



**DISEASE CONTROL  
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# **Scaling up cost-effective interventions and best practices; an overview from DCPP**

**By**

**George Alleyne**

**Arusha, Tanzania; March, 2007**

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- Brief description of DCPP
- The essential concepts of CEA
- Relevant data from the ECSEA
- CE interventions and the MDG's
- Interventions brought to scale-possibilities and problems
- DCPP and public policy



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## What is DCP?

**DCPP( The Disease Control Priorities Project) is an alliance of organizations created to review, generate and disseminate information on how to improve health in developing countries**

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## **The DCPP partners**

**Fogarty International Center**

**World Bank**

**World Health Organization**

**Bill and Melinda Gates Foundation**

**Population Reference Bureau**

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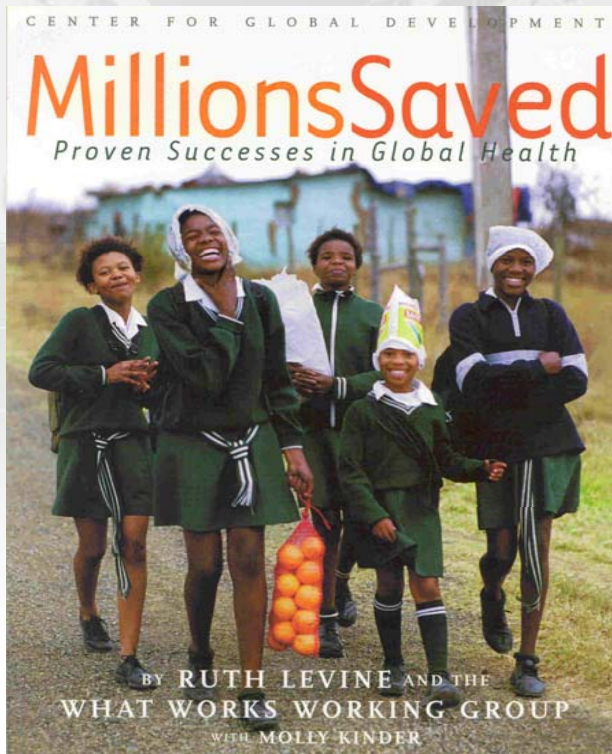
# The DCP2 Products

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## Disease Control Priorities in Developing Countries

SECOND EDITION

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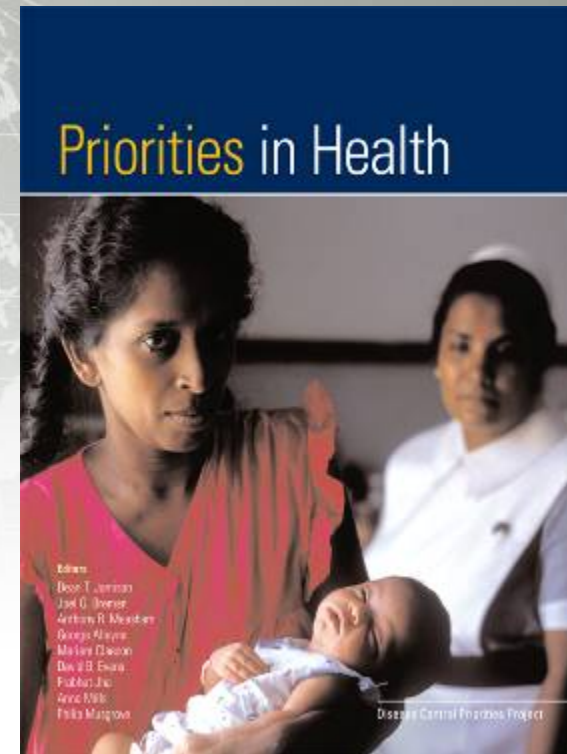
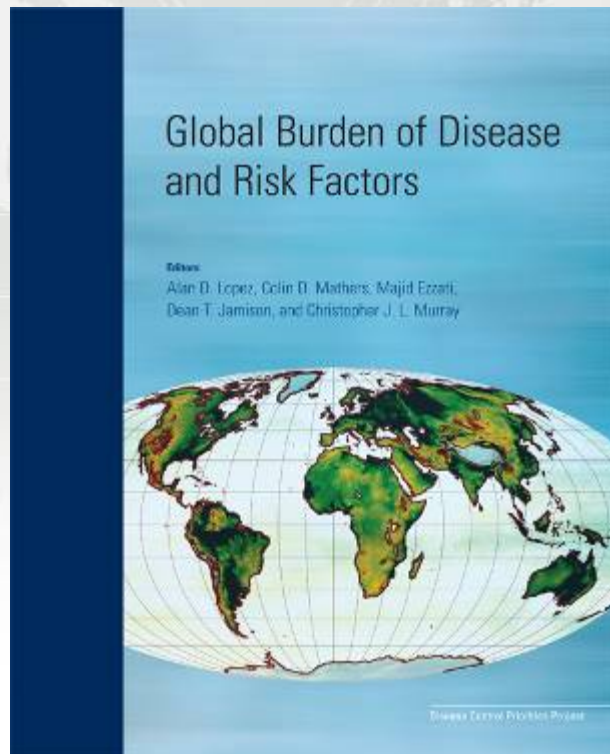
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## The Main Thesis of DCP2

