

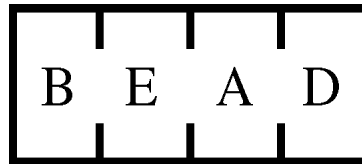
The Dynamics of HIV/AIDS

*a few general observations
& recent data from Africa*

April 1999

from:

Barbara HEINZEN, PhD



Business Exchange on AIDS & Development

Business Members - April 1999


- **Anglo American Corporation of South Africa**
 - **Booker Tate**
 - **Cargill**
- **Commonwealth Development Corporation**
 - **Glaxo Wellcome**
 - **Guinness**
 - **Heineken**
 - **Standard Chartered Bank**
 - **Unilever**

BEAD - Founded 1992

Mixed membership

academics, consultants, multinationals, NGOs,
international organisations

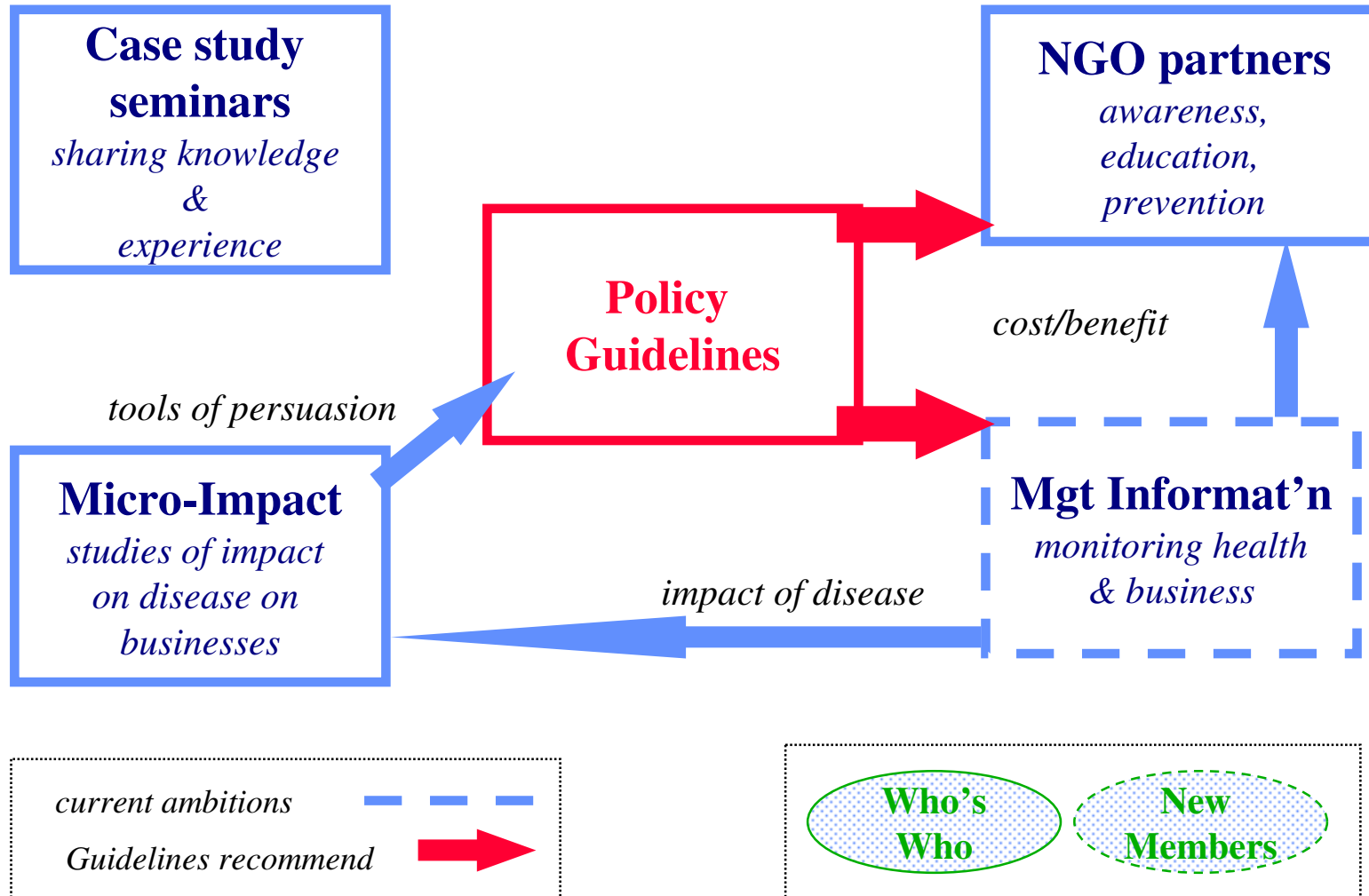
Africa  Developing countries in general

HIV/AIDS  “Costly diseases”

A business focus

information exchange ++ mutual assistance
++ promote awareness & good practice
++ encourage study & research

BEAD Group Activities & Plans



Outline of Talk

I. The virus

II. The epidemic

III. The disease

IV. Why should a business bother?

V. Corporate responses

I. The virus

The Virus & Its Survival

Transmission of the Virus

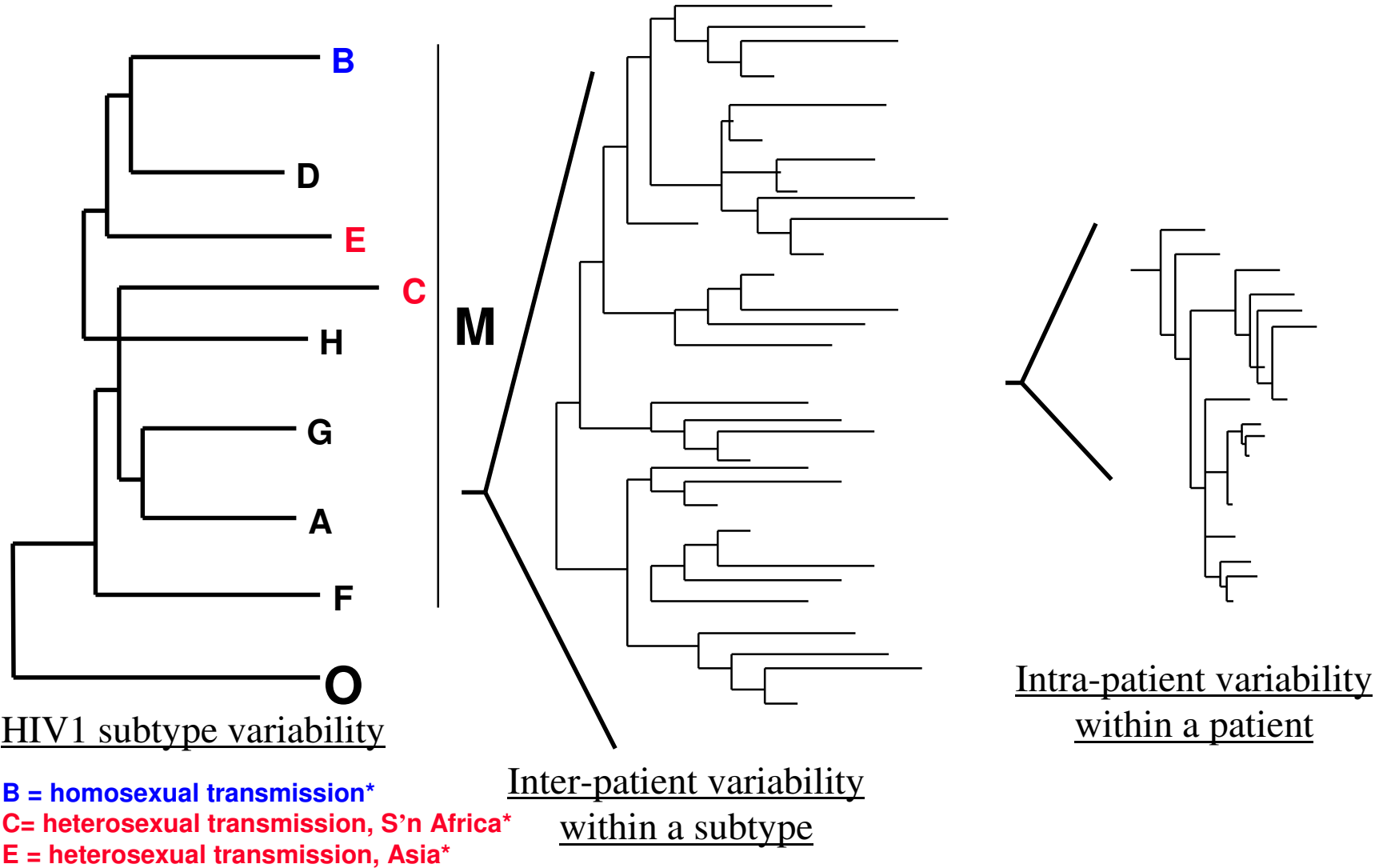
- Sexual transmission*
- Perinatal transmission & breast-feeding
 - Infected blood & blood products
 - Dirty syringes



The Ecology of Transmission

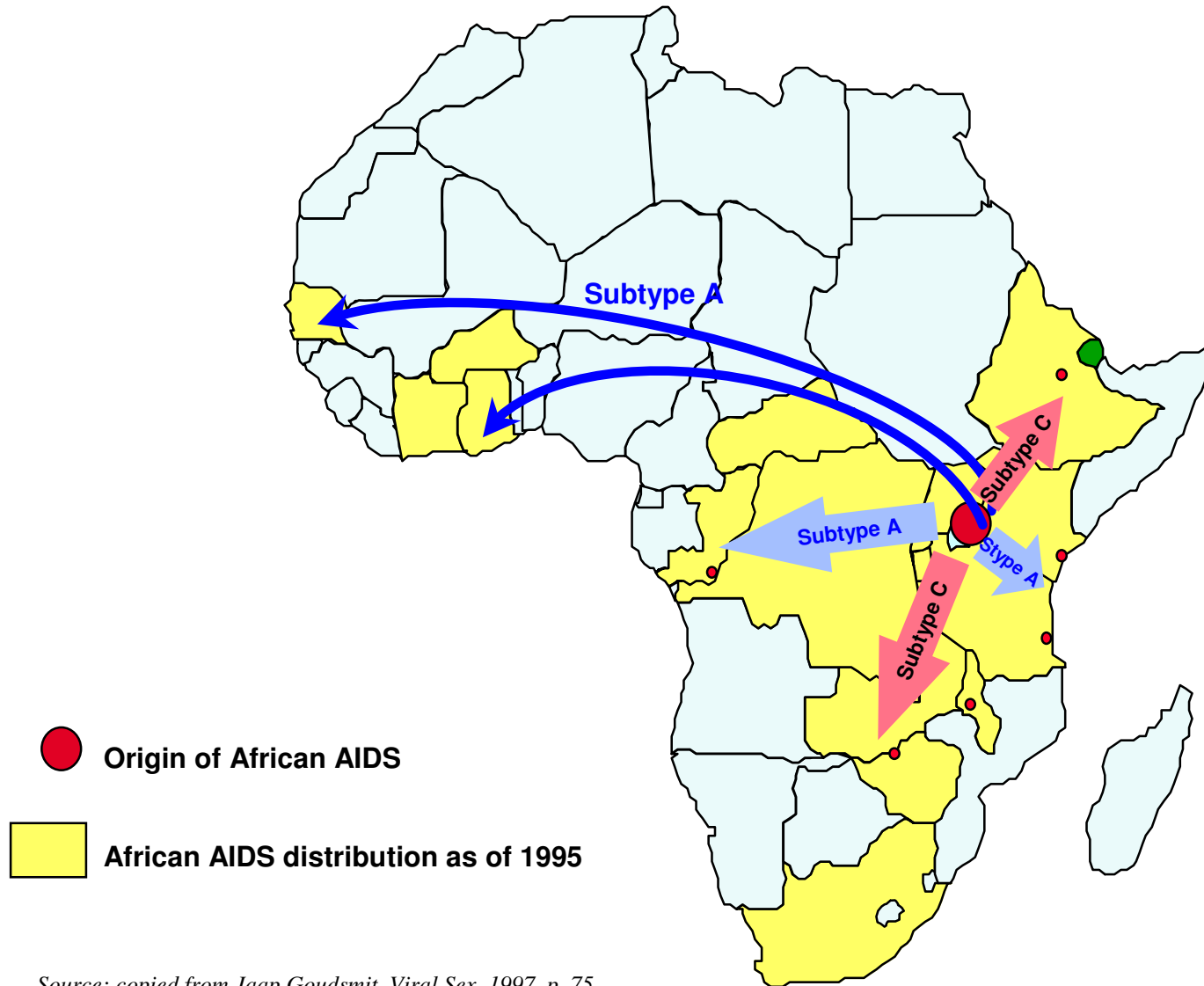
- **Rapid evolution of the HIV virus**
- **More rapid partner change => more virulent variants of HIV**
 - **Higher risk of transmission of HIV with STD lesions**

Rapid Evolution of HIV1



Source: approximately drawn copy from Phillis J. Kanki, et al, "Virology of HIV-1 and HIV-2: implications for Africa" *AIDS* **1997**, *11* (supplB: S33-S42) * Jaap Goudsmit, *Viral Sex*, 1997, p. 52 & 56

