



DA VENIAM SCRIPTIS QUORUM NON GLORIA NOBIS
CAUSA, SED UTILITAS OFFICIIQUE FIT

Ramazzini Days 2013



The World Health Organization Initiative on E-waste and Child Health

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Environmental Health

- A Major Issue in the post-2015 Agenda



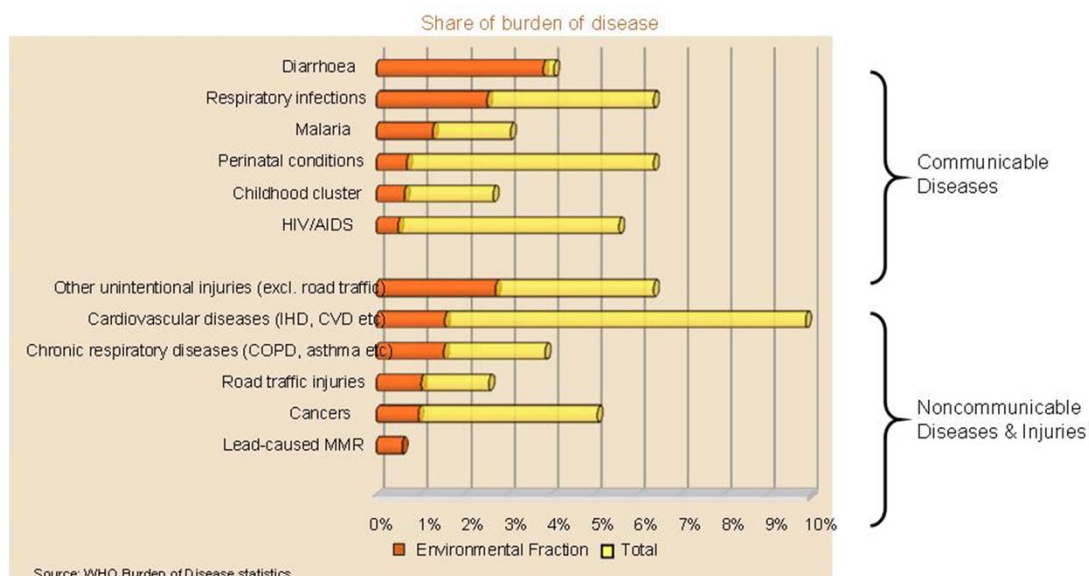
WHO/ NASA

- Environmental factors cause more than 25% of the global burden of disease.
- Every year about 3.000.000 children under 5 die due to diseases linked to the environment.



Environmental Health

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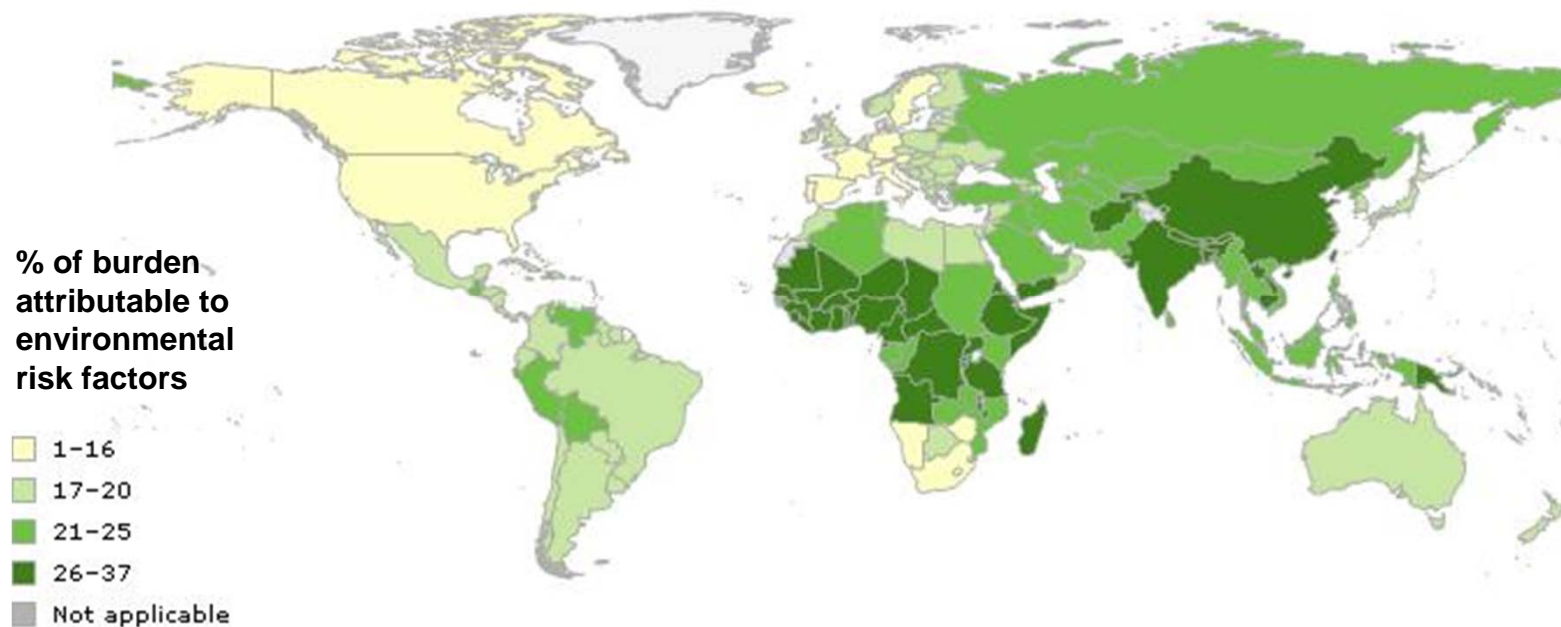