*The generation and diffusion of new information and products underpinned the enormous improvements in health in the 20<sup>th</sup> century.*

There is every reason to believe that continued progress--meeting the challenges of the new health problems- the MDGs, will similarly continue to rely heavily on new information and products.

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## The main purpose of DCPP

To provide the results of research and offer evidence-based analyses and resource materials in order to propose context-specific policy recommendations for reducing the burden of disease in developing countries and improving the quality of life of all people.

**(A major analytical tool is cost-effectiveness analysis)**



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## **ECSA interest in cost-effectiveness analysis**

**Recommendations from 16<sup>th</sup> Directors JCC,  
July ,2006;**

**Secretariat urged “to collect data on cost-effective  
interventions” for:**

- **Malaria**
- **Maternal, neonatal and reproductive health**
- **HIV/AIDS, TB**
- **Injuries and emergency care**
- **Noncommunicable diseases**

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**“ An intervention is an activity using human, physical and financial resources in a deliberate attempt to improve health by reducing the risk, duration or severity of a health problem” (Jamison)**

***NB. It is done to or for and not by the beneficiary.***



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**Cost**—The resources used to produce the intervention, PLUS the resources used by those who use the intervention.

**Effectiveness**—The health improvement that comes about as a result of the intervention (In DCP usually measured as DALYS averted)

**CE ratio**-- \$ per DALY averted

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## **DALYs ( Disability adjusted life years)**

**A measure of years of life lost from the particular disease/condition plus the equivalent years of life lost from the disability caused by the disease/condition.**

**(A calculus of effect of premature mortality and morbidity)**



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## DCPP re cost-effective analysis:

- CEA is an efficiency measure-estimates health value for money
- It is one input into priority setting

**BUT**

- Since the MDG's have been established as priorities CEA can establish the most appropriate interventions to achieve them

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## Distribution of DALYS according to disease groups in ECSCA member states