Spread of HIV Sub-types, as of 1995*

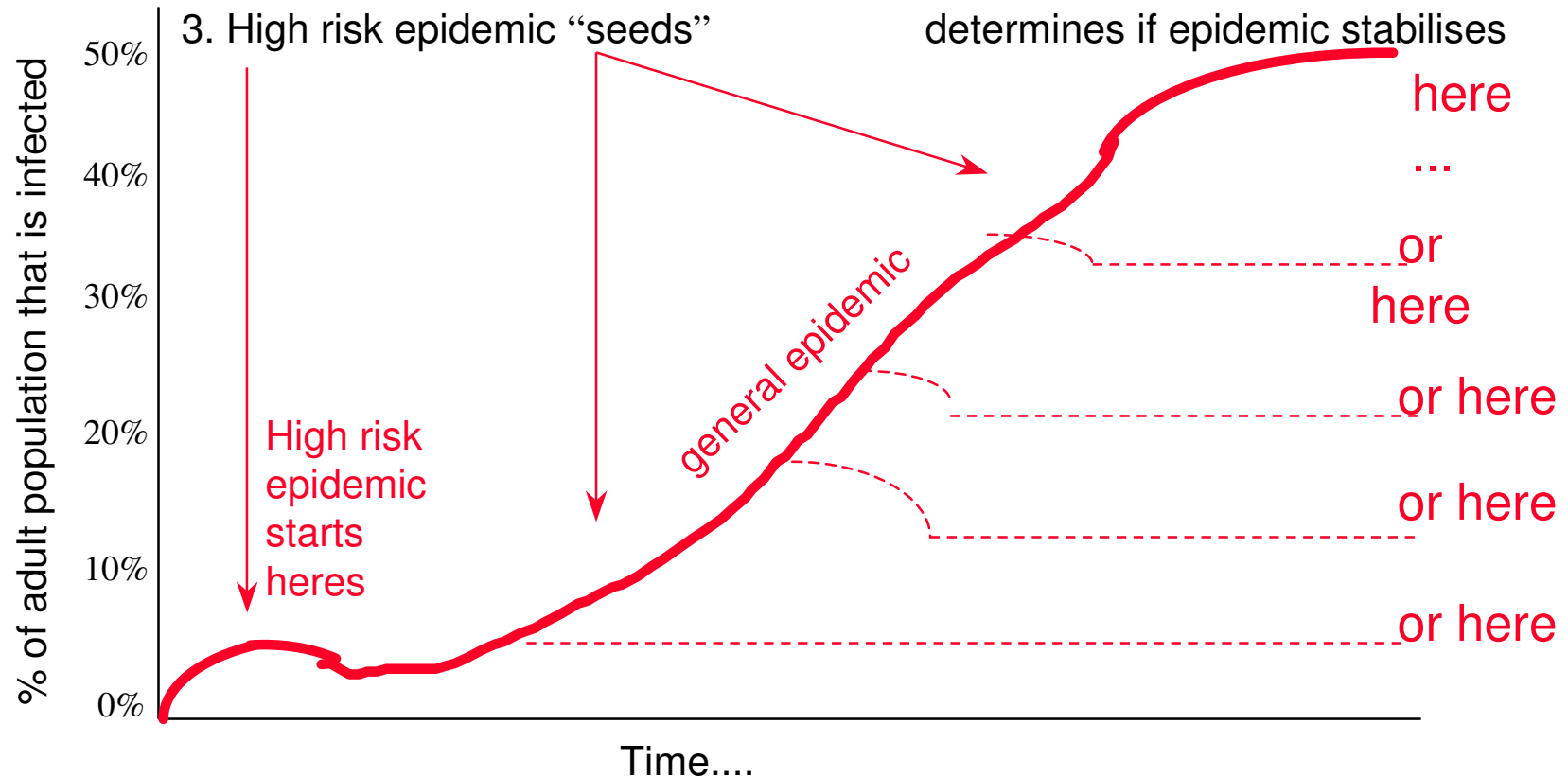


Source: copied from Jaap Goudsmit, *Viral Sex*, 1997, p. 75

II. The epidemic

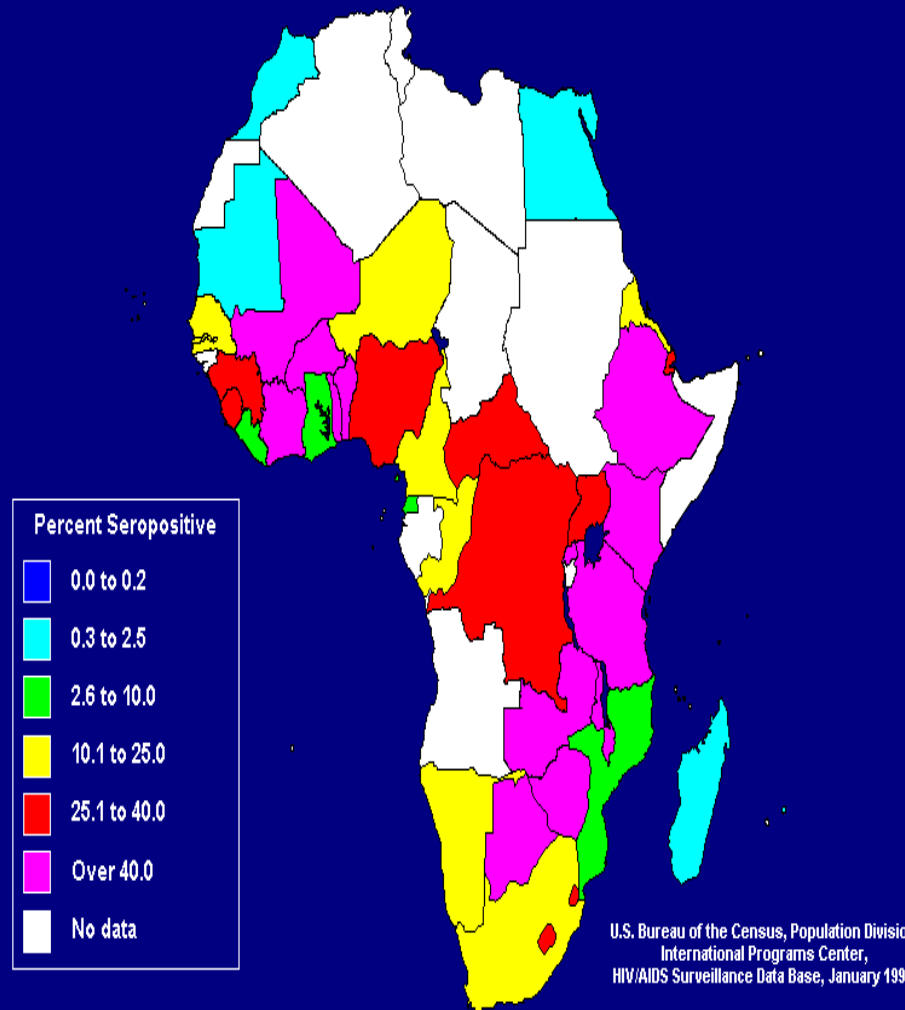
Simple Mechanics of an AIDS Epidemic

1. HIV Enters population invisibly
2. Hits high risk people first
3. High risk epidemic "seeds"
4. Size of high risk group +
5. Interaction with general popul'n determines if epidemic stabilises

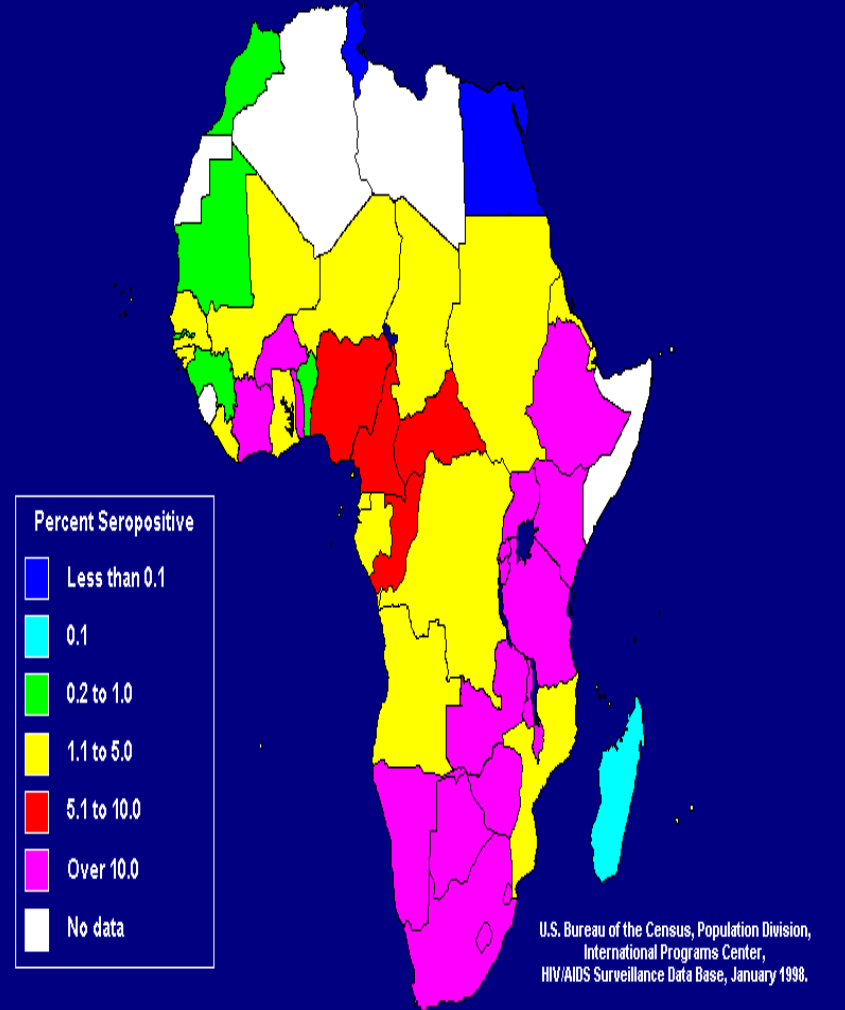


Disruptions of development mean: - high risk group **MAY** be large,
 - interaction **MAY** be frequent.

