

Why an “Eco-Health” Approach



SOLDI PER SEMPRE
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Learning Objectives:

–To consider :

–Why an eco-health approach was developed

–Some applications of the approach

–What the benefits could be

*integration
perspectives*

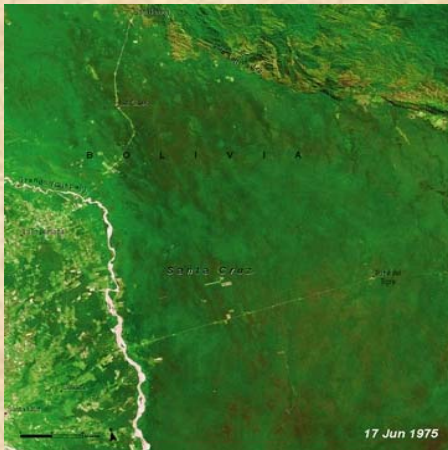
–What the shortcomings could be

*Over-consuming
clash of disciplines
cultural sens. clash*



UNDERSTANDING AND ADDRESSING

(ECOSYSTEM) HEALTH



FROM A GLOBAL PERSPECTIVE



Conversion of forests to farmlands in Santa Cruz, Bolivia



- 1975: Forested landscape





Conversion of forests to farmlands in Santa Cruz, Bolivia



- 1975: Forested landscape

- 2003: Large corporate agricultural fields transform the landscape



Global Movement of Waste

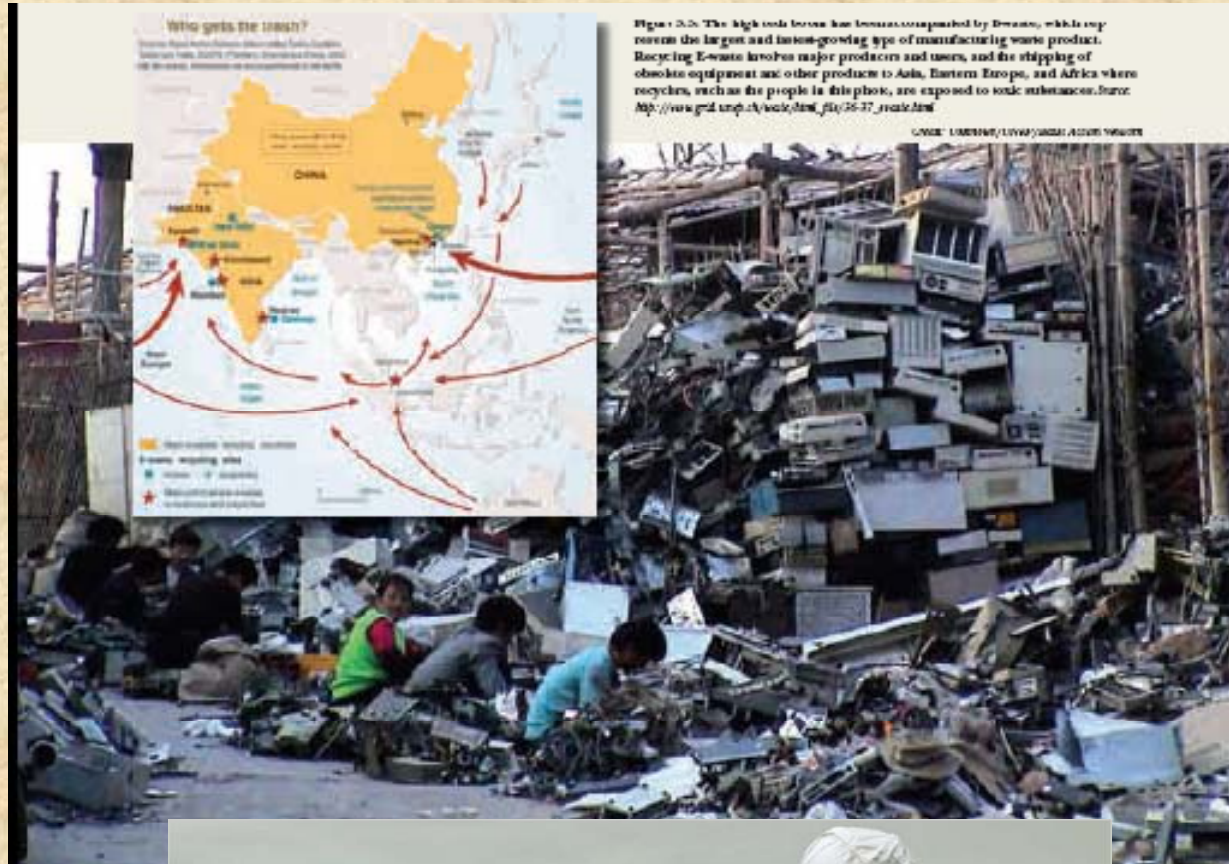
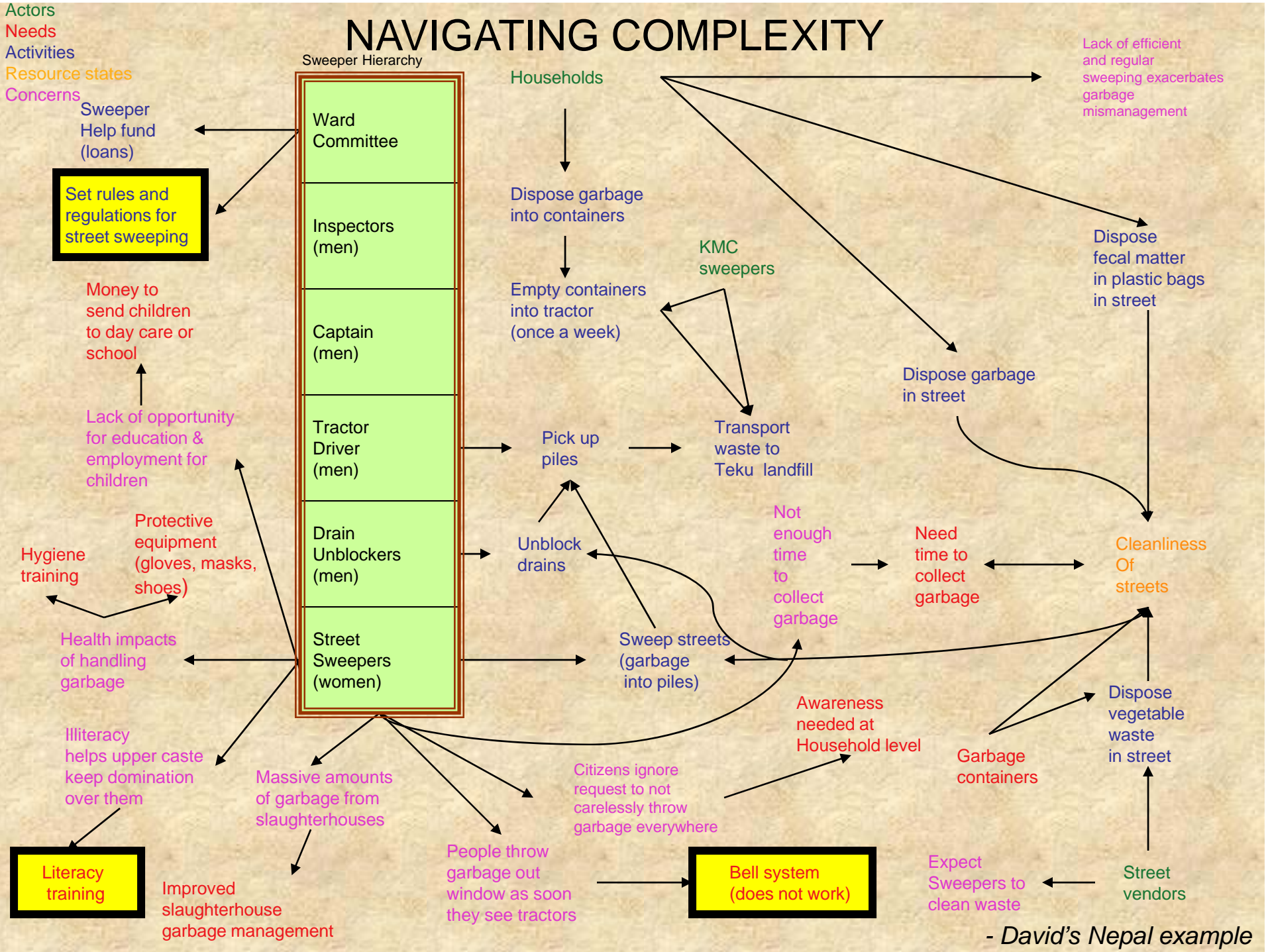


Figure 2.5. The high cost of waste has been accompanied by a boom, which represents the largest and fastest-growing type of manufacturing waste product. Recycling E-waste involves major producers and users, and the stripping of obsolete equipment and other products to Asia, Eastern Europe, and Africa where recyclers, such as the people in this photo, are exposed to toxic substances. Source: http://www.pewtrust.org/~/media/Files/2007/07/07_e-waste.html