**Group 1 (Communicable, maternal, perinatal and nutritional conditions)**

**76.4 %**

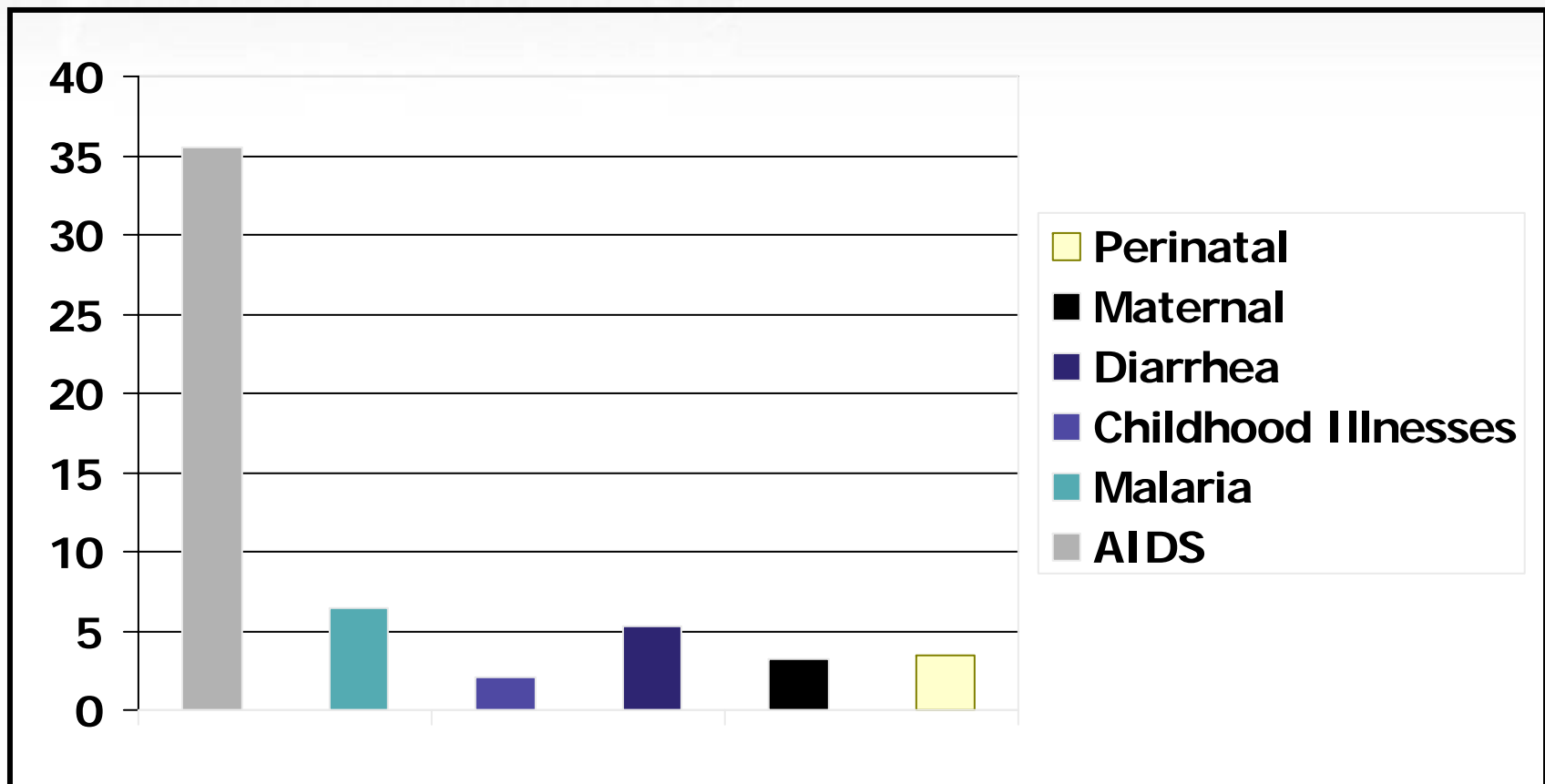
**Group 2 ( Noncommunicable diseases)**

**17.2 %**

**Group 3 ( Injuries)**

**10.8 %**

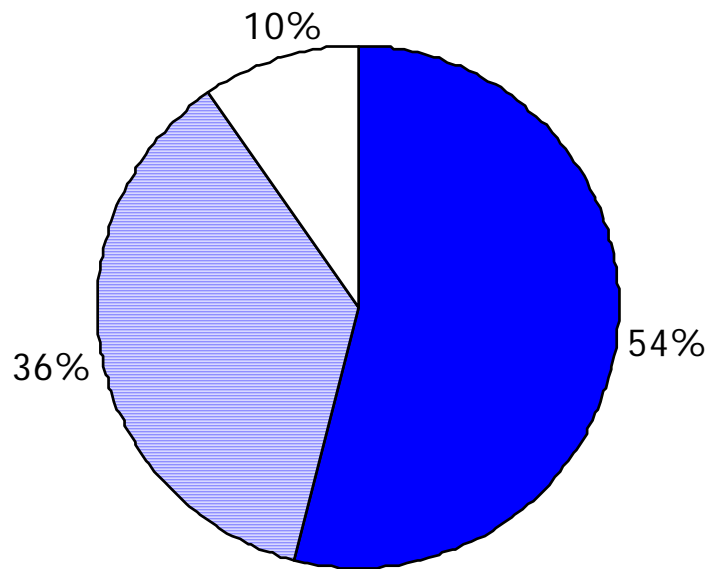
# Percentage of total DALYS due to selected diseases in ECSCA member states



