

International Development Research Centre

Ecosystem Approaches to Human Health Prospectus 2005-2010

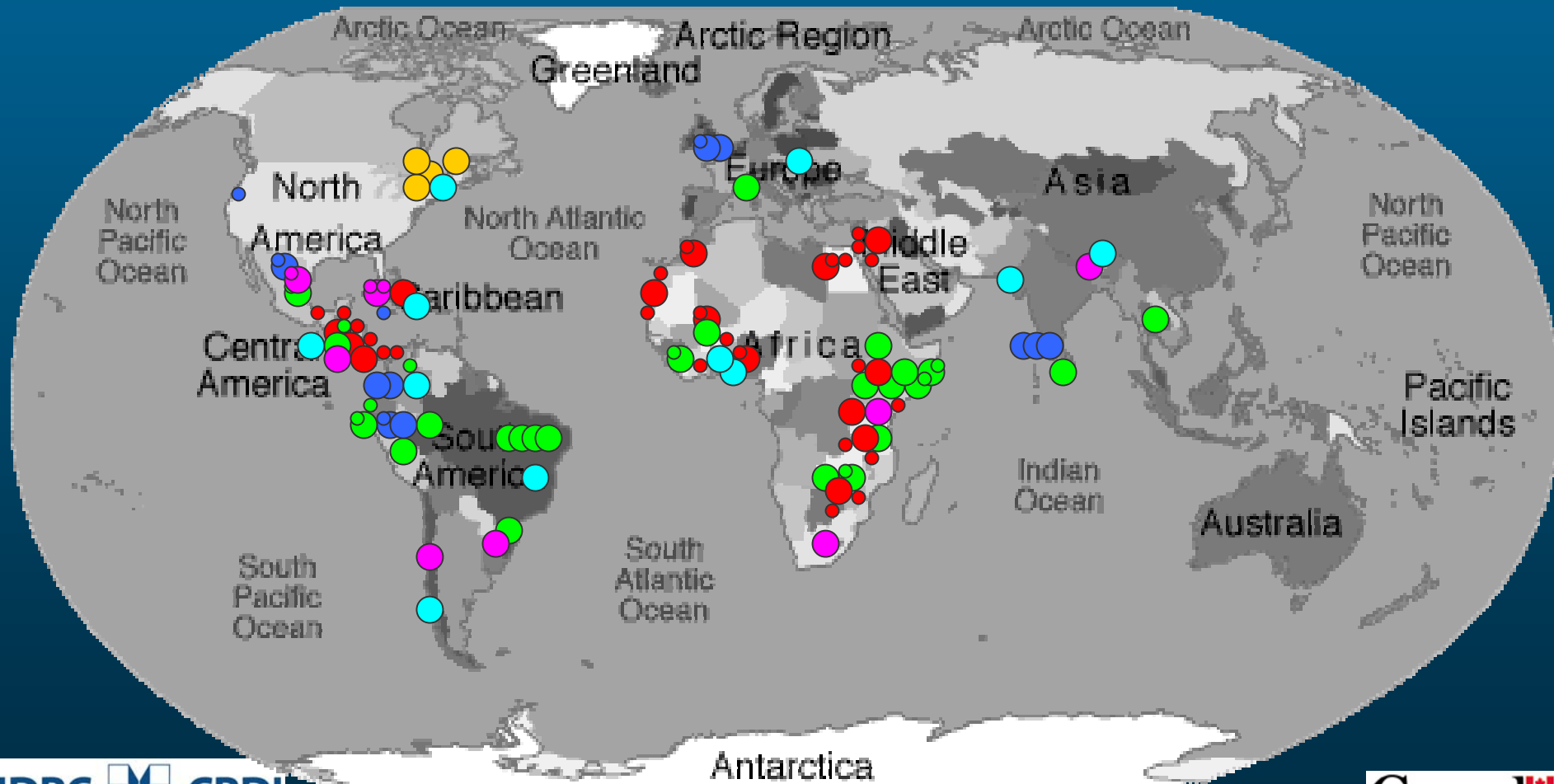
Goa Workshop, Jan 24-28th, 2005



ECOHEALTH Projects 1996-2004

2

- Agriculture
- Urban
- Mining
- Awards
- Regional Funds
- Cross-cutting



Ecosystems Approaches to Human Health

Prospectus 2005-10

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- focus on the social and ecological contexts that influence health and human well-being to understand the dynamics of health and sustainable ecosystem
- use of multi-stakeholder processes for social learning and negotiated solutions



Eco and System

- Eco: Oikos=house – homeostasis
- System: synergic and antagonic interactions among sub units
- Ecology: interaction between biotic (producers, consumers, decomposers) and abiotic (matter and energy) components within a system.