Global Sludge Ends in Tragedy for Ivory Coast

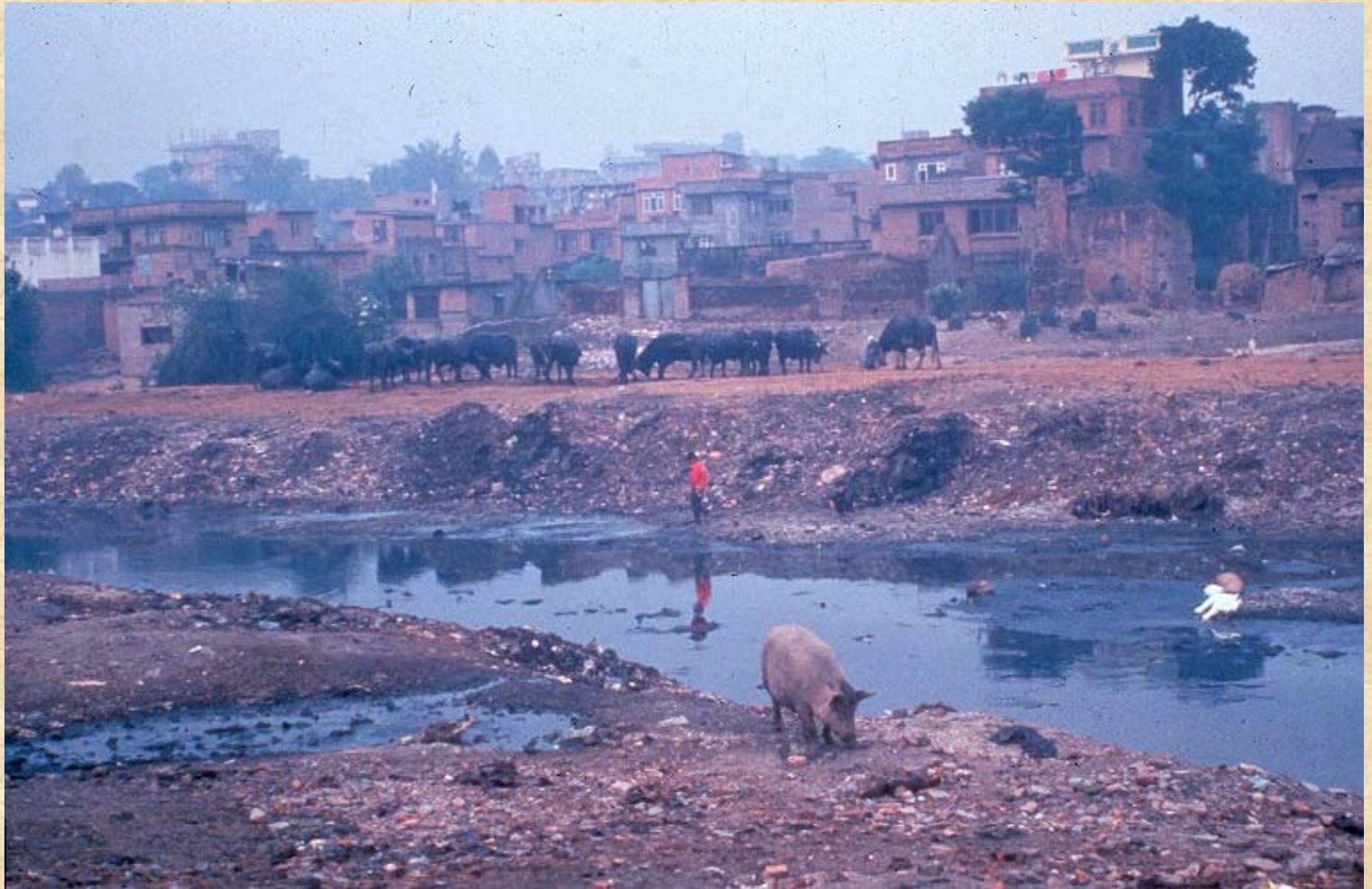


NAVIGATING COMPLEXITY



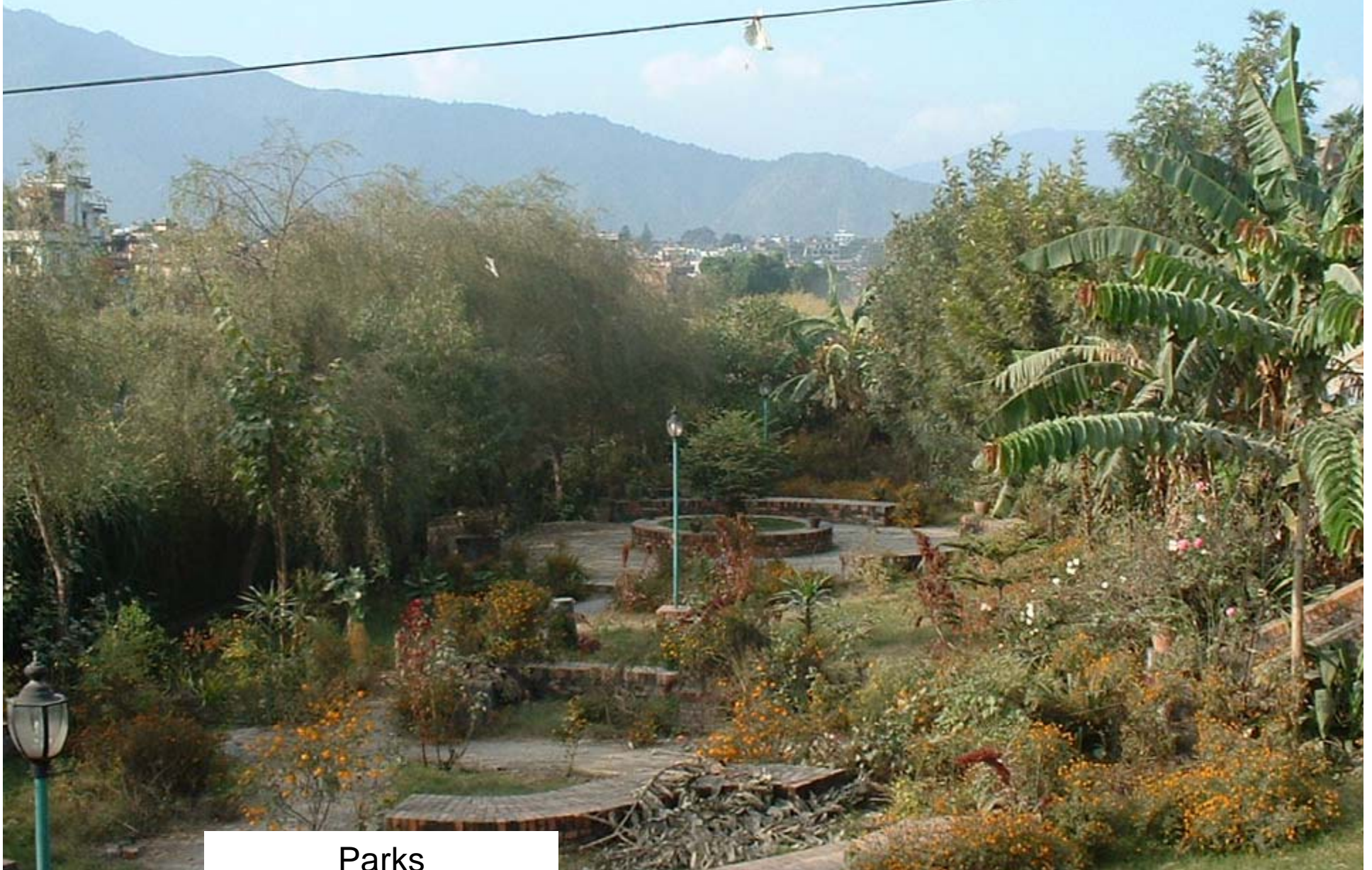
Before an ecosystem approach -
lots of scientific information