African HIV-1 Seroprevalence for High-Risk Urban Populations

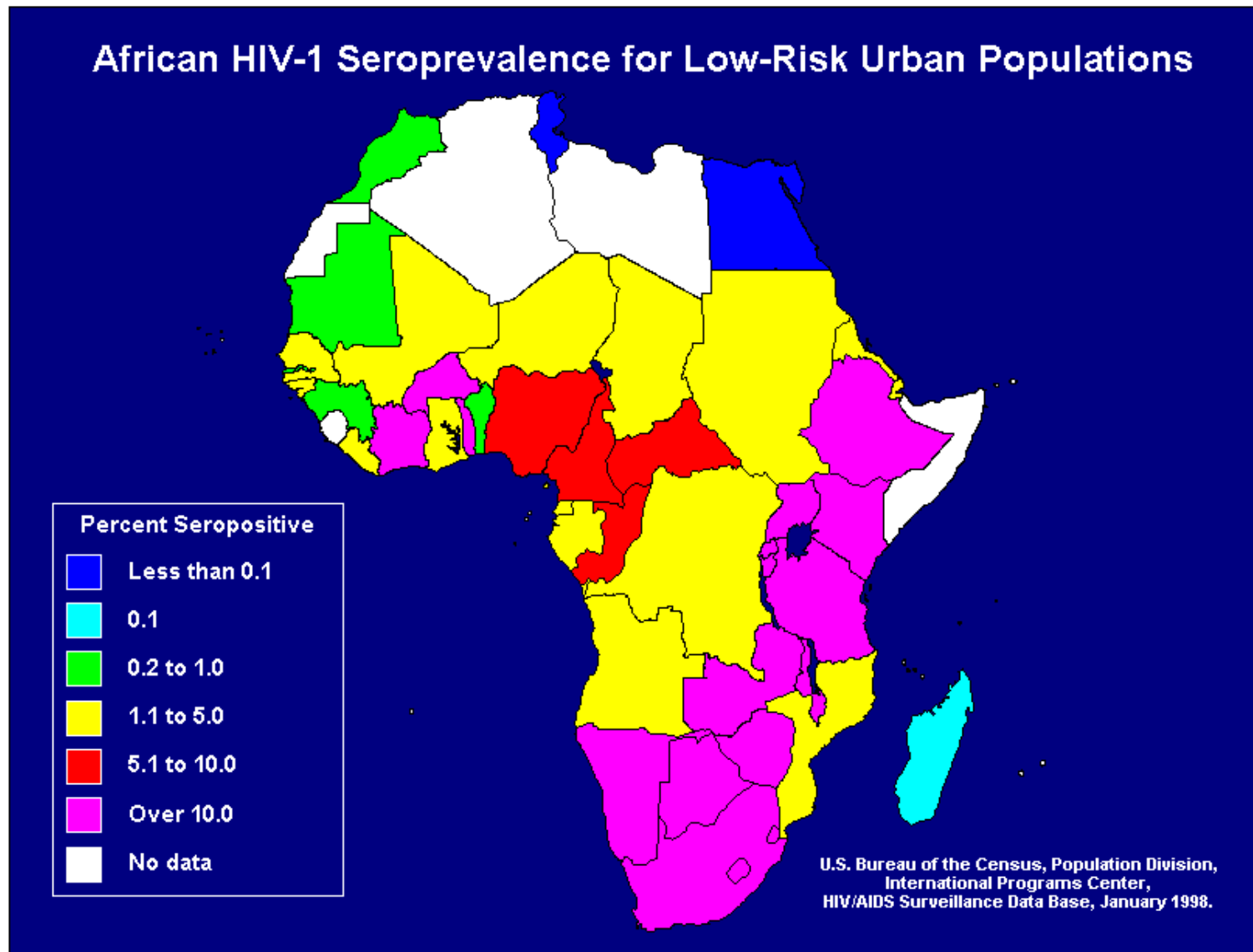


African HIV-1 Seroprevalence for Low-Risk Urban Populations



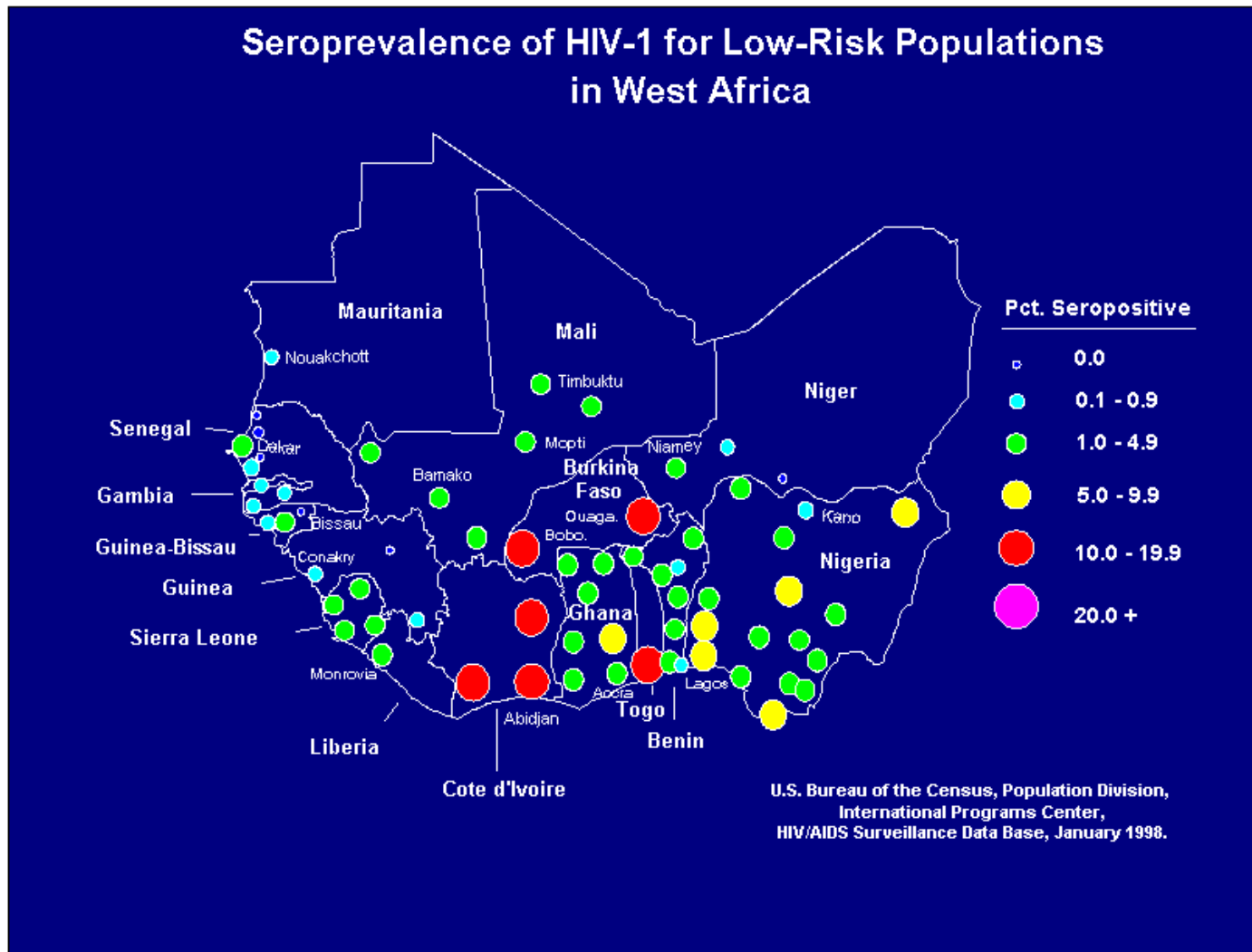
Source: U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Jan. 1998

NB: Low risk = pregnant women, blood donors, or other persons with no known risk factor



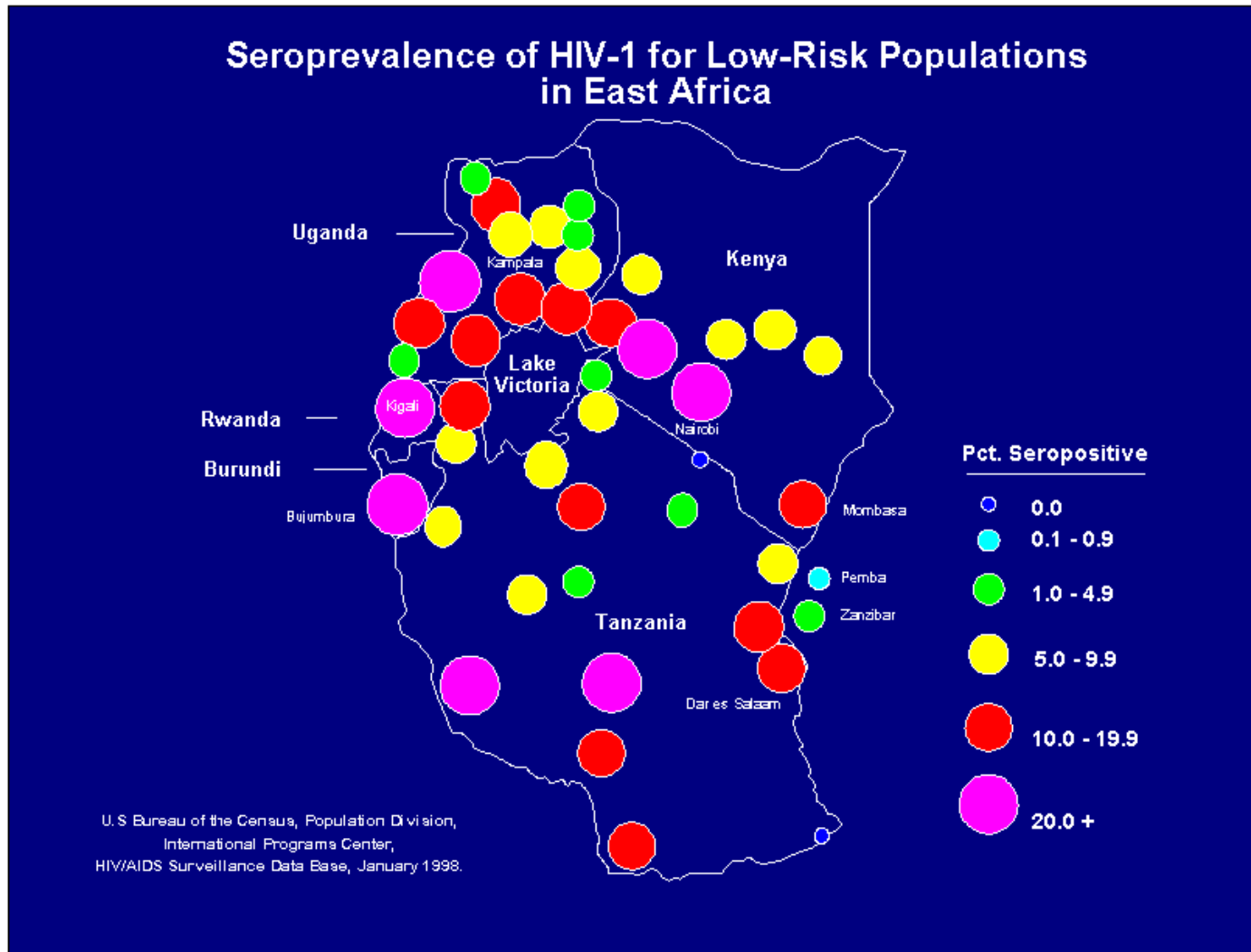
Source: U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Jan. 1998

NB: Low risk = pregnant women, blood donors, or other persons with no known risk factor



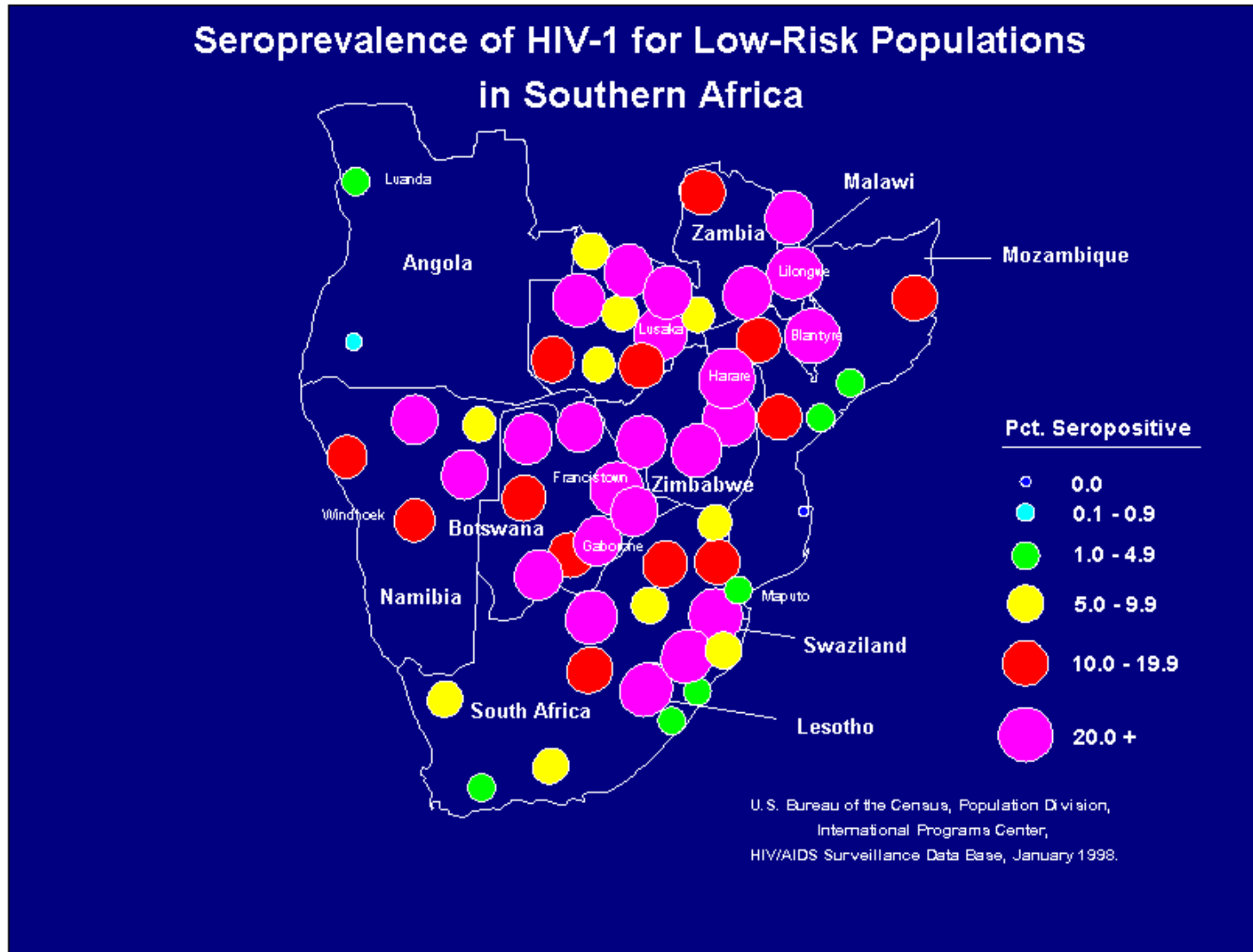
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NB: Low risk = pregnant women, blood donors, or other persons with no known risk factor