Ecological Structure

- Atom, molecule, cell, tissue, organ, **organism, population, community, ecosystem, ecosphaera and planet**
- **Organisms** have adaptative strutuctures to live and face external (environmental) conditions
- **Population**: many organisms of the same species in a given place
- **Community**: collection of different populations, including humans, parasites, vectors, pets, livestock, crops

Life: energy flow and food chains

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- Primary production:
- *Solar energy transformed into chemical energy (sugar) through photosynthesis by green vegetables and algae;*
- Primary and secondary consumption:
- *Chemical energy (from sugar) transformed into molecular energy through respiratory process by animals;*

- Food chains:

Producers
(plants,
phytoplankton)



Primary
consumers
(herbivorous)



Secondary
consumers
(carnivorous)



Decomposers
(worms, etc)

Humans in the Ecosystem - 1

- Within an Ecosystem Approach to Human Health, human beings are placed at the center of consideration about development, while seeking to ensure the durability of the ecosystem of which they are an integral part
- There can be no sustainable development unless interventions take into account both the well being of human and the sustainability of the ecosystem.

Humans in the Ecosystem - 2

- *Pollure* , from latin= dirty, or excess of elements and/or compounds, that are not absorbed by the the system – what is the hazard, and harm, at which doses, to whom, etc type of question – risk assessment.
- Chemical production and mismanagement of environmental resources