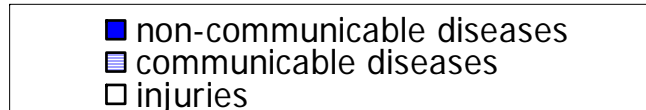
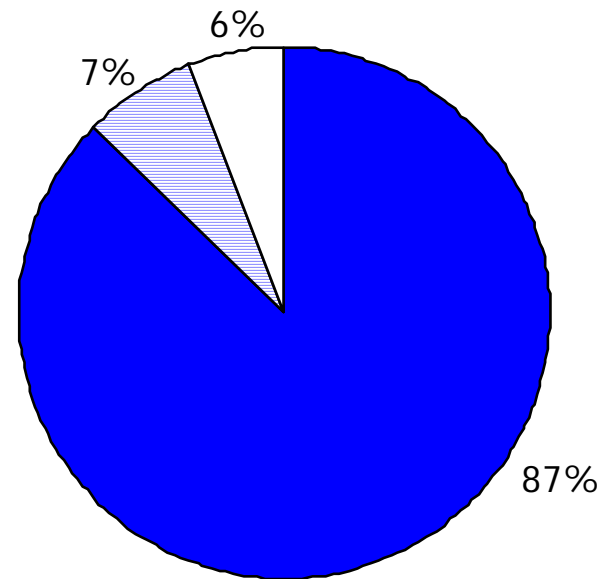
# Developing countries carry a double disease burden