Environmental factors significantly contribute to the burden of Communicable and Non-Communicable Diseases and Injuries



Environmental Health

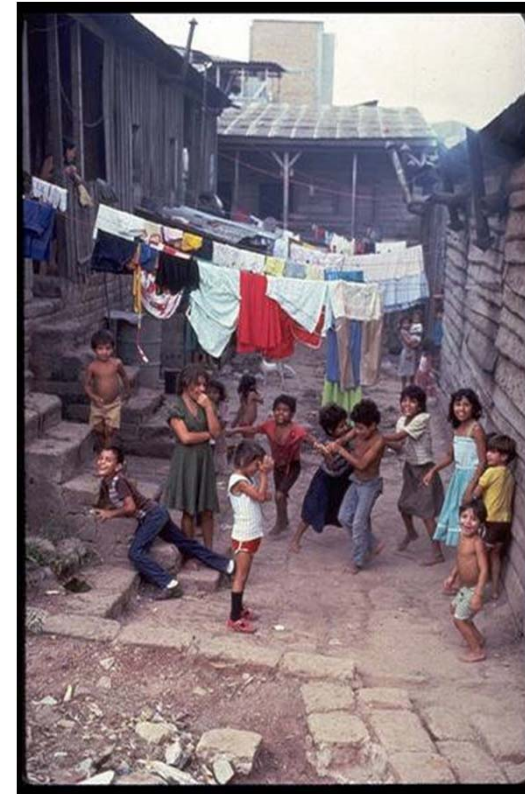
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The environmental burden of disease:
- highest in the poorest countries

Main Global Environmental Health Risks

- **Poor hygiene and sanitation**
- **Air pollution – indoor and outdoor**
- **Household water insecurity**
- **Disease vectors**
- **Chemical hazards**
- **Occupational risks**
- **Injuries and accidents**
- **... EMERGING ISSUES!**



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Emerging Issues

New, "re-emerging" or rapidly increasing potential threats to children's health

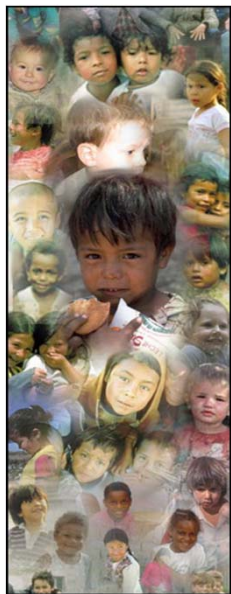
- Global climate change
- Ozone depletion
- Some radiations
- Persistent organic pollutants
- Endocrine disruption
- Obesity
- Electrical and electronic waste
- Others...



WHO/US EPA

Why Children?