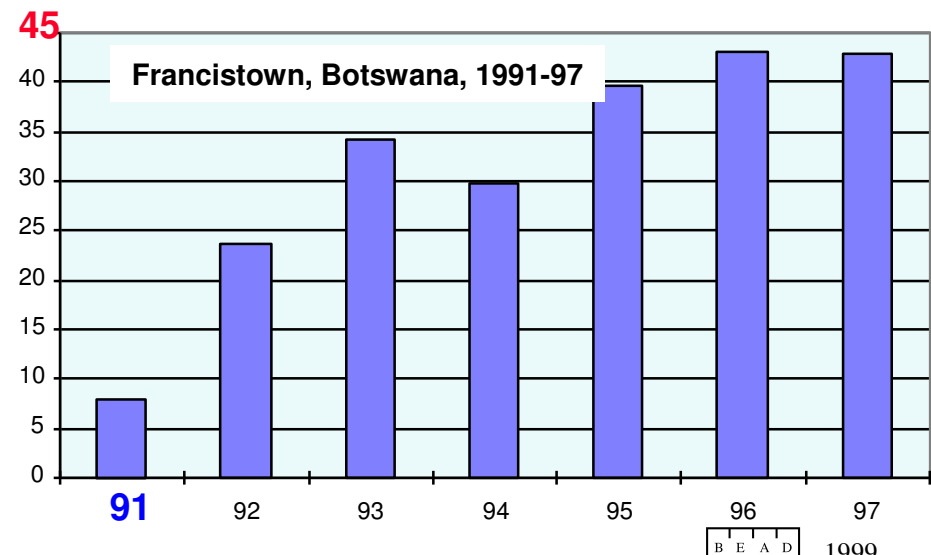
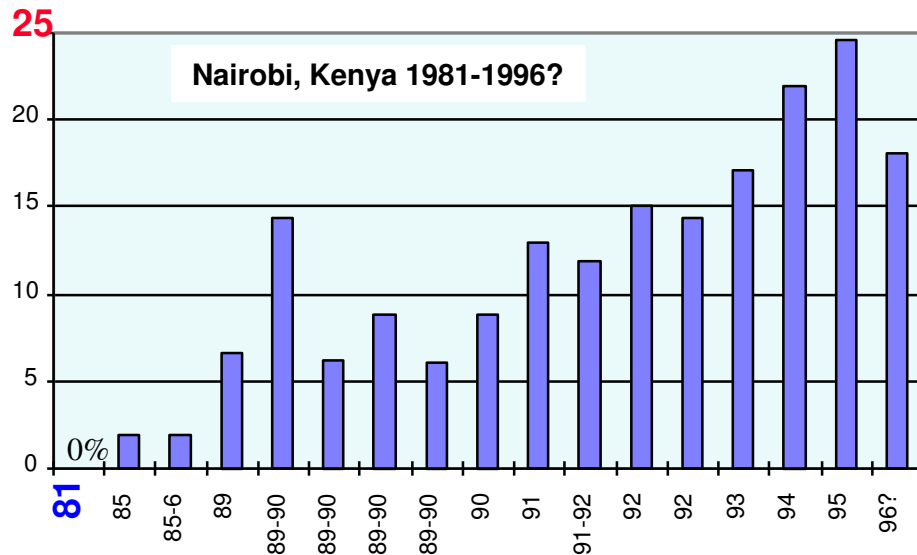
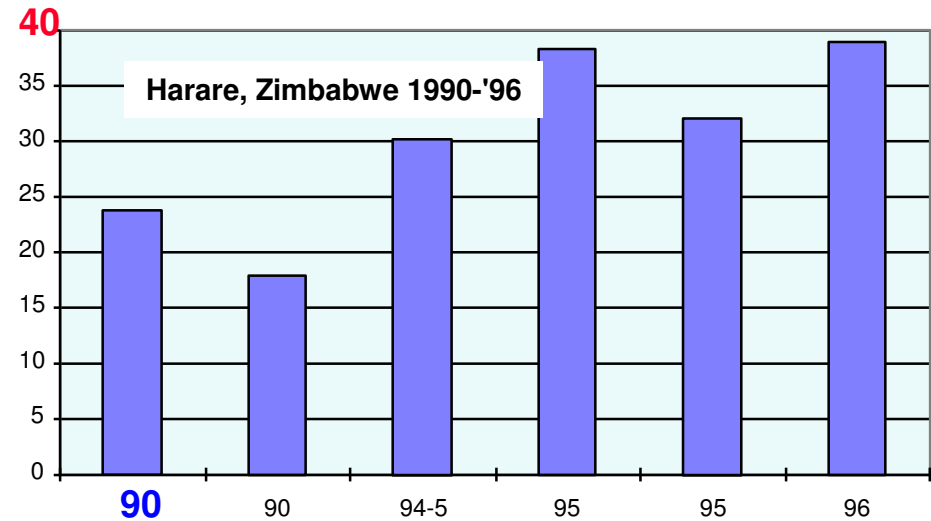
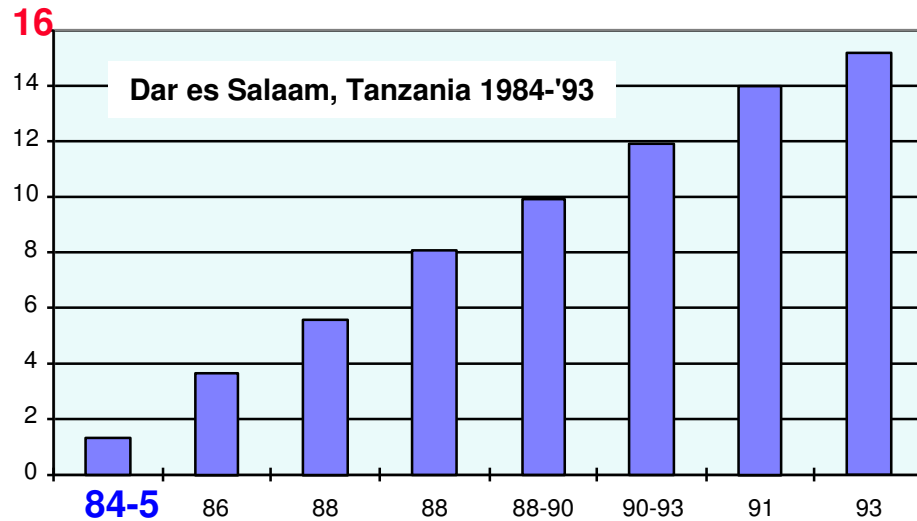
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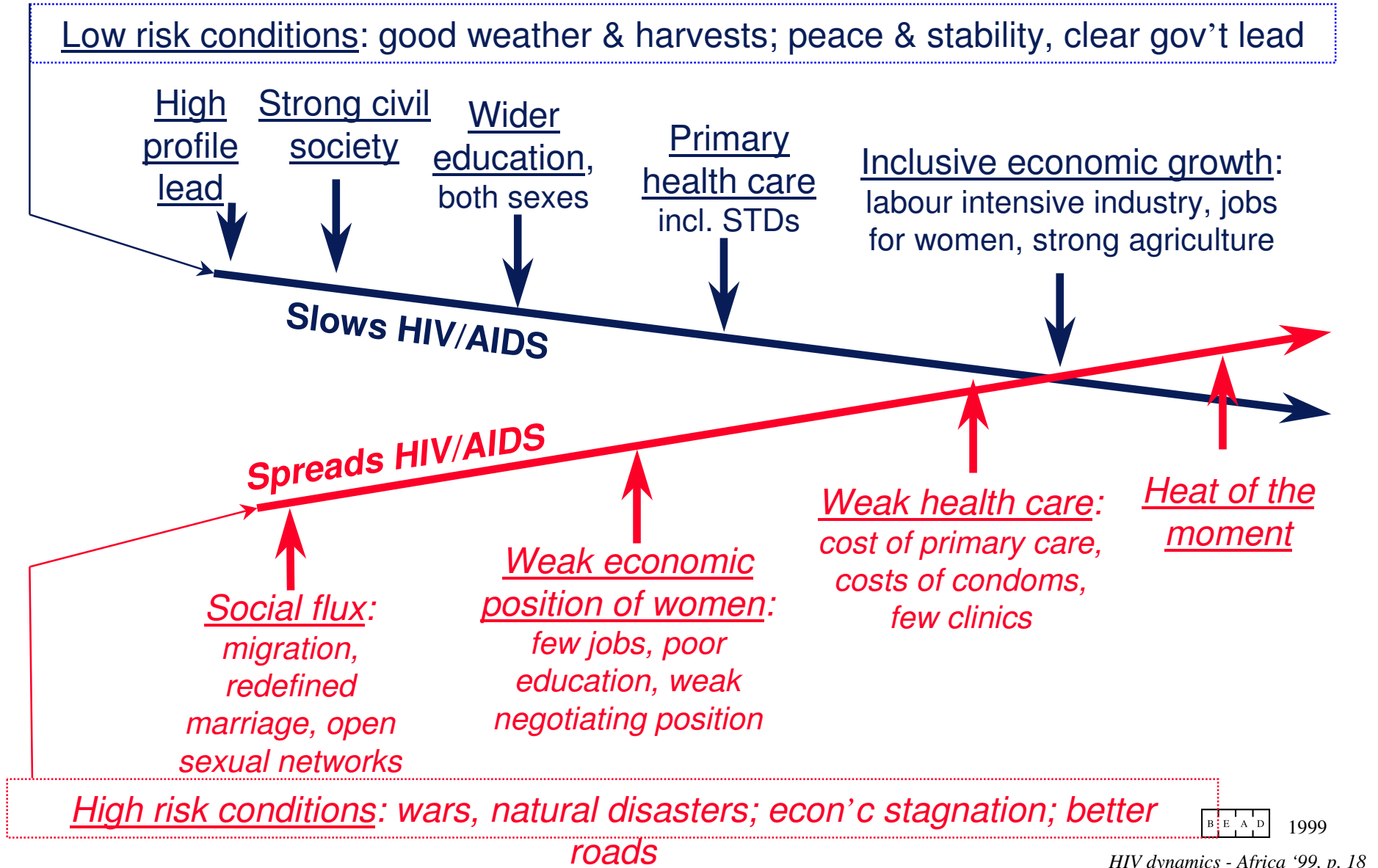
Source: U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Jan. 1998

Pregnant Women in Africa: % HIV+

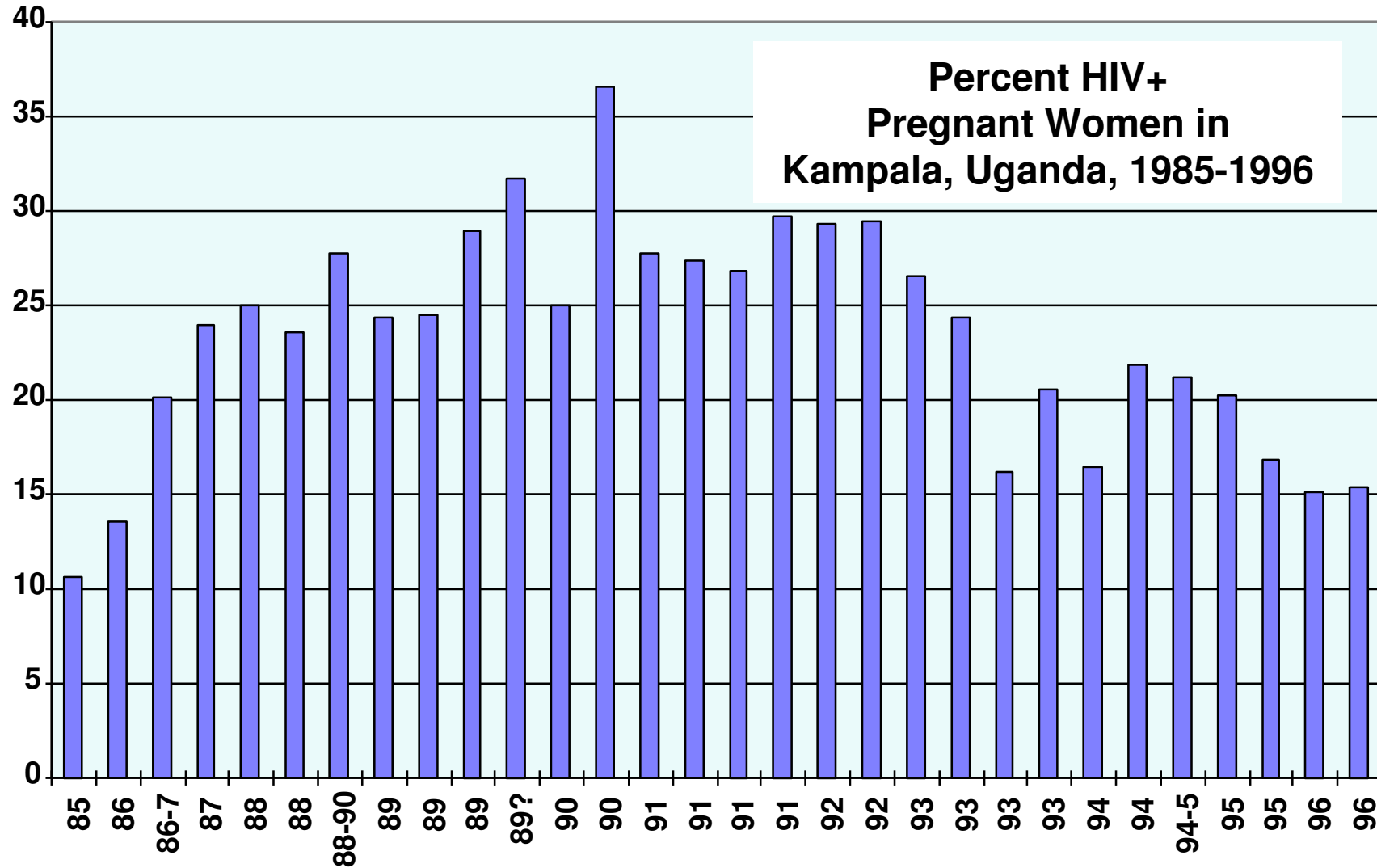


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Balance of Driving Forces - Africa



The Achievements of Uganda



III. The disease

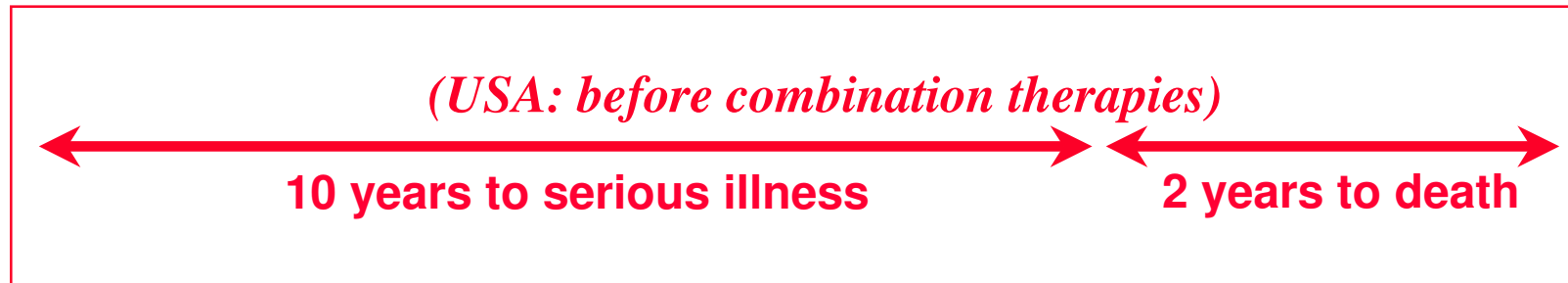
WHO Stages of the Disease

Stage 1
Asymptomatic

Stage 2
Minor symptoms

Stage 3
More severe symptoms

Stage 4
Other AIDS-defining conditions



Early Manifestations of the Disease

Little information is available, but

in Tanzania & Botswana:

* **Herpes zoster**

(“A lot of my workers have been getting a rash...”)