Percentage of deaths by cause

Low- and Middle-income countries

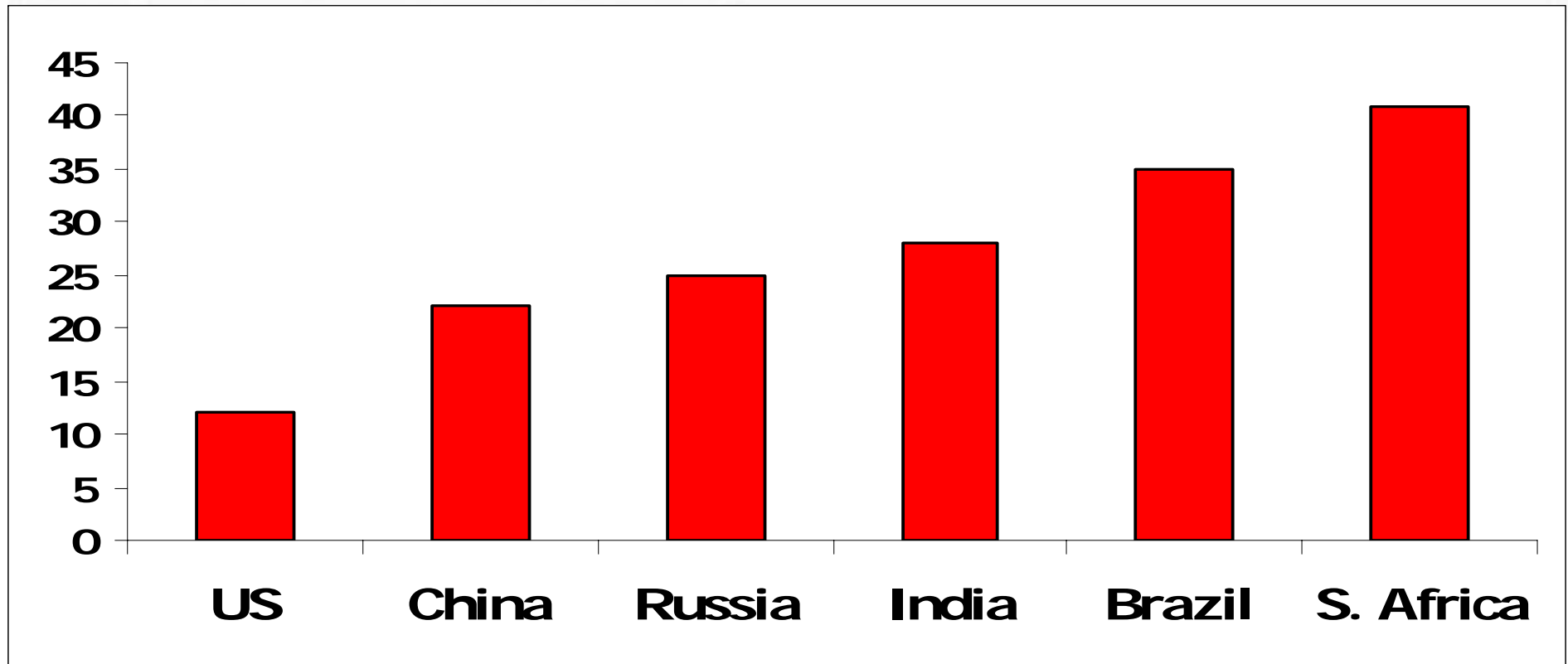


High-income countries



# Workforce Burden

(Cumulative percentage of CVD Deaths among 35-64 year-olds from 2000-2030)



Leeder et al. *A Race Against Time*. 2004



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Are there cost-effective interventions readily available that will lead to a reduction of the burden from those diseases (health problems) related to the MDG's?---**YES**

*“A lack of interventions is **not** the primary obstacle to faster progress toward the goals...The main obstacle is the low levels of use-especially among the poor-of existing effective interventions.” ( DCP2, Chapter 9 )*



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## Reducing child mortality; examples of CE interventions (DCP2-Chapter 9)

**Preventive:** Breastfeeding; ITNs; immunization; micronutrient supplementation; newborn temperature control;

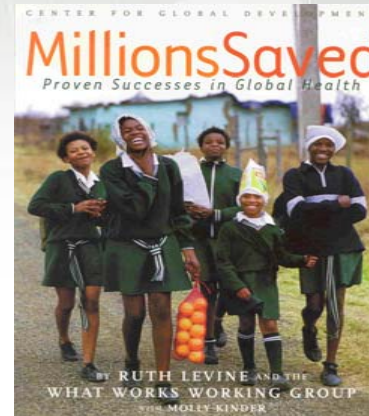
**Treatment:** ORT; antibiotics for pneumonia; newborn resuscitation



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**The feasibility and ease of scaling up interventions**—information drawn from DCP2 Chapter 8 and “Millions saved- Proven Successes in Global Health”  
Levine  
(17 case studies)



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### Programs/ projects related to MDGs-“scaled up”

- ❖ Diarrheal treatment in Egypt
- ❖ HiB vaccination in Chile
- ❖ HIV/AIDS prevention in Thailand
- ❖ Maternal mortality reduction in Sri Lanka
- ❖ Measles elimination in Southern Africa
- ❖ Polio elimination in the Americas
- ❖ Small pox eradication globally
- ❖ TB control in China

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### The “ingredients” of success;

- political leadership and champions
- technological innovation plus delivery system
- expert consensus around the approach
- management that effectively uses information
- sufficient financial resources

**NB. No single ingredient was enough**



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## One “taxonomy” of effective interventions:

### “Supply” driven eg:

immunization  
salt fluoridation  
Ivermectin; mass chemo-prophylaxis  
cigarette taxes

### “Demand” driven eg:

maternal and perinatal care  
condom use;  
ORT



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“The health sector priorities  
have to compete with those of  
other development sectors”

Minister of Health--Tanzania



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**Experience with successful scaling up  
one of the most cost effective  
interventions:**

**The immunization program in the  
Americas**

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## Some cost effective ratios (DCP2 Chapter 2)