After an ecosystem approach - lots of positive change



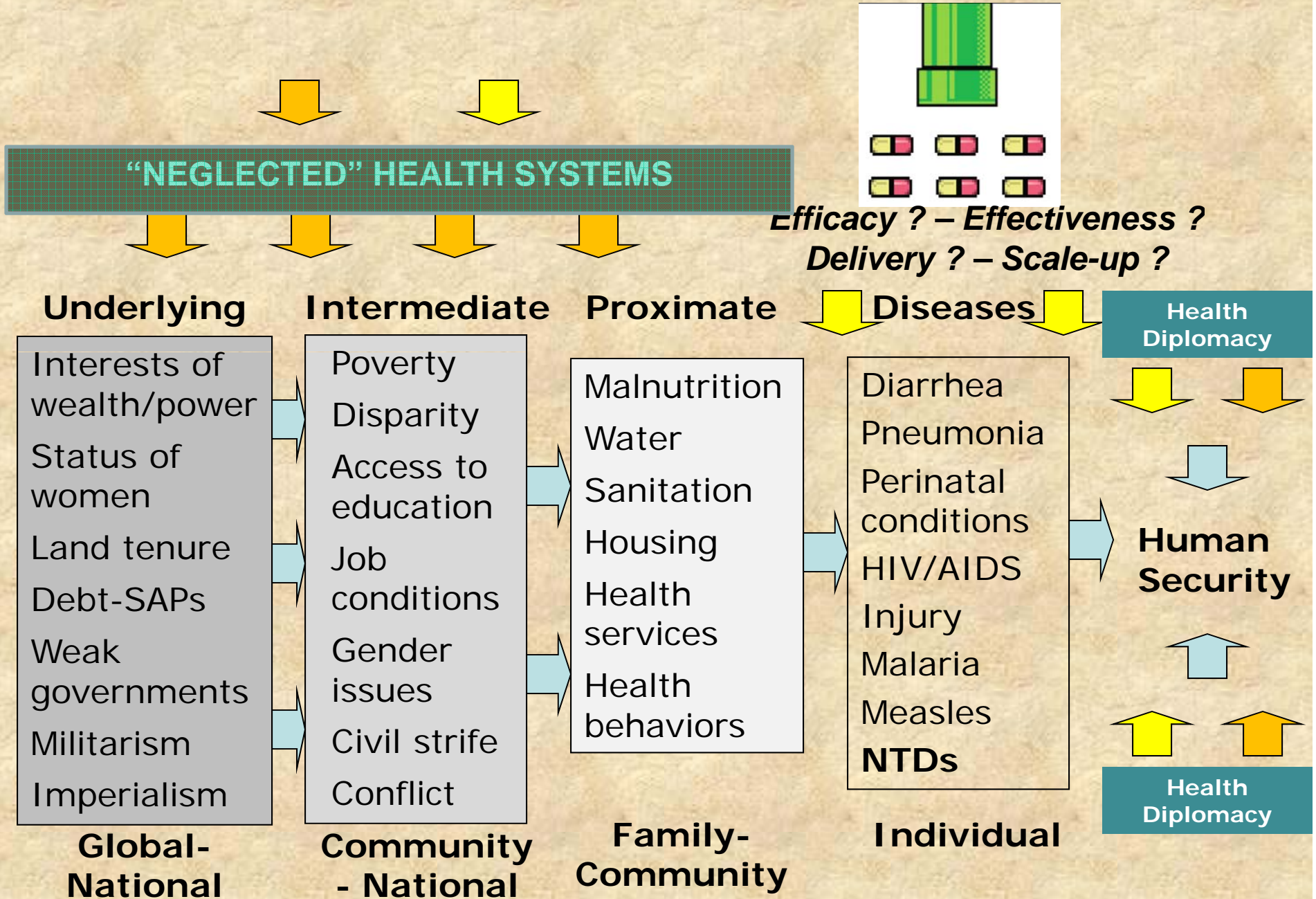
Parks



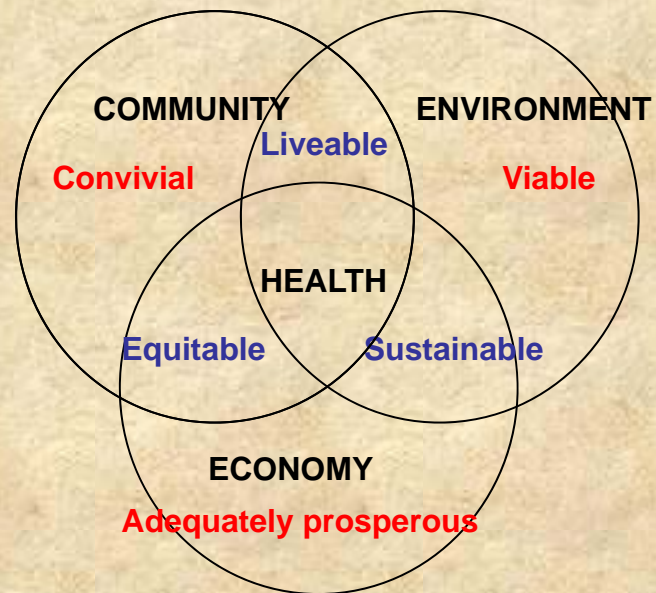
Composting



Determinants & Points of Intervention



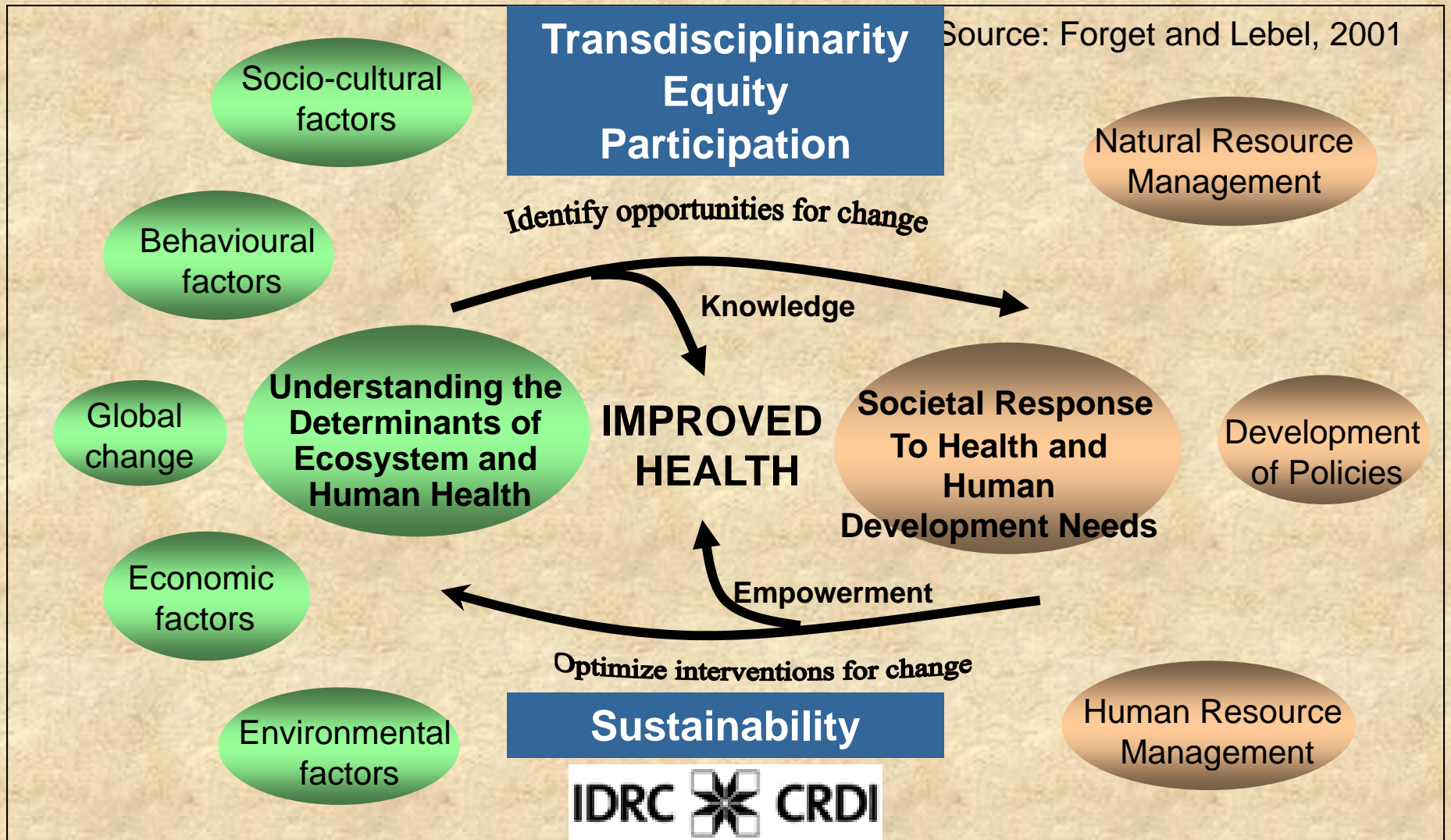
Community Ecosystem Concept



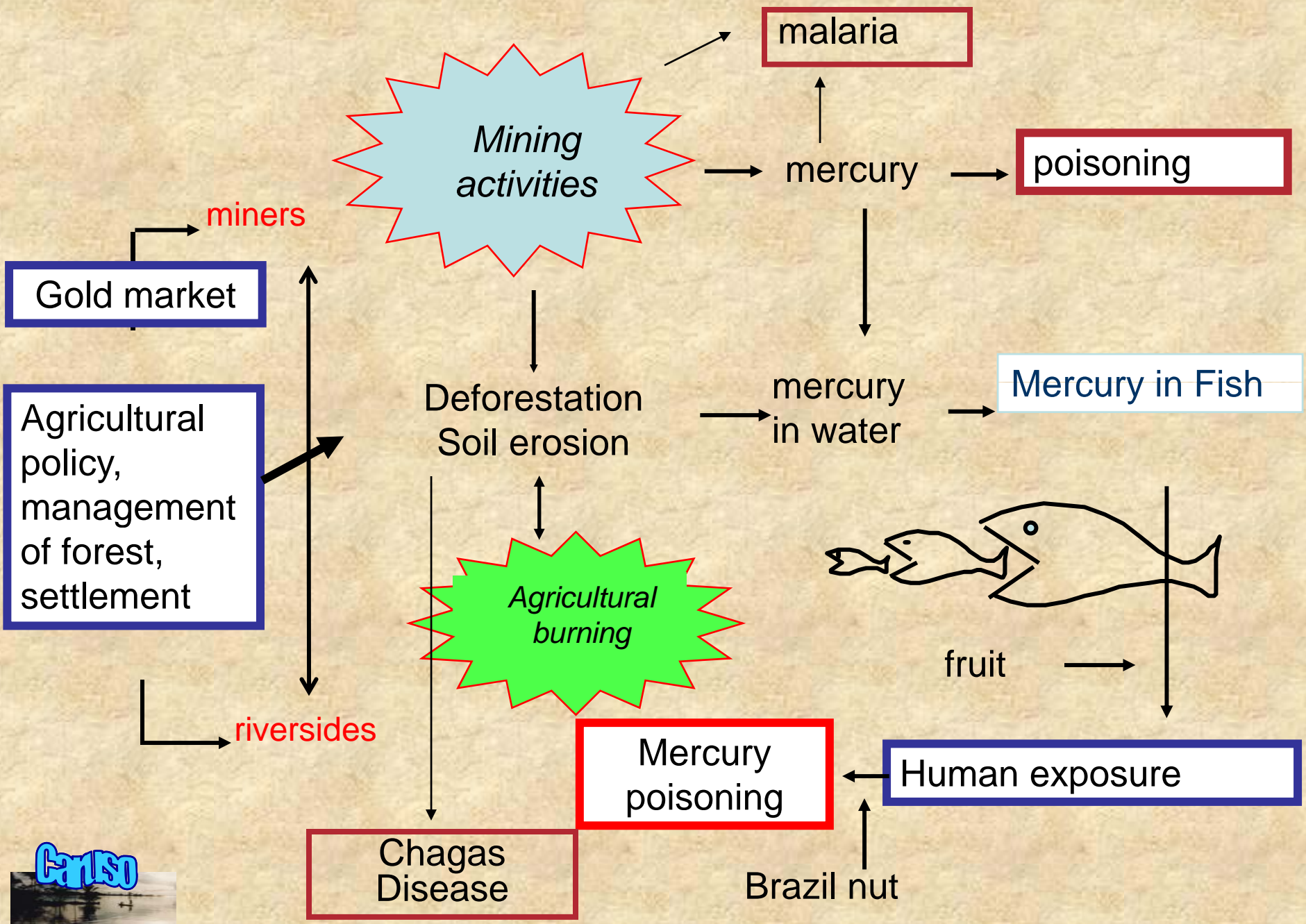
Source: Hancock, 1993

ECOSYSTEM APPROACH TO HUMAN HEALTH

- a framework for setting impact objectives -



... and a process for involving key players to achieve impact

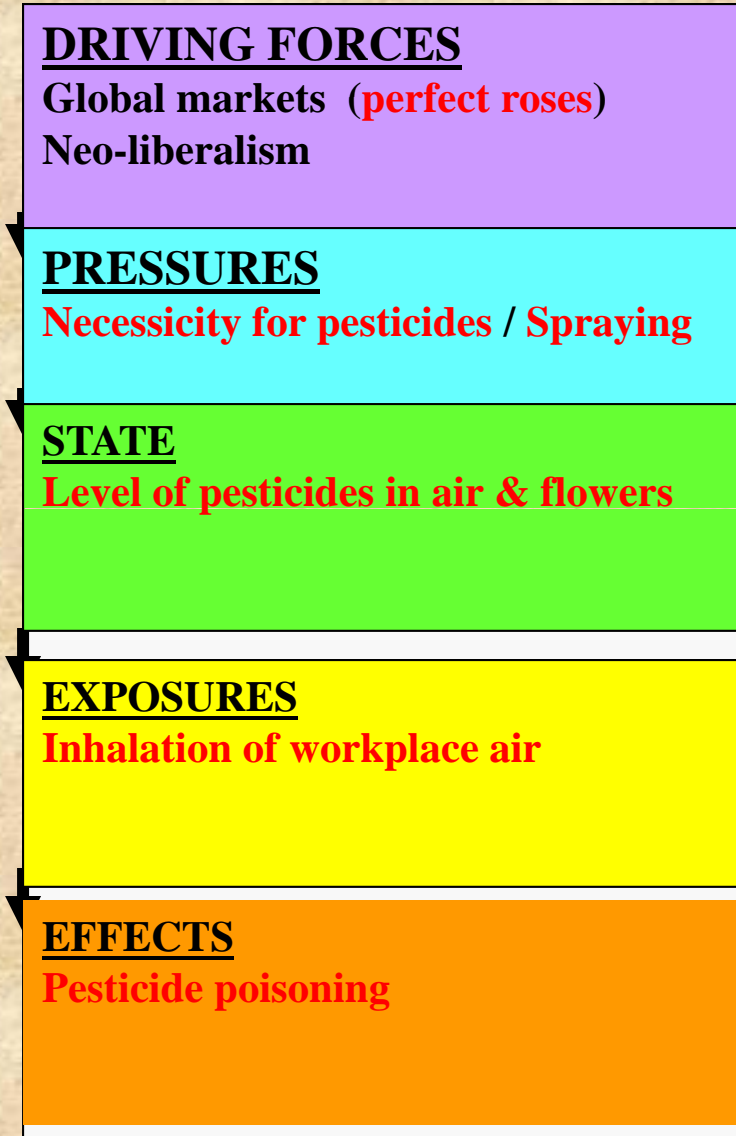




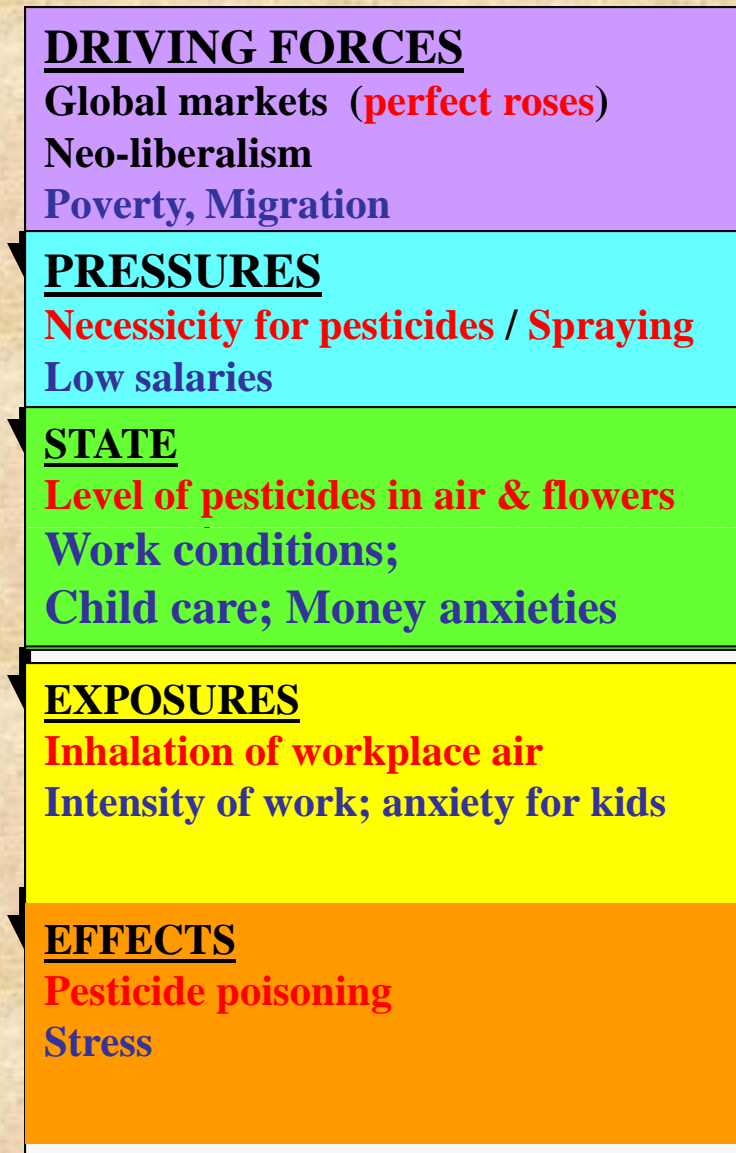
DE LOS QUESOS A LAS FLORES



DPSEEA FRAMEWORK



DPSEEA FRAMEWORK



DPSEEA FRAMEWORK

DRIVING FORCES

Global markets (**perfect roses**)
Neo-liberalism
Poverty, Migration

PRESSURES