& among female sex workers in Kenya:

** **Pneumonia**

Most common manifestation in Africa is tuberculocous

IV. Why should a business bother?

Impact on Operations - Bananas 1982

Pilots & aircraft

Research & field trials

Capital invest't

Field

•Disease treat't	•Planting	•Propping
•Soil Fertility	•Weeding	•Fertilizing
•Irrigation	•Pruning	•Spraying

Timely supplies

Supervision & quality

Harvest & packing

•Co-ordination and Timing	•Estimate harvest, order ships
	•Cutting instructions to planters
	•Inspect, select, disinfect, pack

Transport & loading

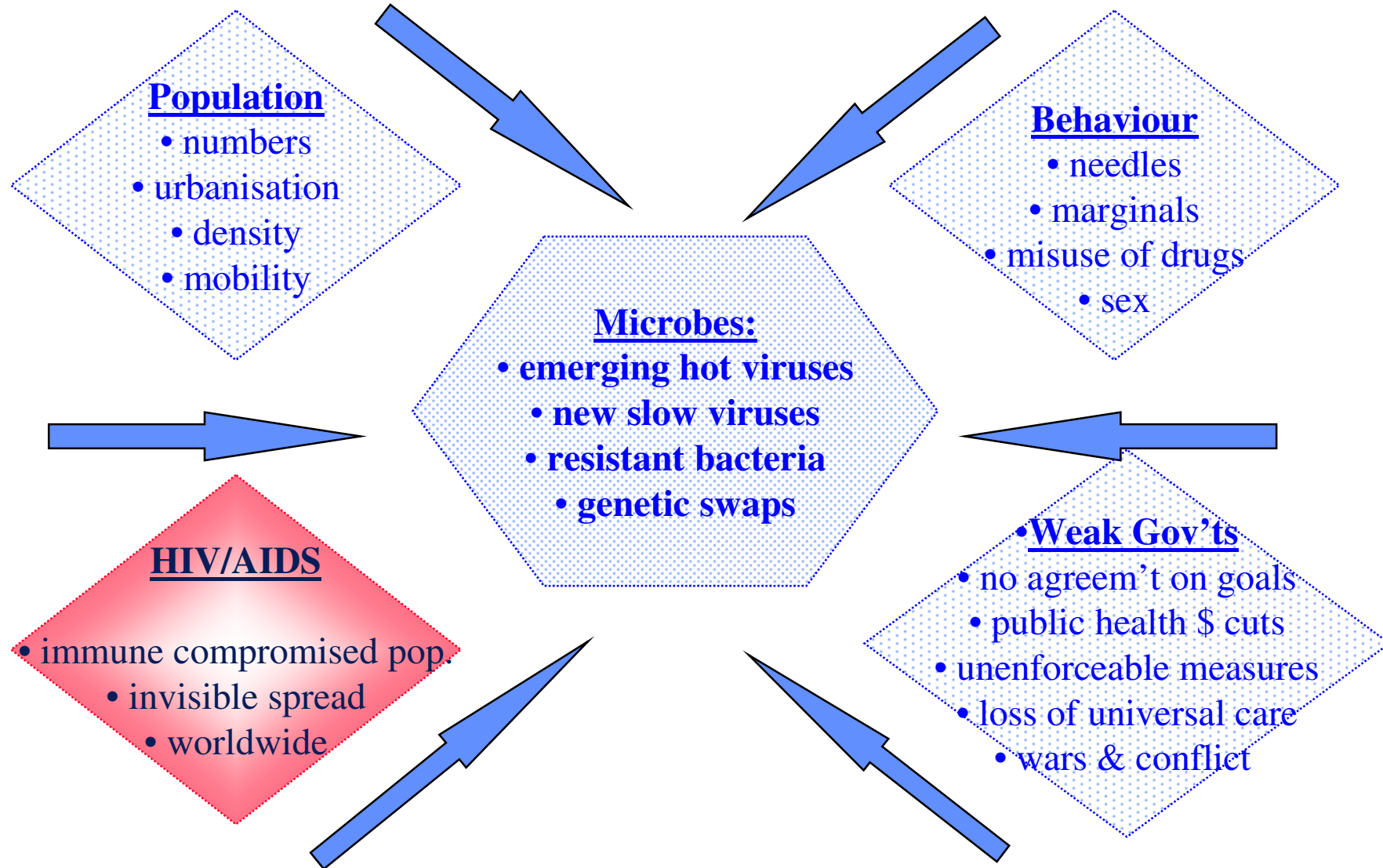
•Co-ordination and Timing	•Lorries
	•Railroad
	•Loading at dockside

Timely transport

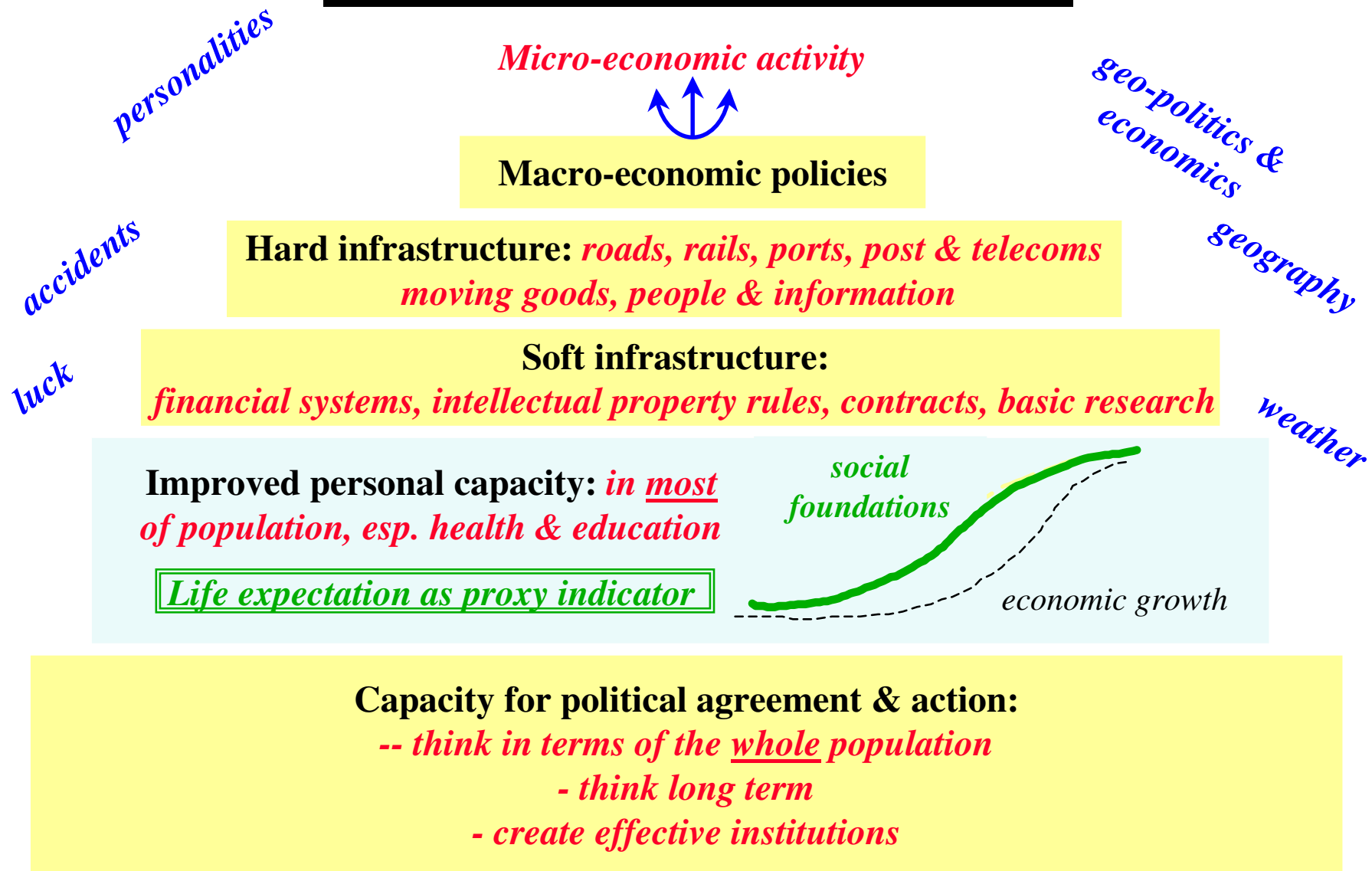
Wider competitive position

Country's quota = 13% of market
Must be maintained to compete with Dollar-zone fruit