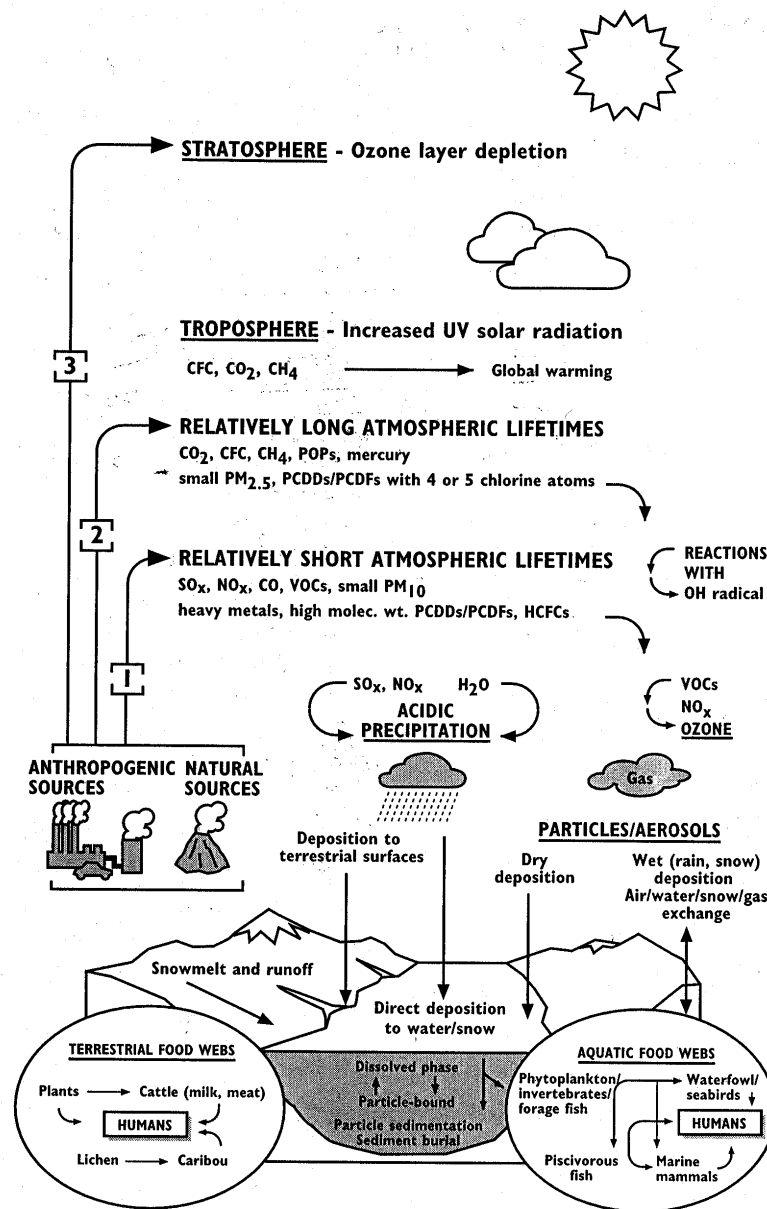


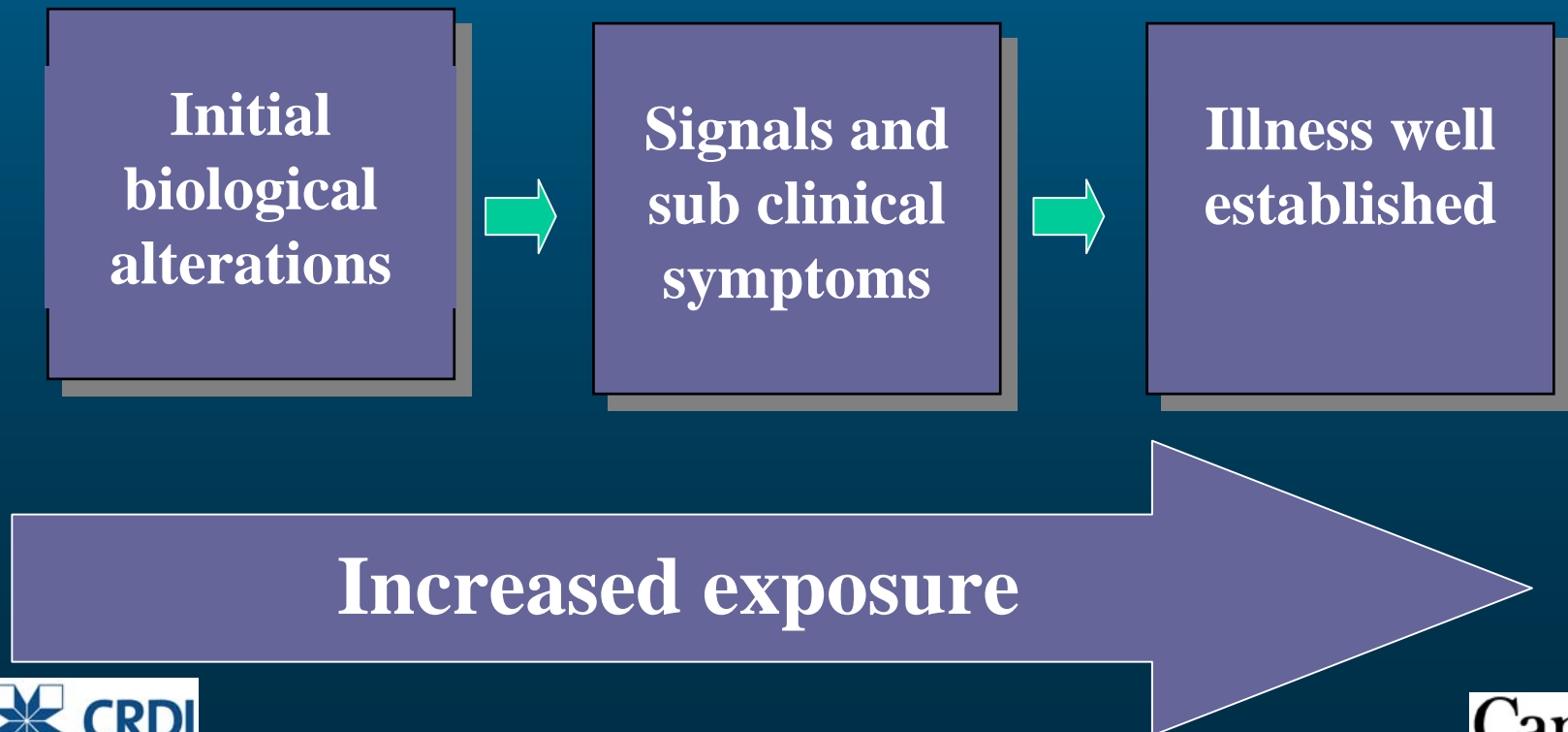
Figure 1.2 Pathways of transport and accumulation of continental pollutants.

Source: Redrawn with permission from Commission for Environmental Cooperation 1997, Figure 1.