Necessicity for pesticides / Spraying
Low salaries

STATE

Level of pesticides in air & flowers
Work conditions; ergonomics
Child care; Money anxieties

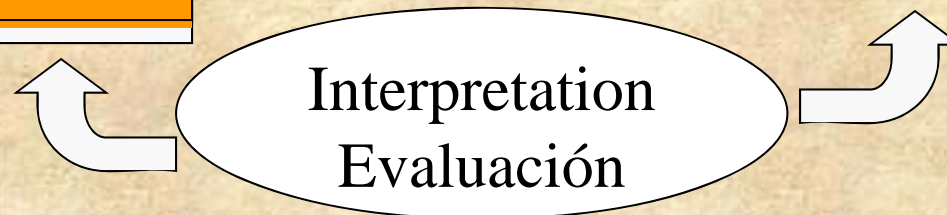
EXPOSURES

Inhalation of workplace air
Intensity of work; anxiety for kids
Handling/contact with flowers

EFFECTS

Pesticide poisoning
Stress
Back pain, dermatitis

ACTIONS



DPSEEA FRAMEWORK

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Back pain, dermatitis

ACTIONS

“Fair trade” – ethical commerce
Recognition of the FLP
flower label program

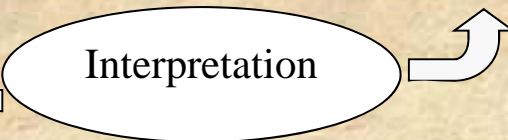
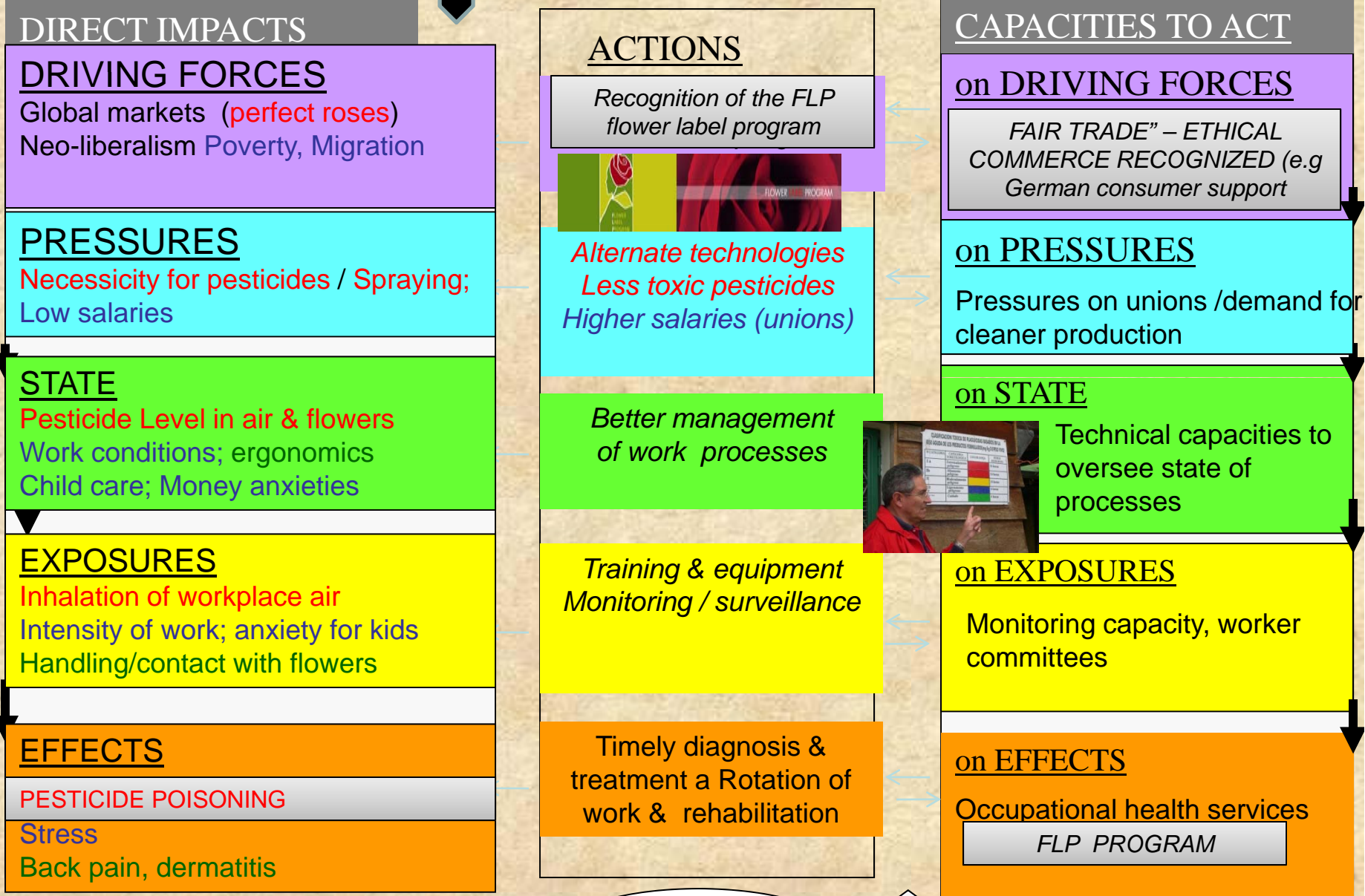
Alternate technologies
Less toxic pesticides



Timely diagnosis & treatment a
Rotation of work & rehabilitation



FORCES OF GLOBALIZATION (negative & positive)