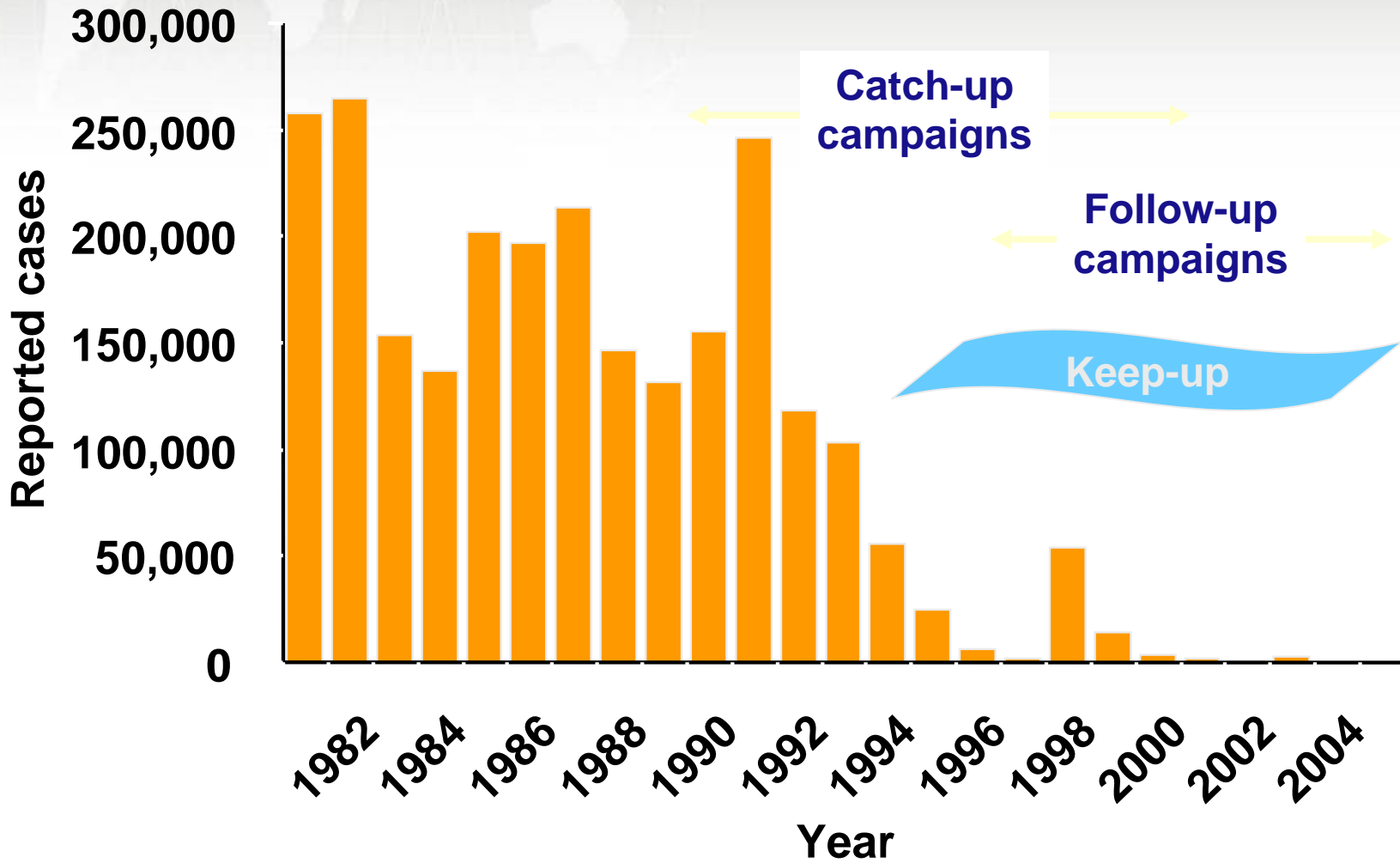
### **DPT3, OPV, Measles and BCG**

--Under \$10 per DALY averted in SSA and South Asia—less than \$20 in all regions other than Europe and Central Asia

