contained in landfilled waste products to change into more toxic congeners which are also more volatile, and more likely to pollute soil, air or water, and the food web.
- Warming ocean temperatures mean faster methylation of mercury to form methylmercury, the organic form of mercury that gets into the food web/
- Burning municipal waste is often suggested as a “waste to energy” project that will reduce reliance on fossil fuels.

# REDUCING FOSSIL FUEL USE

- Mercury vapour is one of the greenhouse gases that should be reduced or eliminated because of their effect on global warming and an indirect cause of sea level rise which threatens SIDS.
- Mercury vapour from coal-fired power stations is the second-highest source of emissions of mercury to the environment.
- It is then transported into the waterways into the sea.

# DISASTER RISK MANAGEMENT

- Extreme storms under climate change mean that sewage and other contaminants are spread over wide areas. This was highlighted by the aftermath of Hurricane Katrina, where poorly-stored chemicals resulted in long-term pollution.
- More appropriate collection & storage systems for discarded products containing by persistent toxic substances (“PTS”) are needed to avoid widespread environmental contamination of soil, water and air .

# ELECTRICAL & ELECTRONIC WASTE ("E-WASTE")

- E-waste, which contains both POPs and heavy metals, is the fastest-growing waste stream in the Pacific SIDS.
- E-waste contains, *inter alia*, persistent organic pollutants ("POPs" the subject of the Stockholm Convention; and heavy metals such as mercury, the subject of the Minamata Convention on Mercury.
- Improper disposal by land-filling this hazardous waste results in the build-up of toxic leachate.

# IMPACTS ON ECOSYSTEMS

- Both POPs and methylmercury leach into waterways and seas.
- Mercury methylates in water and sunshine to its organic form - methylmercury and enters the foodweb.
- These persistent toxic substances bioaccumulate i.e. become stronger as they are ingested along the food chain.
- In the Arctic, POPs are found in the fat of animals eaten by Indigenous Peoples.
- In other regions, methylmercury contaminates the fish that island and coastal zone peoples rely on for protein.

# IMPACTS ON THE HEALTH OF WOMEN

- Persistent toxic substances such as POPs and methylmercury are consumed through the food that humans eat, where they build up in the body.
- Women are especially vulnerable to POPs, and there are links to breast cancer.
- Methylmercury causes permanent brain damage to infants.
- Women pass on toxics to their babies in the womb before they are born, and through breastfeeding after they are born.

# IMPACTS OF CHEMICALS & WASTES ON COMMUNITY HEALTH

- Because of the high cost of energy fuels, SIDS governments often do not consider the risks and hazards but are encouraged by equipment vendors to focus solely on the benefits.
- A further argument is that it gets rid of the waste stockpile
- In practice, municipal waste in waste-to-energy projects is poorly separated.



# IMPACTS OF CHEMICALS & WASTES ON COMMUNITY HEALTH

- As a result, discarded products containing persistent toxic substances are indiscriminately incinerated together with other waste
- Case studies have revealed severe detrimental health impacts, including cancers, clustered in communities who live nearby in the shadow of the incinerator plume.

# POSSIBLE SOLUTIONS – SLIDE 1

- -Reduce chemicals/heavy metals in products by proper life-cycle management of products containing hazardous chemicals and heavy metals. This means re-designing products to phase them out and to substitute use of safer alternatives.
- - Internalize of costs of environmentally sound disposal for hazardous waste such as e-waste . would provide an incentive for improved product design and lowering content of toxic in products, because the true cost of a product (including its proper disposal) should fall on those who have benefited from the production and sale of that product.

## POSSIBLE SOLUTIONS – SLIDE2

- Environmental standards for production should be a universal sustainable development goal, with appropriate technology transfer and technical assistance to balance out common but differentiated responsibilities. This would benefit producers by establishing a more level playing field with regard to standards and regulations.
- Corporate social responsibility such as take-back schemes for e-waste should be advanced further than the interest of public relations.

## POSSIBLE SOLUTIONS – SLIDE 3

- -Avoid the current double standards which prevail with regard to removal by developed countries of polluting activities to the developing countries.
- Any SDG indicators and targets could include reduction within set timeframes of toxics in products, especially where a safer alternative has been identified.

## POSSIBLE SOLUTIONS – SLIDE 4

- -Governments, both national and local, can play a major role in enforcing this in the market by taking note of labelling in order to only procure green products and services in their activities.
- Women act as caregivers for chronic illness brought about by exposure to toxics; but they can also reduce dependence on toxic products by only choosing organic products, or buying products containing hazardous toxic substances if there is an established environmentally sound disposal system.