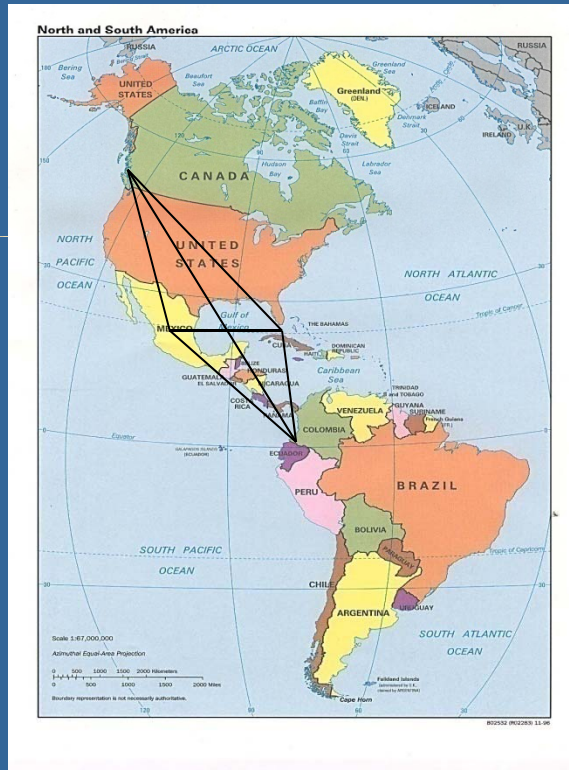


Conclusion

- Consideration of global forces
(in an era of globalization)
 - Enhances understanding
 - Enhances capacity to develop/evaluate options

SUSTAINABLY MANAGING ENVIRONMENTAL HEALTH RISKS IN ECUADOR

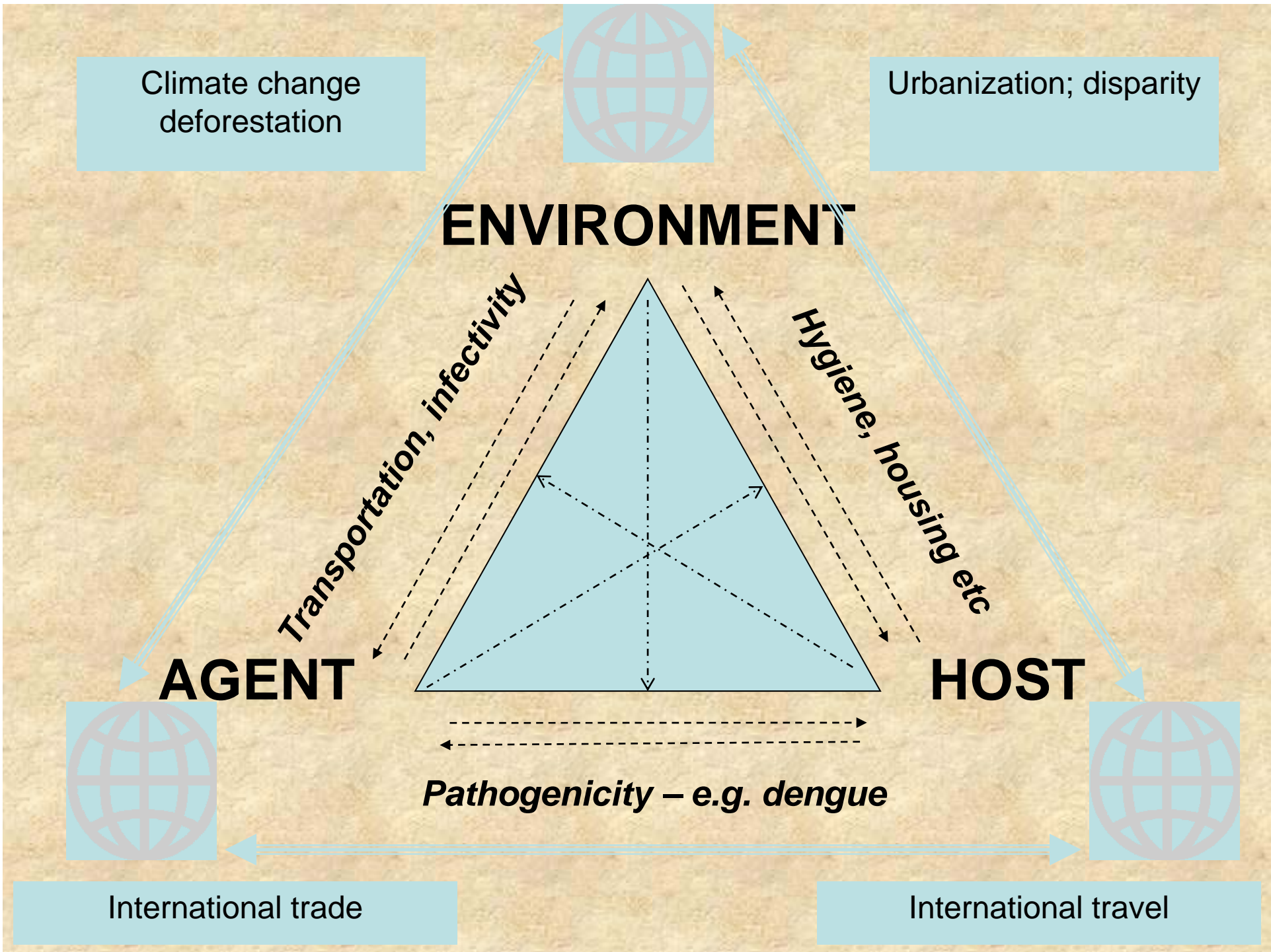
A community-based, intercultural and interdisciplinary initiative
to promote human and ecosystem health.



UPCD TIER 1 UNIVERSITY PARTNERSHIP (\$5 million, 6 years)



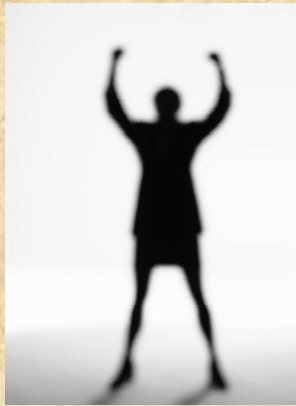
Canadian International Development Agency Agence canadienne de développement international