Newborns, children and adolescents represent 26% of the world's population



Children represent the future of our societies

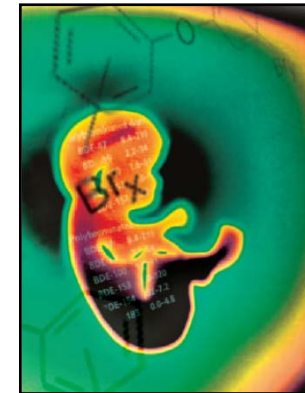
Protecting their health and environment is crucial

- **Children should reach their full potential as individuals.**
- **Children should become contributing members of societies.**
- **Children are an intrinsic component of sustainable development.**



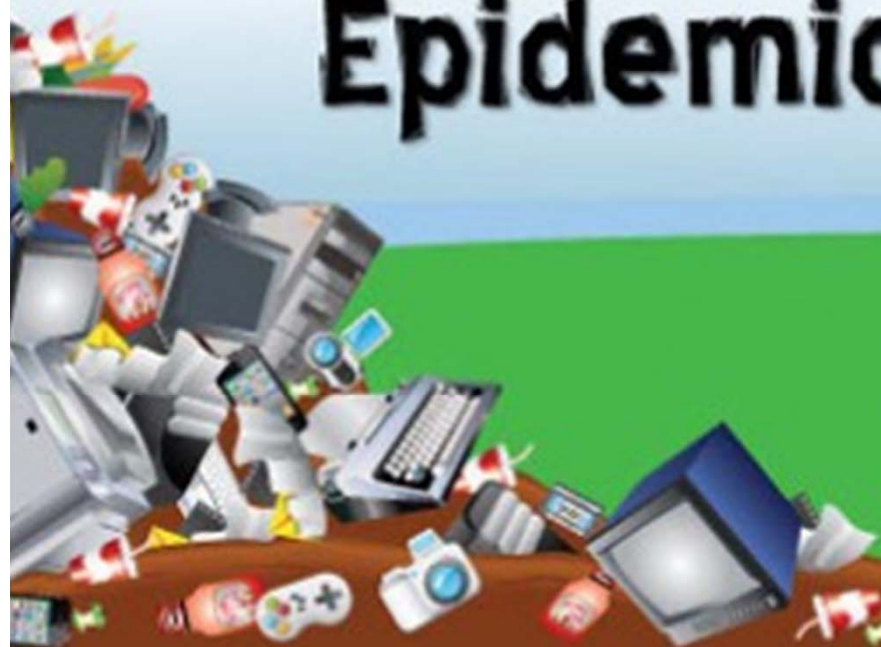
Children's High Vulnerability

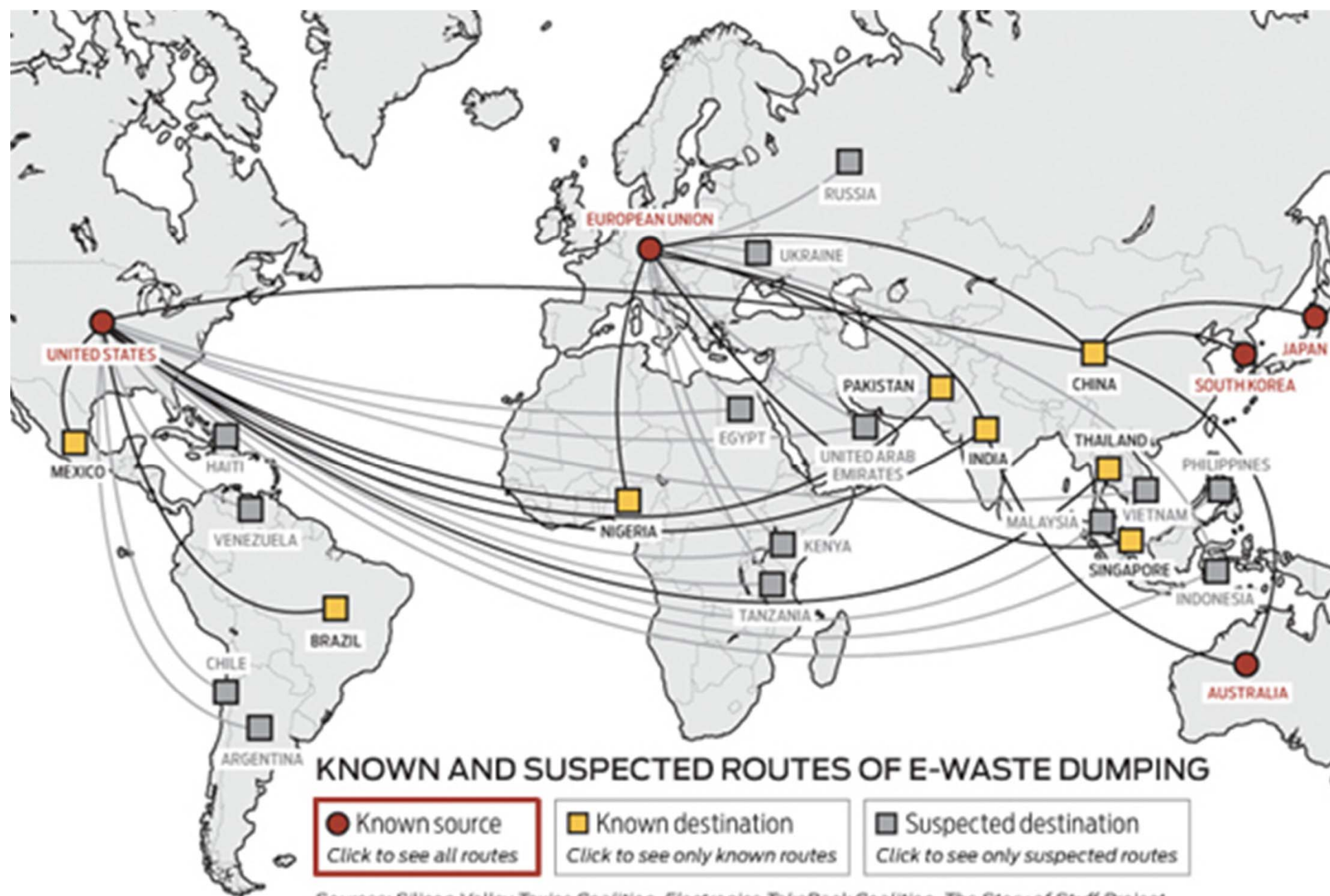
- Children are in a continuous process of growth and development
- “Windows of susceptibility” ranging from fetal development to late adolescence
- Health effects due to chemicals:
 - depend upon toxicity, dose, timing and amount of exposure
 - may be cumulative and intergenerational
 - may include long-term consequences and disabilities



