

NANOSAFETY WORKSHOP- AFRICA REGION, UNITAR/OECD, LUSAKA 3-4 MARCH, 2015

AFRICA NGO PERSPECTIVES

By E. ODJAM-AKUMATEY

Email: eaodjam@gmail.com

/ECOLOGICAL RESTORATIONS

OUTLINE

- ▶ From promises to the reality
- ▶ What we know and don't know about nano
- ▶ efforts
- ▶ Outcomes
- ▶ Challenges
- ▶ Way forward

NANO MARKET: FROM PROMISES TO REALITY

- ▶ Promises include soil remediation applications, Cheap water treatment, energy production and storage...
- ▶ What we currently see is mostly mundane application (odorless and stain resistant textiles, cosmetics, better performing sport equipment etc...)
- ▶ The case for medical application.



NANO-TOX: WHAT WE KNOW AND DON'T KNOW

Toxicology of nanoparticles both for Human health and environment differs severely from same material in the bulk form (e.g. Carbon Nanotubes & Asbestos / Titanium dioxide etc...).

Studies have shown:

- Certain Carbon Nanotubes behave just like asbestos;
- Capacity of certain Nanoparticles to cross the brain/blood barrier and placenta;
- Silver nanoparticles exposure in young males affects sperm quality
- Trans-generational transmission of TiO_2 nanoparticles;
- Some nanoparticles have shown severe toxicity to fish species and fresh water ecosystems;

Etc.

NANO-TOX: WHAT WE KNOW AND DON'T KNOW

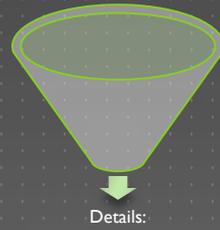
- ▶ We know just enough to be sure that there will be unwanted effects but not enough to evaluate or even anticipate them precisely.
- ▶ In the current state of uncertainty, allowing these products on the market in a totally uncontrolled way, is like conducting a life scale experiment on the Biosphere.

EFFORTS

- ▶ The African engagement on this issue is limited (limited resources; competing pressing priorities)
- ▶ Few countries have bought into the ideas of nanotechnology including Ghana, South Africa, Egypt, Nigeria, Tunisia, Ethiopia ,Kenya, Senegal and Morocco.
- ▶ Publication on nano issues by IPEN : Social and environmental implications of nanotechnology development in Africa: This booklet is available in French and English on the IPEN website @ http://ipen.org/pdfs/nano_booklet_sept_5.pdf and here: http://ipen.org/pdfs/nano_booklet_sept_5-fr.pdf

EFFORTS CONTINUED

- ▶ However, the African region has been able to show leadership, by adopting some of the earliest resolutions in the context of SAICM (and even before that, in the context of IFCS).
- ▶ These resolutions called for:
 - ▶ Right to know for countries and consumers
 - ▶ Right to choose for countries
 - ▶ No data no market principles
 - ▶ No nano waste for countries who cannot deal with them appropriately
 - ▶ Implementation of precaution framework



- ▶ South africa (SANI, CSIR, Interdisciplinary Master's degree: University of western cape eith other souht african Universities)
- ▶ Morocco (Technoplois, Industrial High tech park at rabat)
- ▶ Nigeria (
- ▶ Egypt
- ▶ Tunisia
- ▶ Kenya
- ▶ Ghana
- ▶ Sudan
- ▶ Ethiopia

- ▶ Algeria
- ▶ Zimbabwe

And awareness raising in media in Ghana.

OUTCOMES

- ▶ Some research programs exist, some participation in some of the international forums for discussing nano (see for example RSA participation in OECD), however, there is no coordination, within each country (between the research, product development, health and environmental impacts, market governance, regulation etc...) or between the various countries and initiatives.
- ▶ The questions of waste in particular is particularly relevant for African countries, because, further to the production on the African continent, there will be large amount of nanomaterials arriving on the continent via the global market, and most importantly through the stream of electronic waste arriving on the continent. Electronics include more and more nano, and we currently have no idea how to deal with them.



- ▶ Low awareness on nano issues
- ▶ Low nano investments
- ▶ No legislations and policies from governments to deal with nano issues
- ▶ Limited research
- ▶ limited resources(infrastructure, human capacity, finance/funding, technological development,



Way forward

Implementation of ICCM3 resolution and GPA nano activities
(Information to consumers and workers, development of international legal and technical guidance, investment in research about environmental and health consequences etc...)

Development of regional and inter-regional networks (increase knowledge base, exchange information etc...)

Technological Cooperation (north/south AND south/south)