The Rising Potential for Plagues

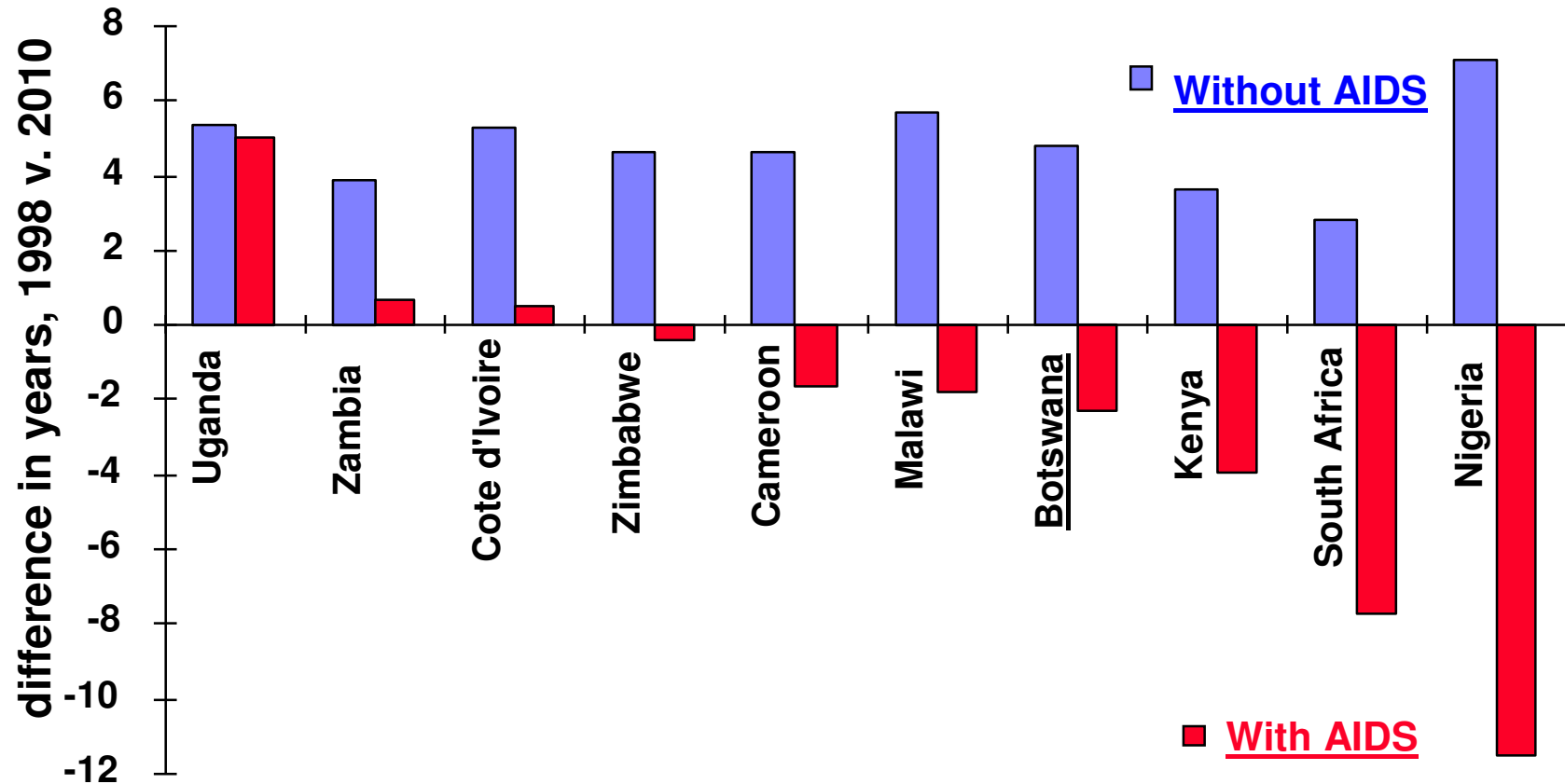


How Countries Grow



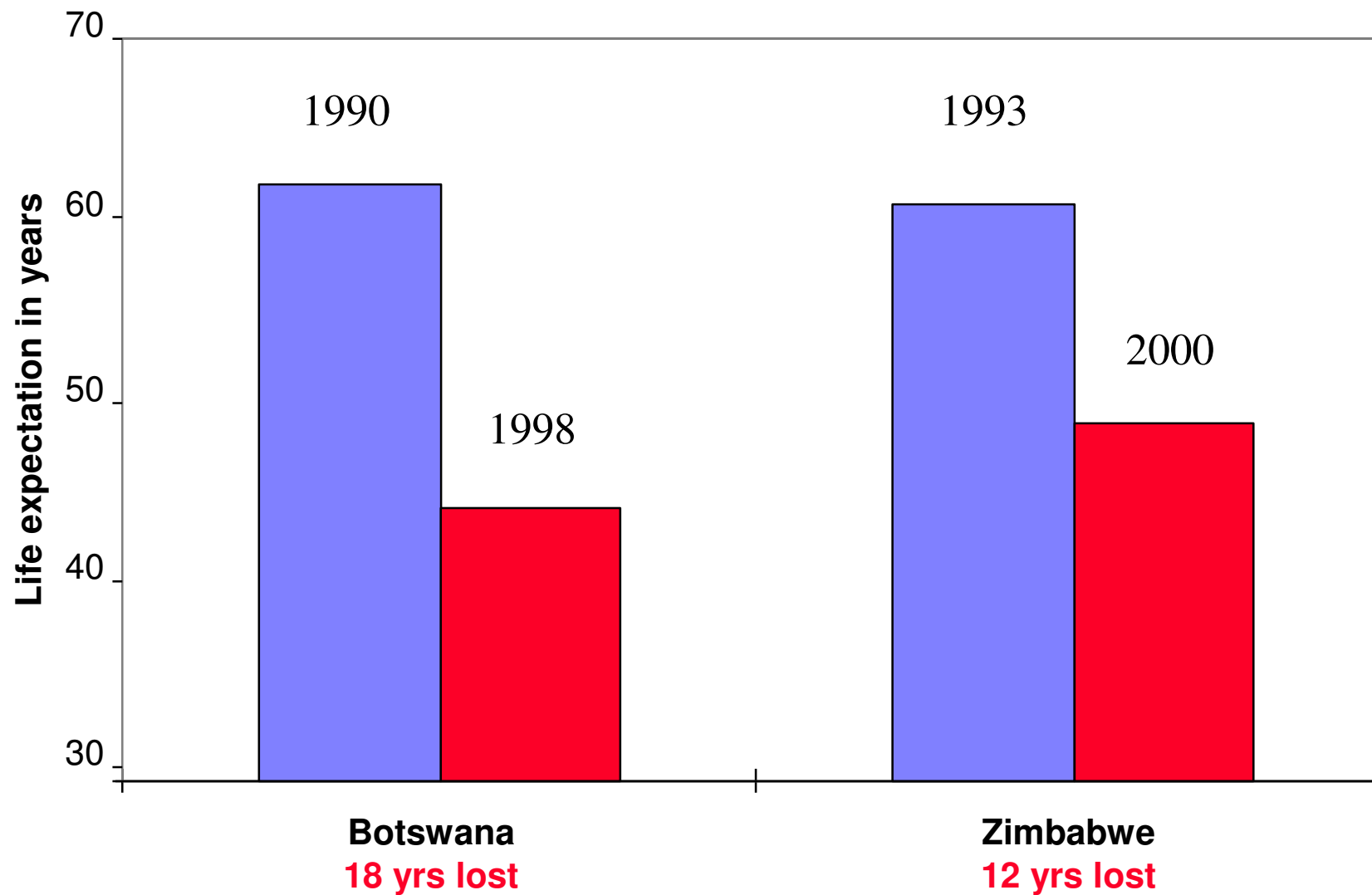
Projected Changes in Life Expectation

“Without AIDS, life expectation in Botswana would have RISEN by 4.8 yrs.”



“With AIDS, life expectation in Botswana is expected to FALL by 2.3 yrs.”

Changes in Life Expectation in the 1990s



Broadest Development Impacts

**Countries who learn to handle the HIV epidemic
strengthen their ability to develop politically & economically**

**Countries who fail to meet the HIV challenge
risk wider failures**

V. Corporate responses

Business Coalitions

Thailand

Malaysia

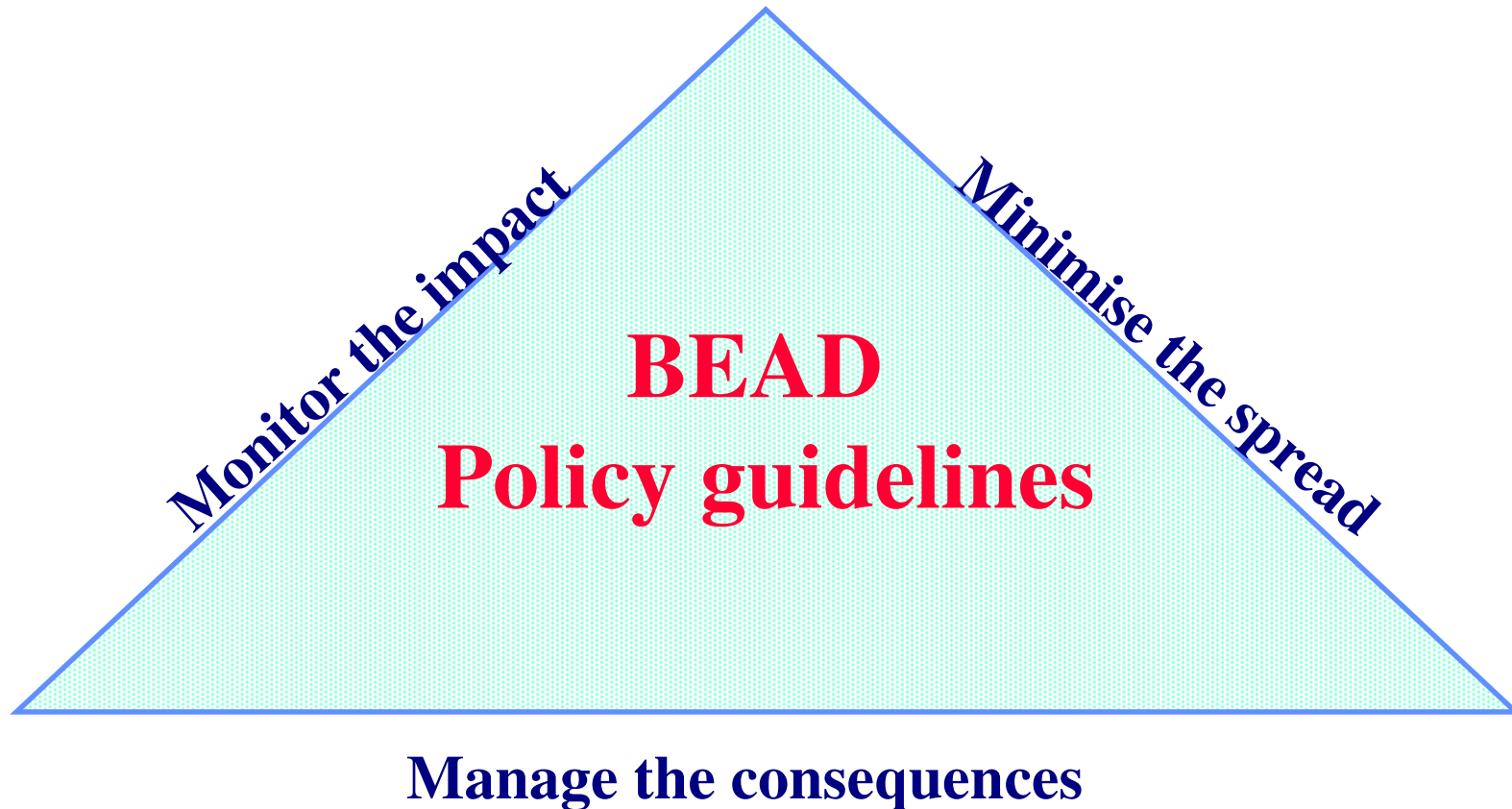
Botswana

South Africa

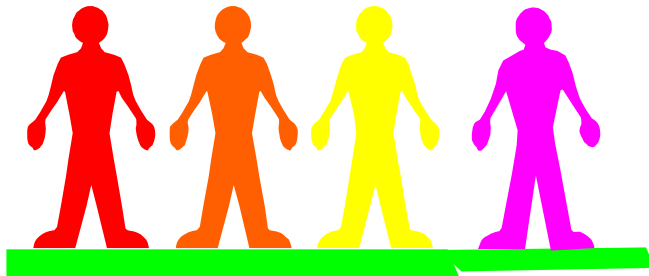
United States

London - BEAD

“Costly Diseases in Developing Countries”



Monitor: “Inform Yourself”



Profile of the work force: age, sex, health, availability

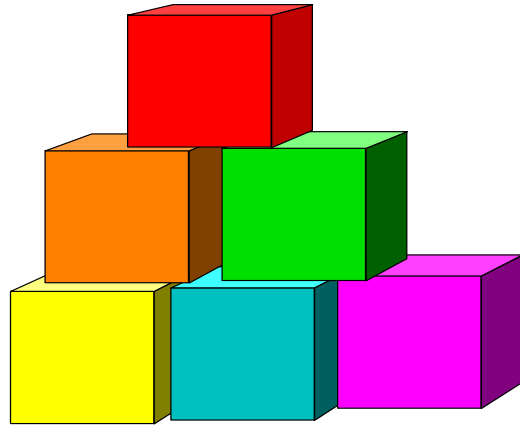
Employment costs & benefits



Profile of community health

Sources of help and information

Minimise the Spread

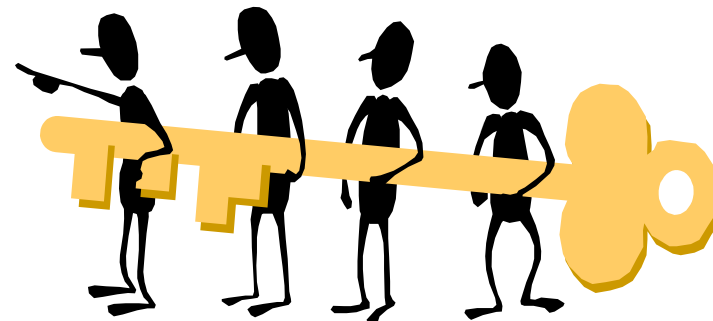


Simple Measures

- free/cheap condoms
- clean/disposable needles
- clean water for bathing
 - treat STDs
- general education on hygiene

Education in Work Force & Community

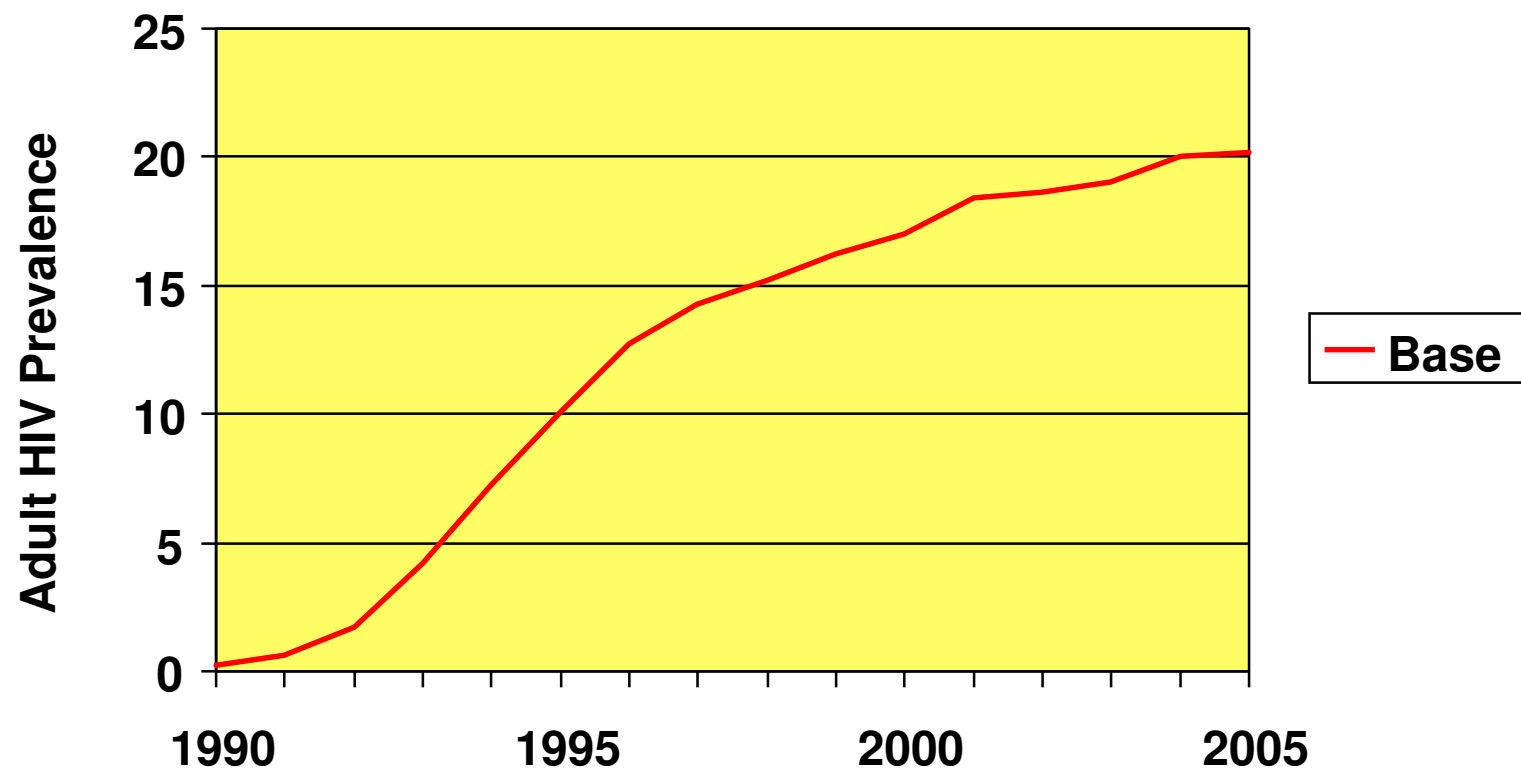
- management committment
- work force participation
 - continuity
- appropriate messages
 - peer education