DENGUE

ENVIRONMENT

VECTORS

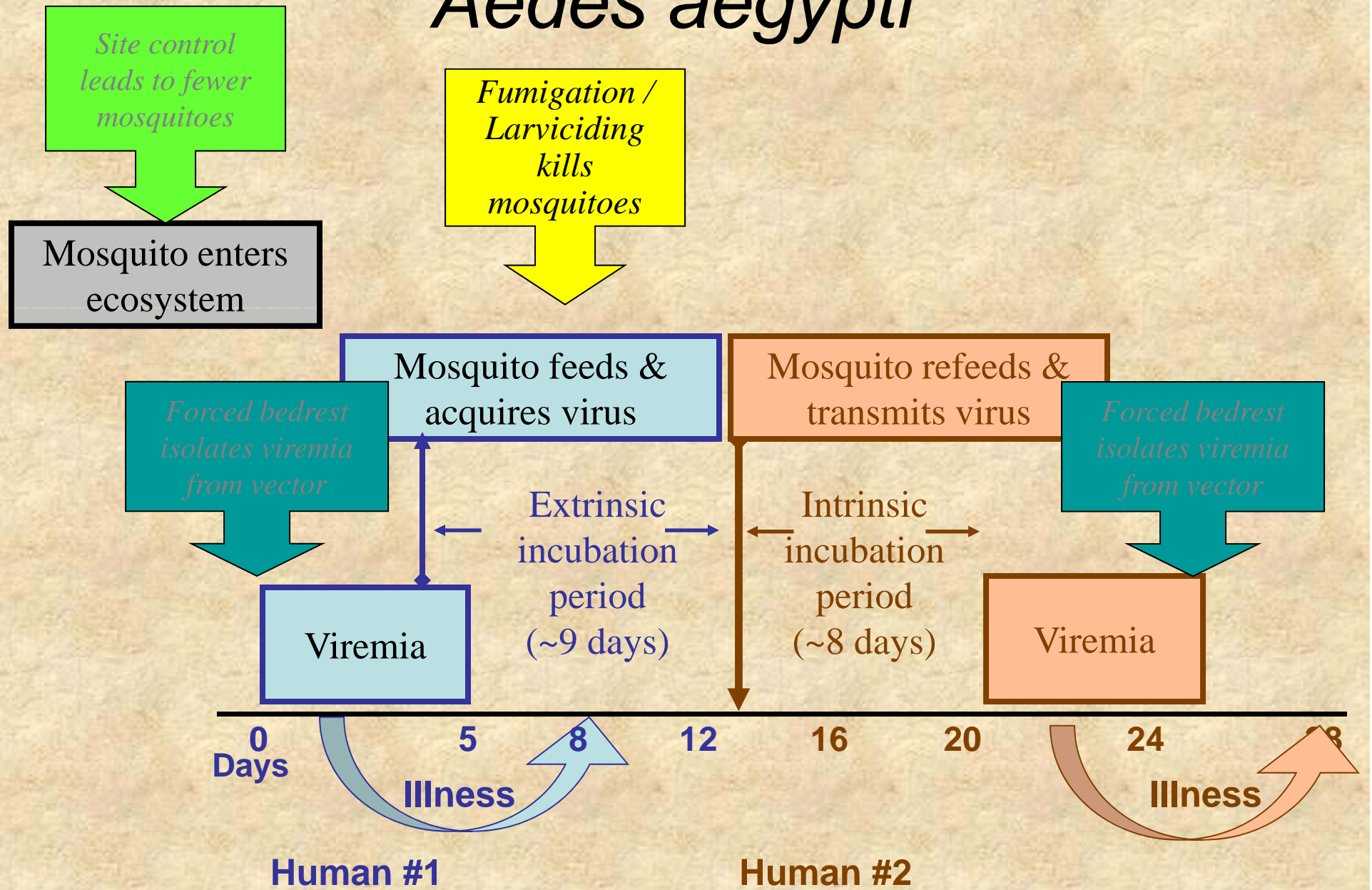


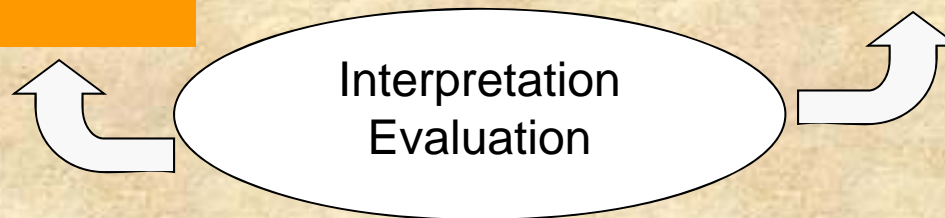
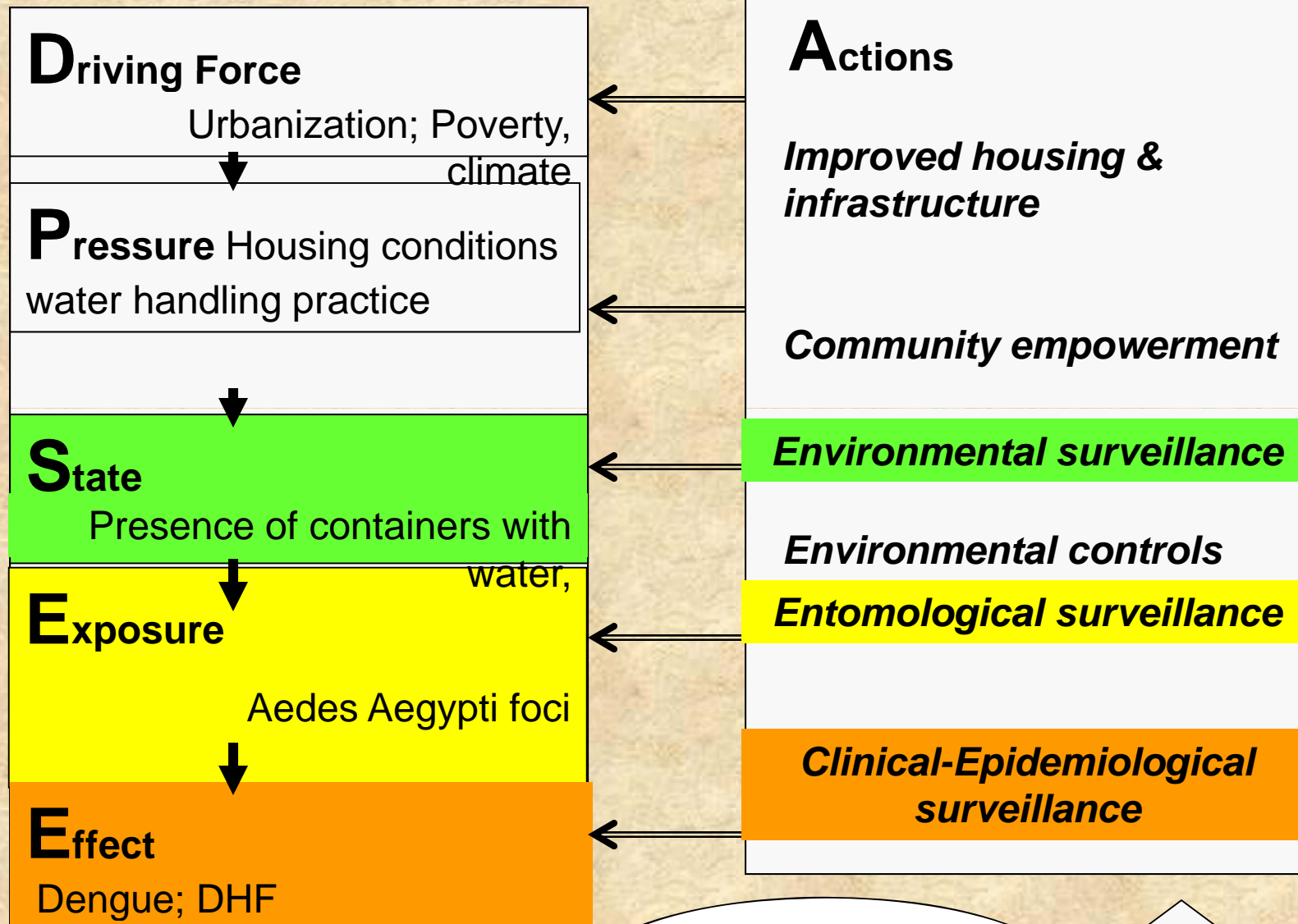
CLINICAL

EPIDEMIOLOGICAL

LABORATORY

Transmission of Dengue Virus by *Aedes aegypti*





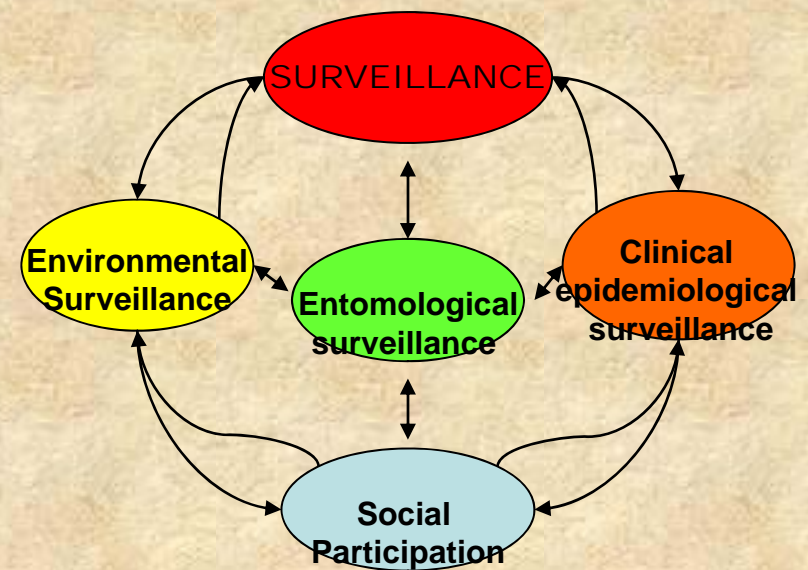
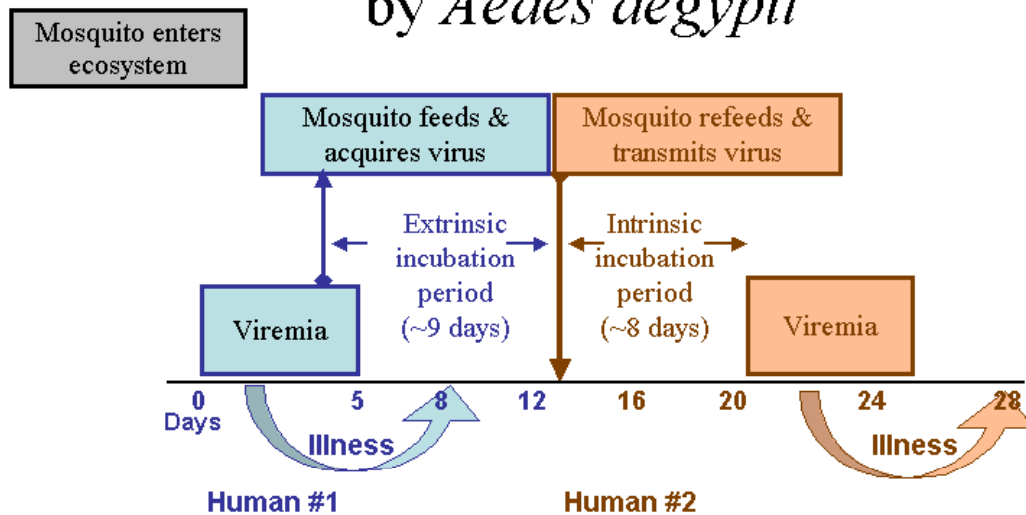
Integrated surveillance components

- *environmental surveillance* - identification of risks within each of the 5 Popular Councils of Central Havana
- *entomological surveillance* –active surveillance in the areas of infestation and appearance of epidemic foci;
- *epidemiological / clinical surveillance* - collecting and analyzing information on the individuals at risk, probable or confirmed cases, and serological surveillance; and
- *community participation “surveillance”* - monitoring community capacity and the extent of community participation in the implementation of the strategy.

Applying the eco-health approach

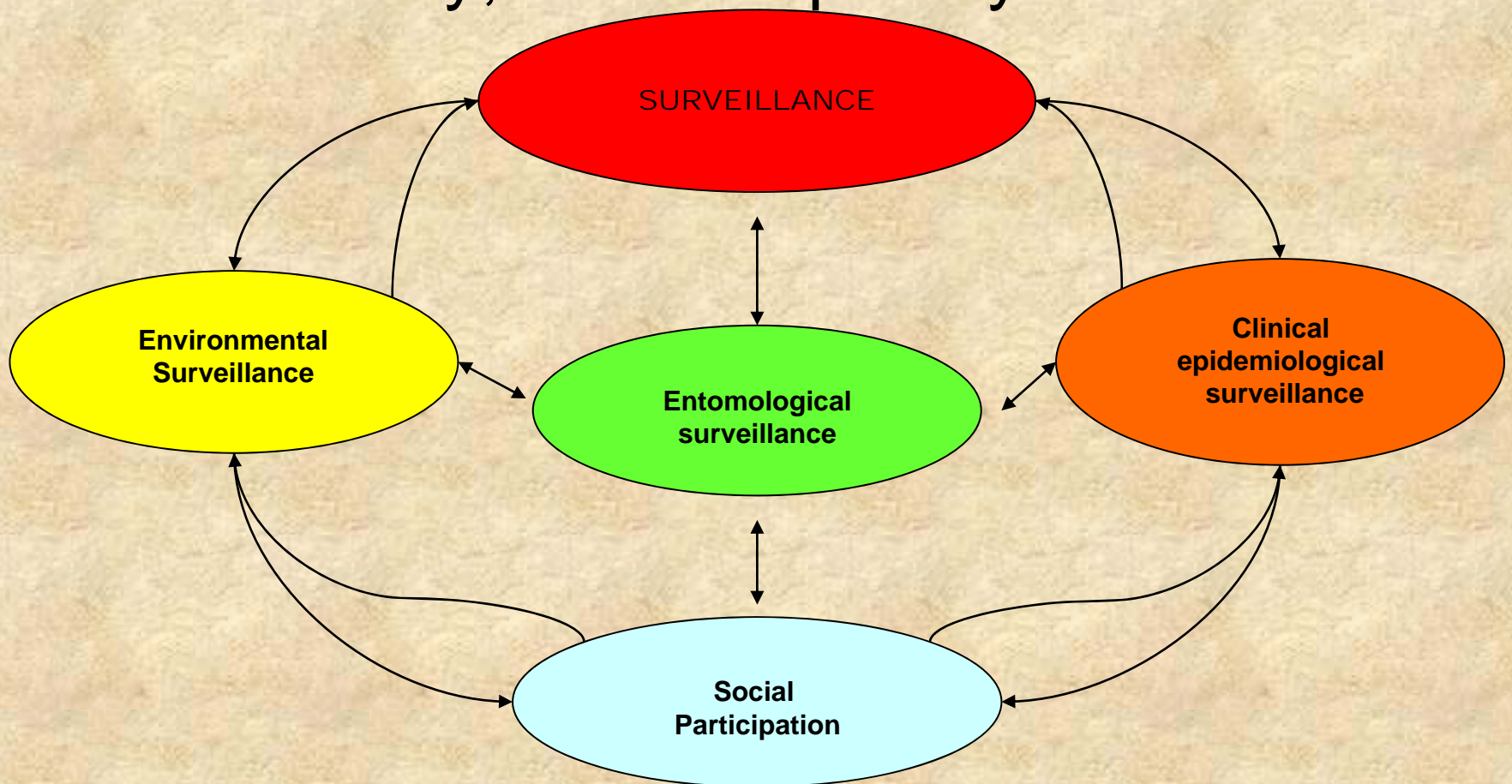
- When and how to intervene effectively?
- Active involvement
 - decision-makers; community; interdisciplinary