Human health and illness

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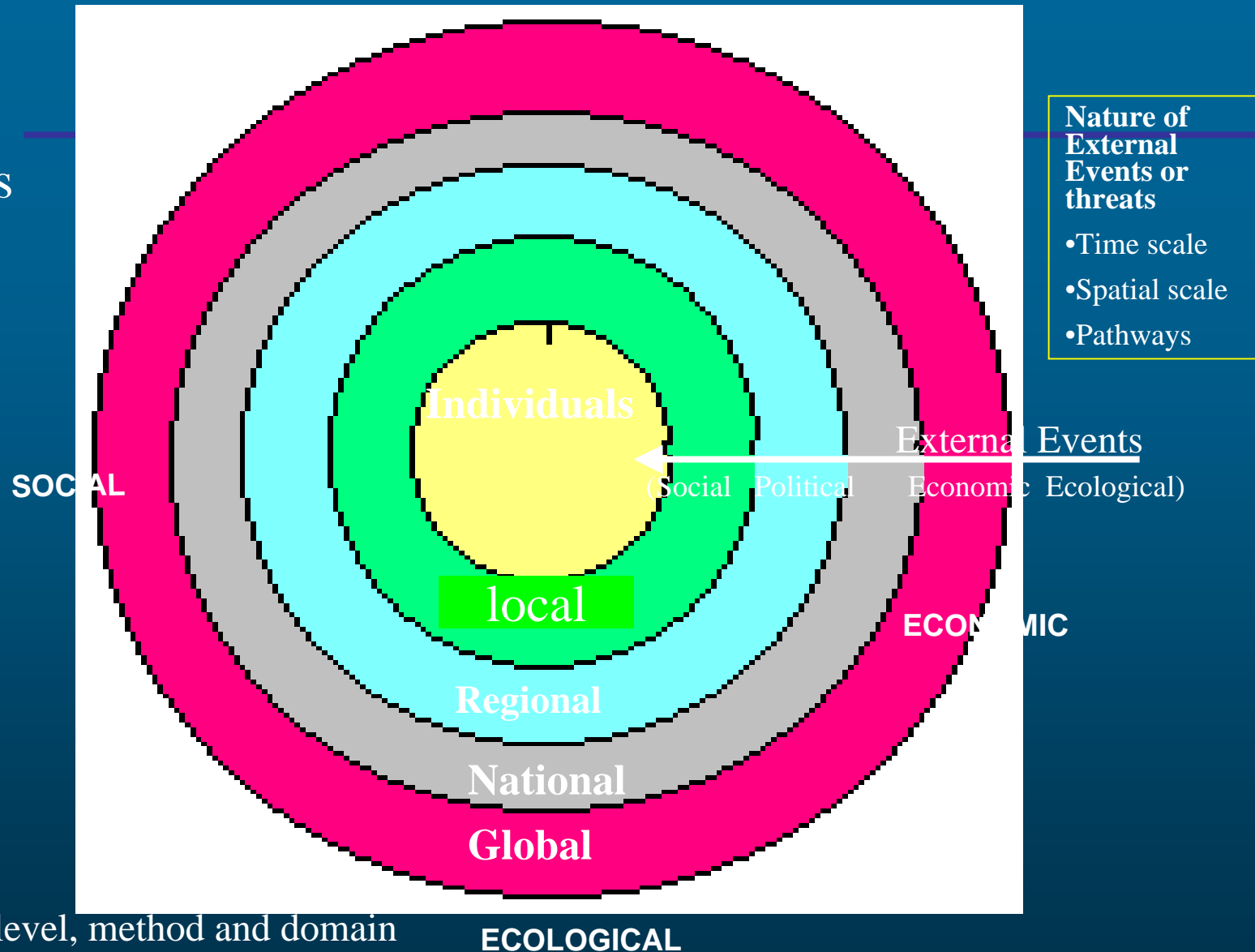
- Subtle biological alterations before clinical symptoms are perceived



Nested hierarchies

- Mapping ecological and social factors, which can present both interdependent and overlapping domains;

Research using ecosystem approaches



- Multi level, method and domain
 - Multi-stakeholder
- Strong interfaces among different factors

adapted from Donna Mergler, Unpublished, 1997

The PI will support research that fosters sustainable local development

- ❑ Focuses on health risk mitigation by reduction of environmental pollutant releases and exposures, with management of pollution legacy
- ❑ Addresses the opportunities and limitations for SMEs of being both socially and ecologically responsible and profitable
- ❑ Supports collective planning, action and implementation of risk mitigation, based on risk assessment, preferable with SMEs involvement
- ❑ Building of partnerships between the private sector, NGOs, CBOs, academic and research institutions, and local government

Challenges among development and environmental health

- How to share costs and benefits of development activities?
- Who shall participate in the process and how?
- What are the problem understandings?
- When shall we start (in the context of an IDRC project)?

The ecosystem approach to human health

- Why?
- Understanding of complex problems require integrated performance and background
- Actions on implementing knowledgeable responses requires a collective dialogue to negotiate different roles and interestes
- Knowledge access and power distribution are key for social and gender equity

The ecosystem approach to human health

How?

Methodological pillars:

Transdisciplinarity

Social and Gender equity

Multi stakeholder participation

Goa workshop

- Objectives: bring people together for for a common understanding of collective actions through knowledge production on:
- Pollution mitigation with SMEs involvement to promote sustainable development
- Required steps for pollution mitigation: risk assessment, communication, and management, jointly conducted by researchers and stakeholders, including community
- Under major collective sorrow due to Tsunami 2004 victims...