Work with others

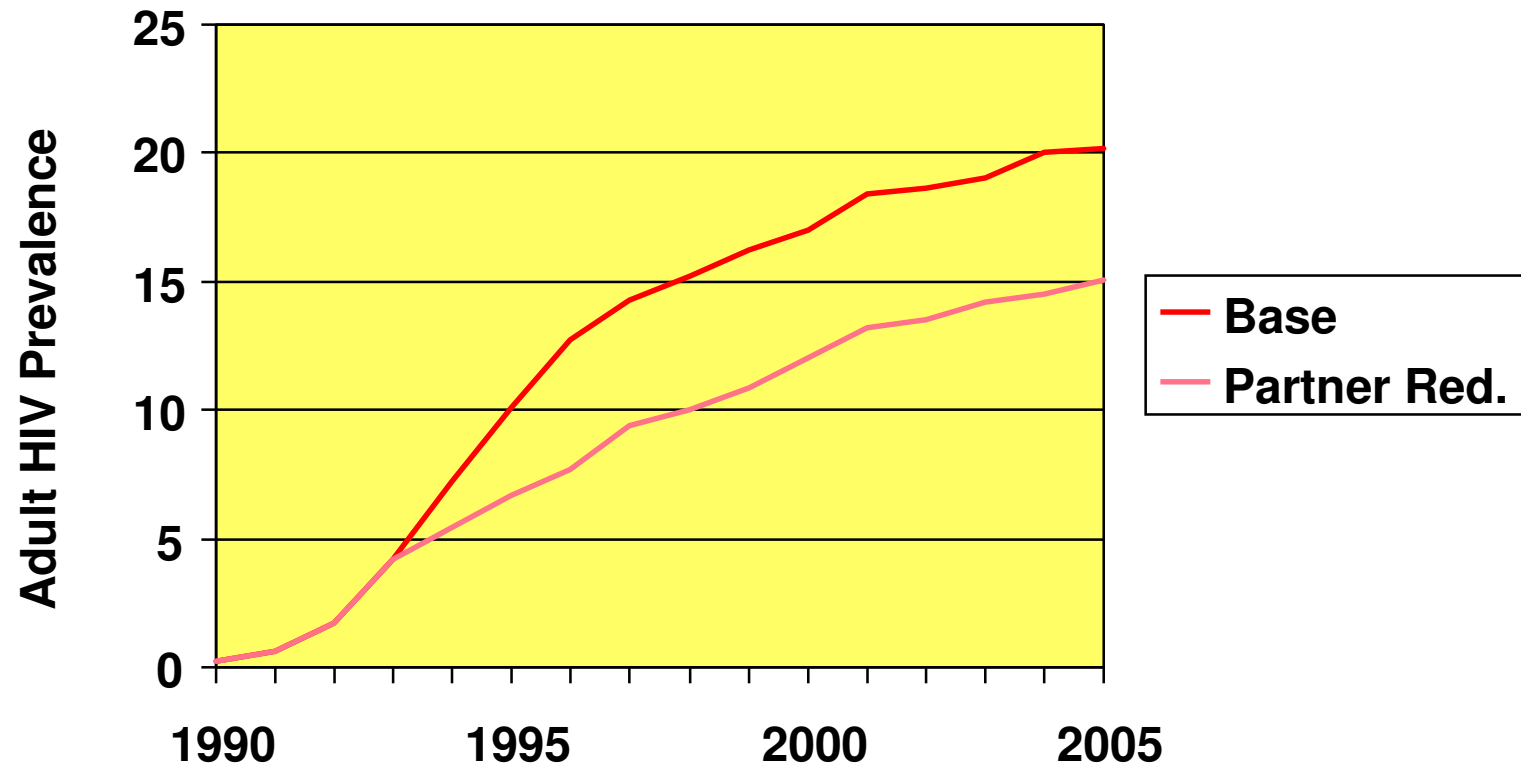
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The Effects of AIDS Interventions



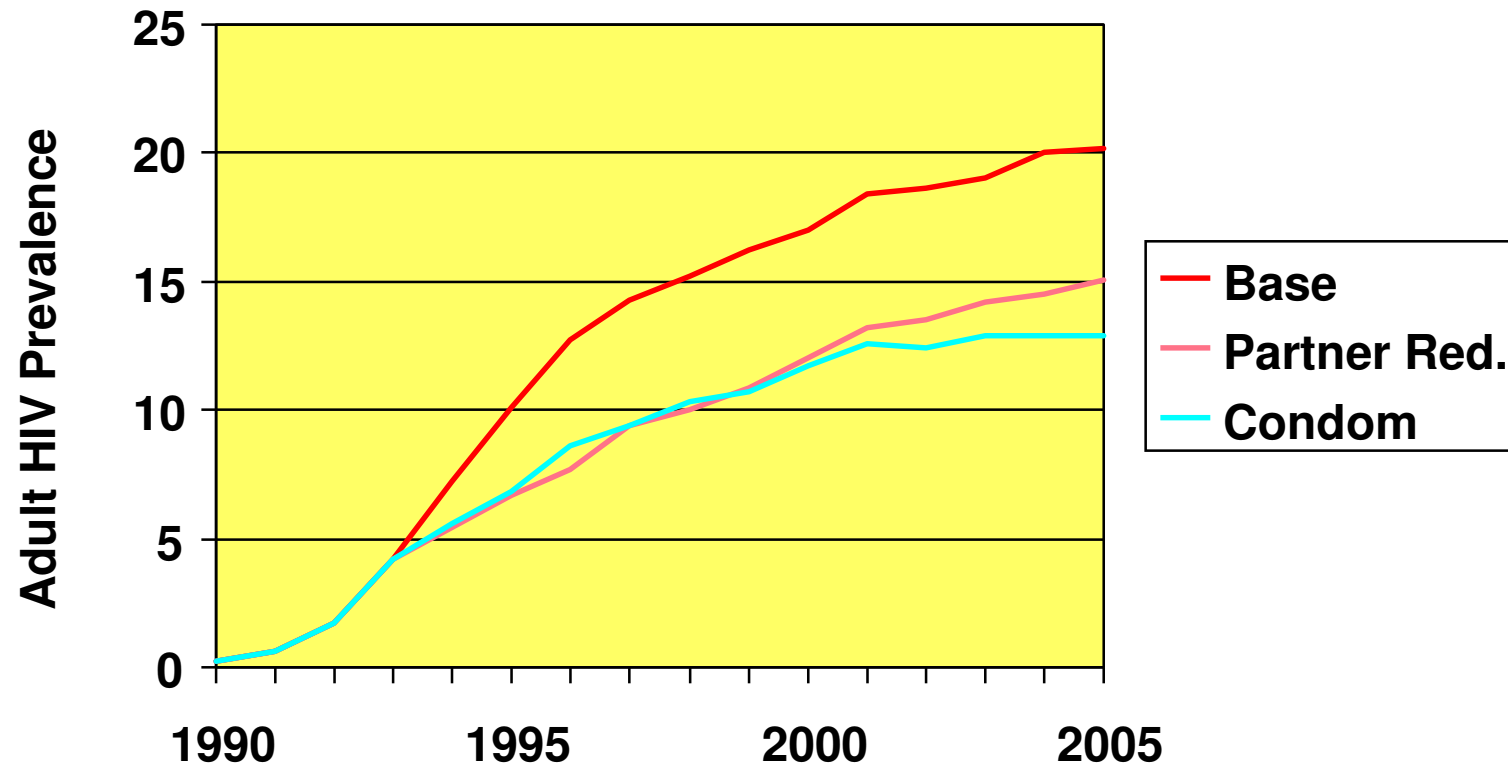
Based on simulation modeling of typical high prevalence urban areas.

The Effects of AIDS Interventions



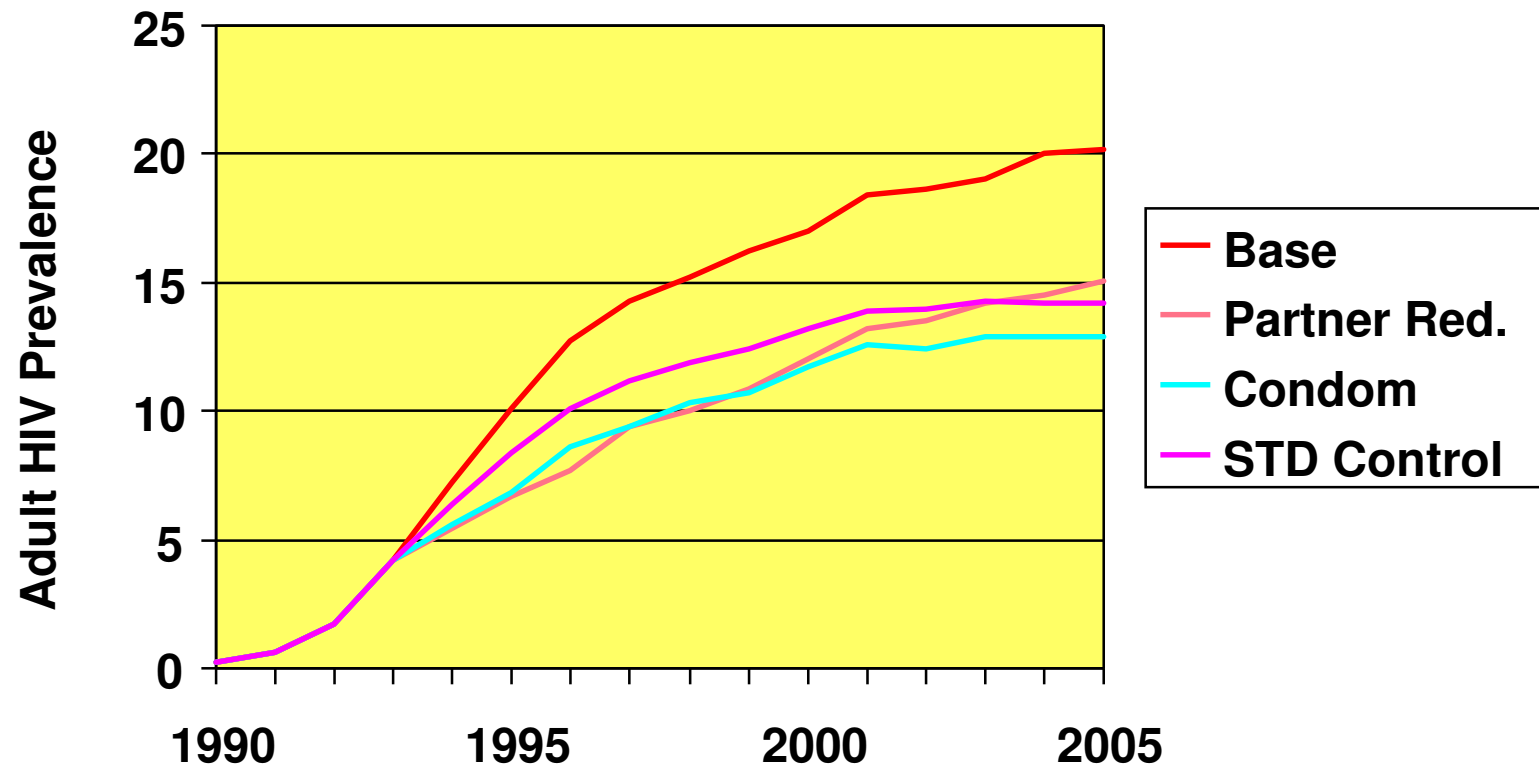
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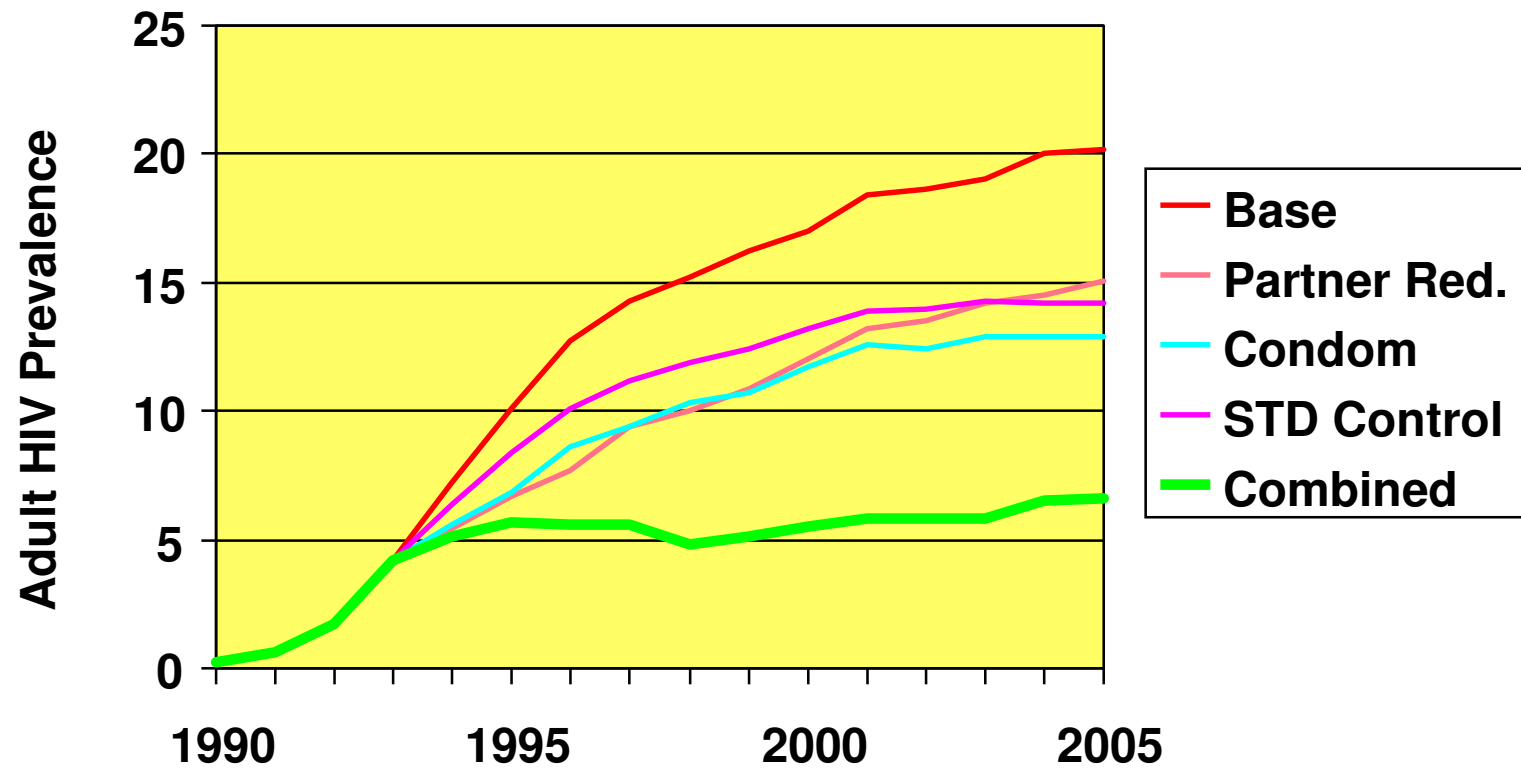
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The Effects of AIDS Interventions