Transmission of Dengue Virus by *Aedes aegypti*



Applying the eco-health approach in Cuba

Active involvement of decision-makers -
community; interdisciplinary



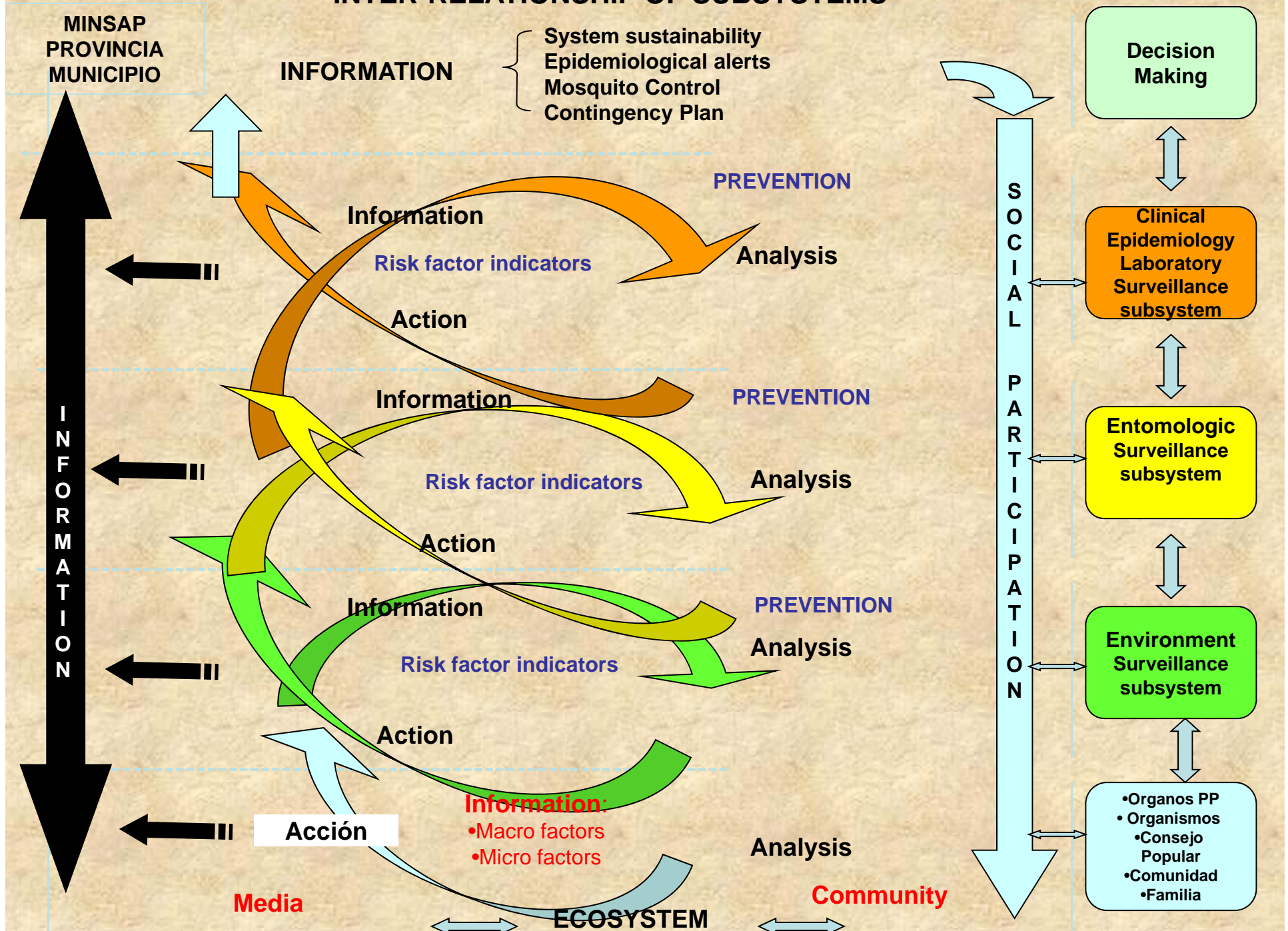
Surveillance System

4 subsystems:

- Environmental
- Entomological
- Clinical-Epidemiological and Laboratory
- Community Participation

- Events or conditions to monitor.
- Work and operation of the system.
- Information flow and analysis
 - events to monitor, information sources, frequency of the analysis and statistical
- Mapping the flow of the information
- Dissemination and feedback of the information
- Evaluation of the surveillance system.

INTER-RELATIONSHIP OF SUBSYSTEMS



Indicators

101545-001

Final Technical Report

March 2006

Table 1 Selected indicators used in Central Havana with criteria for interpretation

Environmental indicators:

Household Environment Conditions (1.Bad: $\geq 50\%$; 2.Regular: 25-49%; 3.Acceptable: $< 25\%$)

=> Proportion of containers with water that are unprotected (low tanks, elevated, cisterns, wells, barrels and barrels).

=> Proportion of houses and premises with unprotected containers with water.

=> Proportion of patios that are disorderly

Neighbourhood Environment Conditions (1:Bad: 2:Acceptable)

=> Presence of disorderly uncultivated lands

=> Presence of uncovered small garbage piles

=> Presence of risk water breaks

=> Presence of flooded cellars or dugouts

Integrated *Household Environment Conditions* indicators constructed

=> (Bad: at least 1 'bad' or 3 'regular' conditions; Regular: at least 1 'regular', with no 'bads'; Acceptable: All 'acceptable')

Integrated *Household Environment Conditions* indicators constructed

=> (Bad: at least 1 'bad' or 3 'regular' conditions; Acceptable: All 'acceptable' conditions)

Entomological indicators:

High risk:

- House Index ≥ 5.0

- Container Index ≥ 1.0

- Breteau Index > 5.0

- Presence of *Aedes Aegypti* foci.

- Presence of 'boarded-up' houses and premises.

Moderate risk:

- House Index 1.1 - 4.9

- Container Index 0.2 - 0.9

- Breteau Index 3.1 - 5.0

Low risk

- House Index ≤ 1.0

- Container Index ≤ 1.0

- Breteau Index ≤ 3.0

Epidemiological indicators

"High": Reactive IgM and/or travellers with symptoms and/or imported or non-imported dengue

"Moderate": non- febrile syndromes and/or indications of IgM and/or travellers.

"Low": not classifying in the other categories

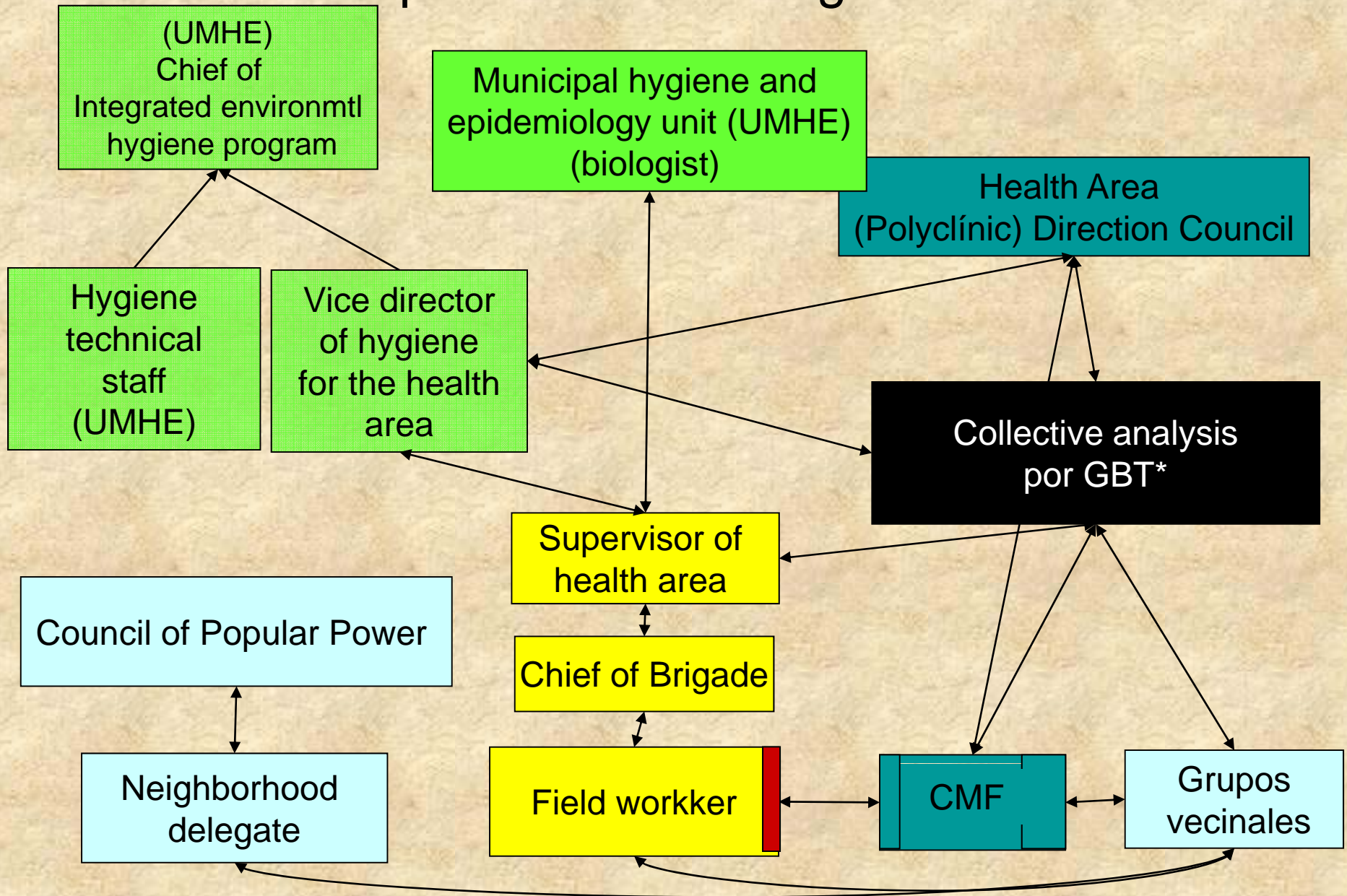
Disease Risk:

"High": presence of high risk entomological or epidemiological indicators

"Moderate": presence of moderate risk entomological or epidemiological indicators

"Low": those that they did not classify in any of these two categories.