EHP

The Growing E-Waste Epidemic





Sources: Silicon Valley Toxics Coalition, Electronics TakeBack Coalition, The Story of Stuff Project

E-waste



- Electrical and electronic waste:
 - Mobile phones, computers, entertainment devices, TVs, cathod ray tubes, refrigerators
- 45.6 million tons in 2012
- E-waste from computers will increase 2-4 times in South Africa and China by 2020

Health hazards of E-Waste



- Hazardous substances – lead, cadmium, beryllium, chromium VI, mercury, flame retardants.
- Unsafe recycling techniques and landfilling are common in many countries.
- Informal e-recycling is a frequent source of income.

Occupational and ecological exposures pose significant health risks

Environmental pollution from e-waste



- Cathod ray tubes – lead, barium, heavy metals into ground water
- Printed circuit boards – air emissions. Lead, mercury, brominated dioxins
- Chips – hydrocarbons, heavy metals, brominated substances
- Plastics and wires – dioxins, heavy metals, hydrocarbon ashes

The world's digital dump – Guiyu, China



- 150,000 e-waste workers
- 16 hrs working day
- Occupational health and safety risks
- 85% of tested children with blood lead levels above the level of concern

Child Health and E-Waste - Exposures



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- Child workers engaged in e-recycling
- Secondary exposures
 - Home-based family workshops
 - Parental take-home exposures
 - Schools, homes, play areas near dump sites
 - Lactational and transplacental exposures
 - Contaminated water and foods

Adverse health effects in children



- Fetal loss
- Prematurity
- Low birthweight
- Congenital malformations
- Abnormal thyroid function and development
- Neurobehavioral disturbances
- Genotoxicity

Tasks and Examples of On-going Activities

Networks, Awareness-raising and Communications

- Reaching healthcare providers:
E-waste and Child Health “train the trainers” in the
WHO Training Package on Children's Environmental
Health



- Collaboration “by contributing health” with other on-going United Nations initiatives on E-waste
- Special sessions on project findings at key health events
 - 4th WHO International Conference on Children's Environmental Health, Bangkok, 2014



The solutions

- Recycling – safe and green in the countries of production
- Producers and distributors of e-products to minimize e-waste, reduce hazardous materials and mitigate risks
- Consumers to ensure safe recycling of their end-of-life equipment
- Improving processing techniques Health and safety to be protected in all life stages
- Particular focus is needed on vulnerable populations in developing countries and emerging economies



Committing to Children's Health

***There can be no keener revelation
of a society's soul than the way in
which it treats its children.***

Nelson Mandela



WHO

Thank you.