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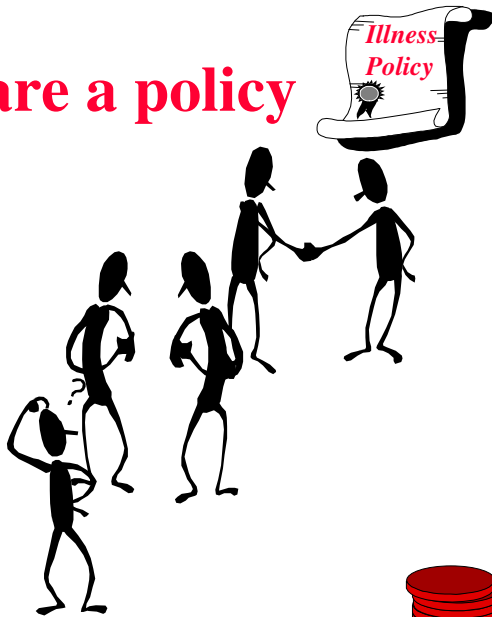
The Effects of AIDS Interventions



Based on simulation modeling of typical high prevalence urban areas.

Manage the Consequences

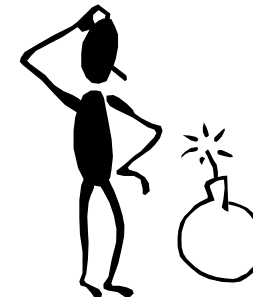
Prepare a policy



Sickness &
disability at work



Cost implications



Recurrent dilemmas

Managing the Consequences

Prepare a policy on serious illness

- Who is responsible?
- Who should be consulted?
- Work force involvement
- What are the financial limits?
- What are the time limits?

Cost implications

- The need for monitoring
- Medical
- Insurance
- Provident funds
- Pension funds
- Recruitment, training & productivity
- Education

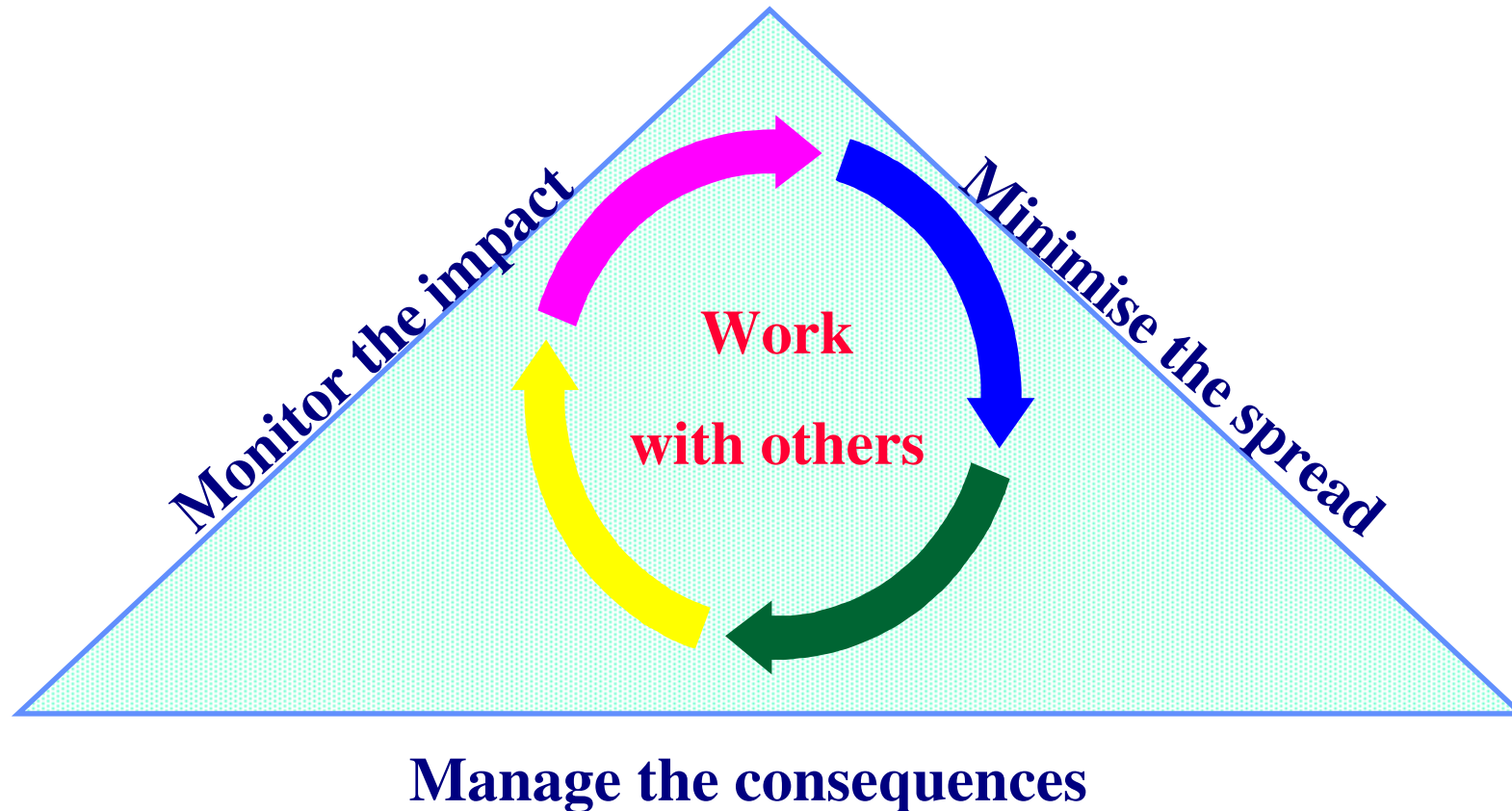
Sickness & disability at work

- Confidentiality
- Absence due to chronic illness
- Medical treatment
- Other entitlements

Recurrent dilemmas

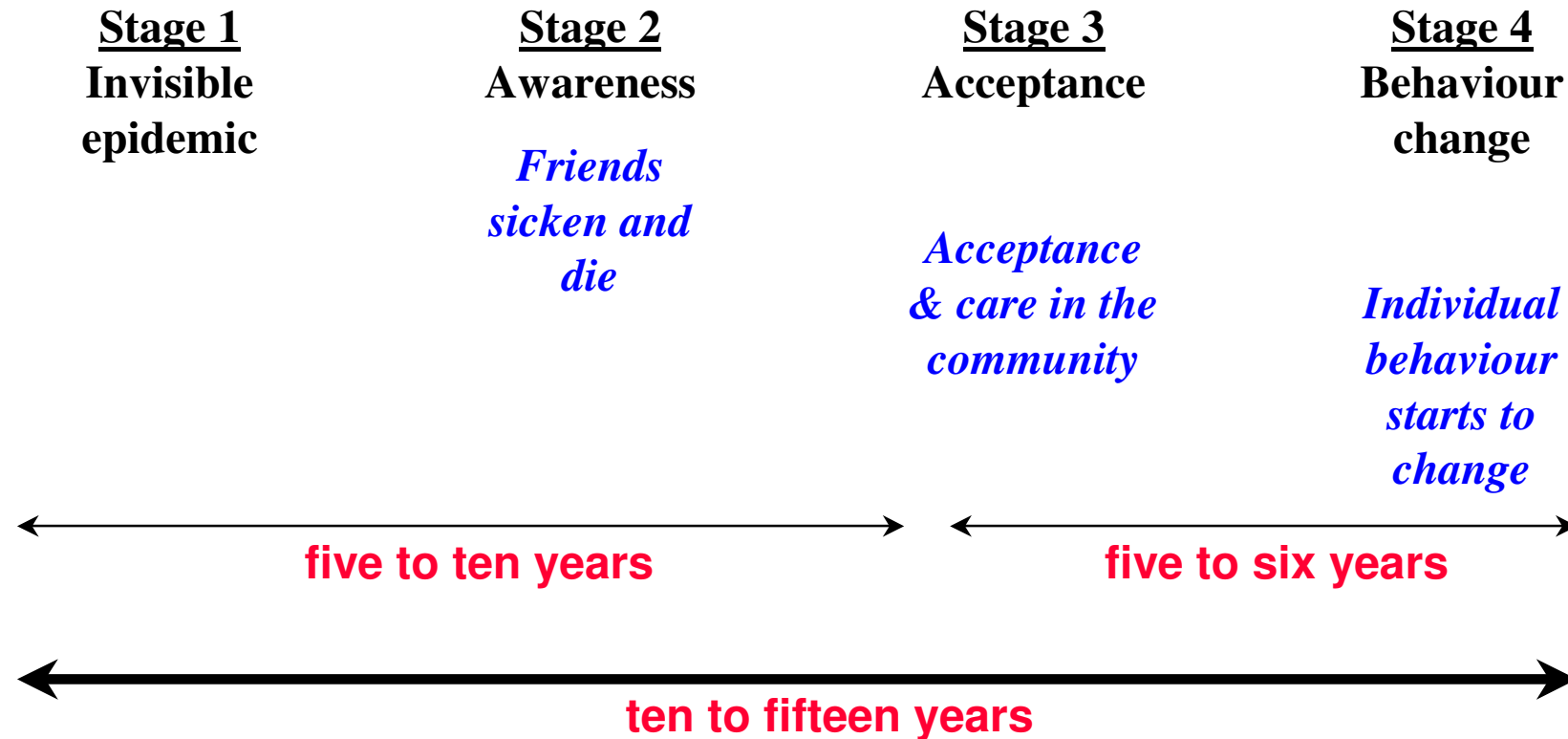
- Pre-employment medicals
- Special risks
- Victimization
- **Strategic Review**

We CAN Reduce the Potential for Disease



The Lesson of AIDS

Time needed to change behaviour



The Paradox of AIDS:

No sign of disease --

no sign of success

**Comments & questions on
U.S. Bureau of the Census data
or a subscription to the CD/Rom**

to

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