Integrated surveillance system for prevention of dengue at the local level

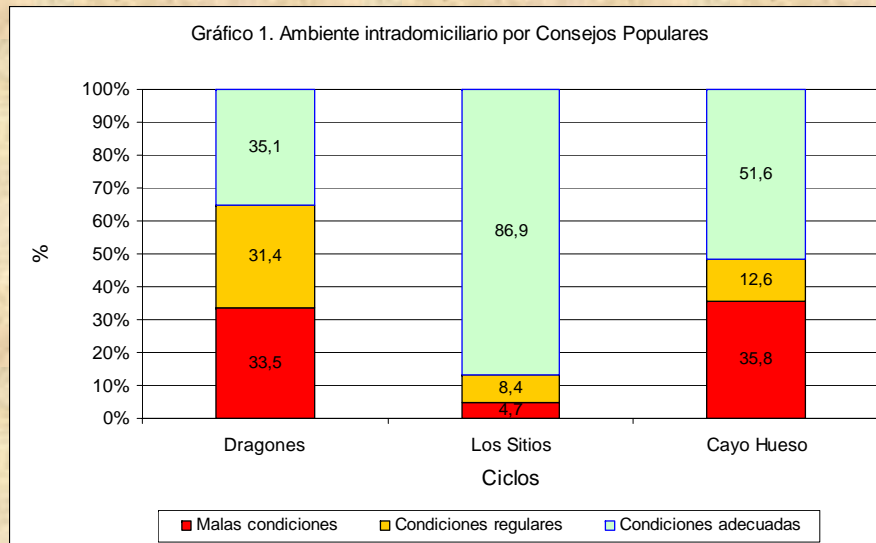


DENGUE HOUSEHOLD INSPECTOR & SUPERVISOR WORKSHOPS

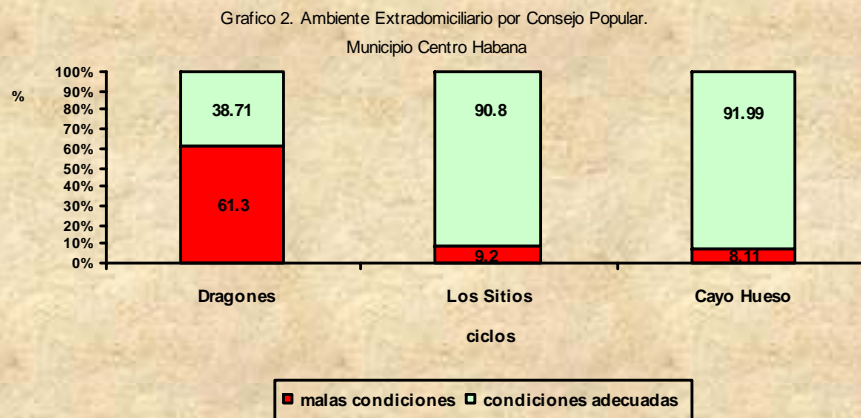


NEW INDICATORS, INFORMATION SYSTEMS & REPORTING

Surveillance System Monitoring



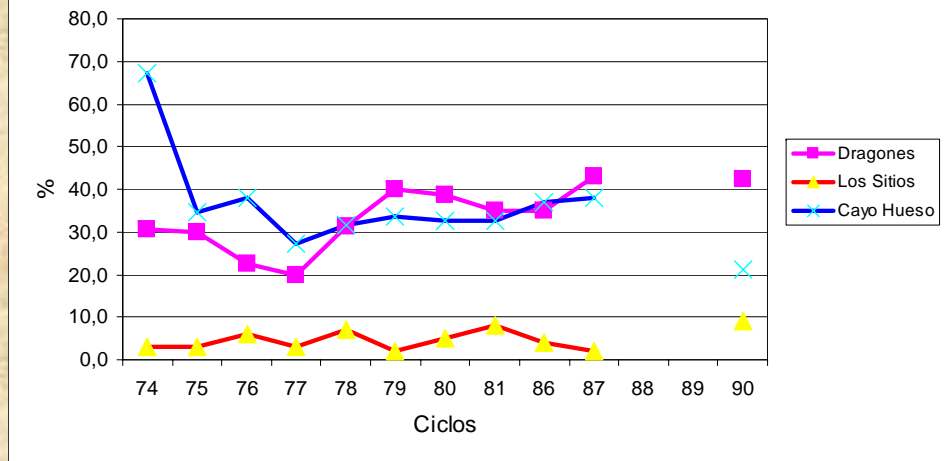
Status of Household Environments by Neighbourhood



Status of Outside Environments by Neighbourhood

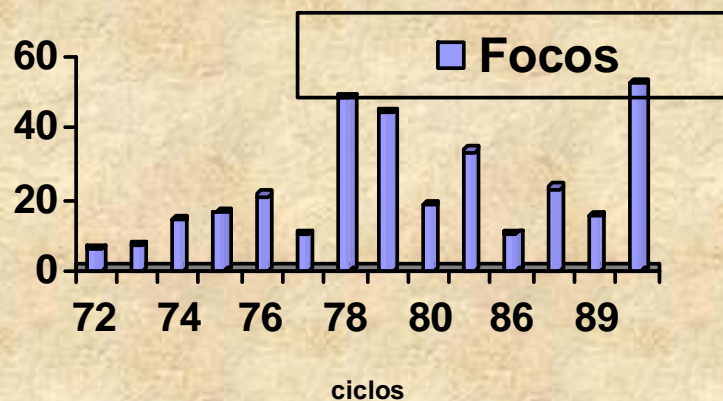
Trend analysis

Gráfico 9. Ambiente intradomiciliario por ciclos en los tres Consejos Populares



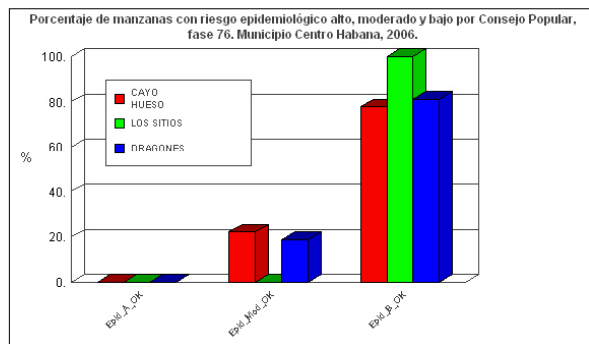
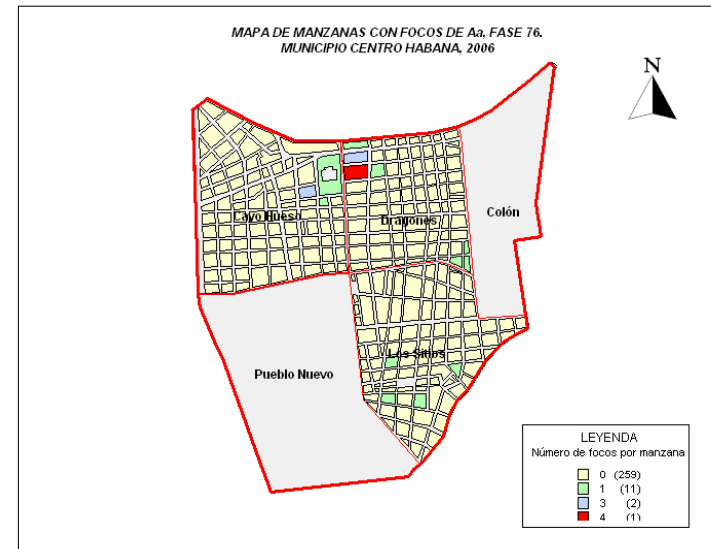
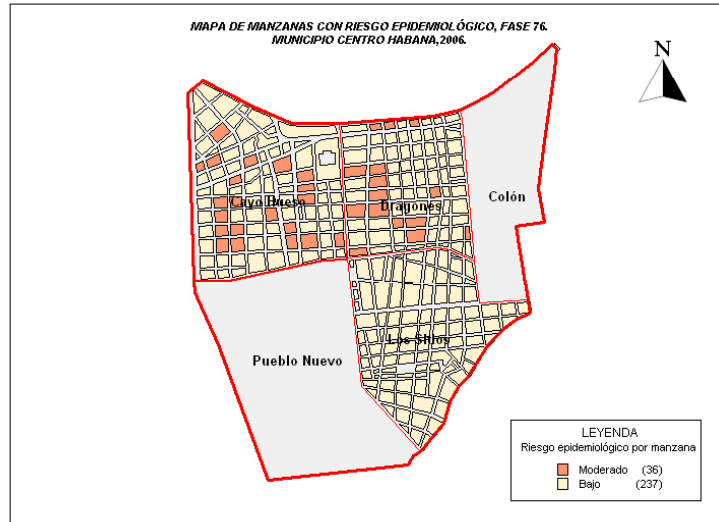
Household conditions by Neighbourhood

Gráfico 7. Comportamiento de los focos de Aa por ciclo. Municipio Centro Habana

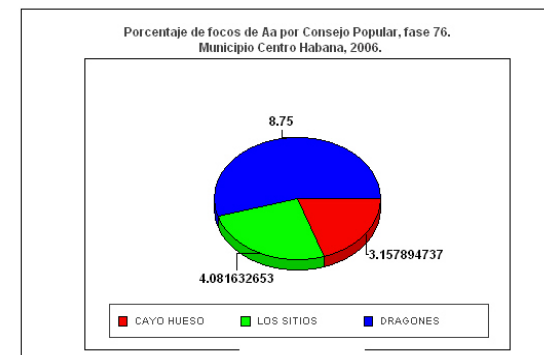


Overall levels of mosquito breeding site activity

Integrating the risk mapping



Consejo	Epid_A_OK	Epid_Mod_OK	Epid_B_OK
CAYO HUESO	0	22.1053	77.8947
LOS SITIOS	0	0	100
DRAGONES	0	18.75	81.25



Identification of "hot spots"