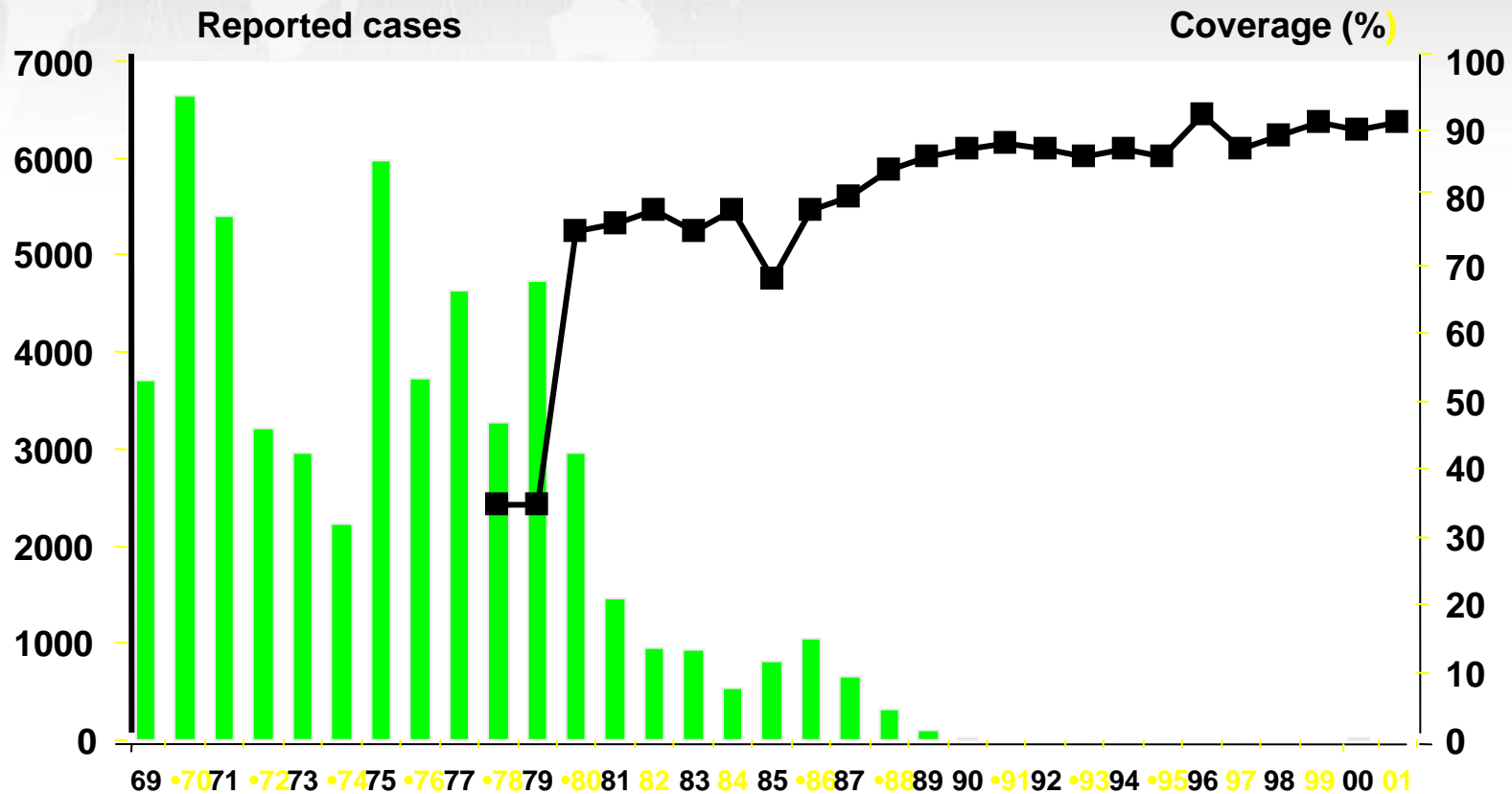
### **Pentavalent vaccine**

--\$42 per DALY averted in SSA

# Measles Cases—The Americas, 1980–2004



# OPV3 vaccination coverage and incidence of paralytic poliomyelitis. Region of the Americas, 1969-2001\*#



Source: HVP/PAHO

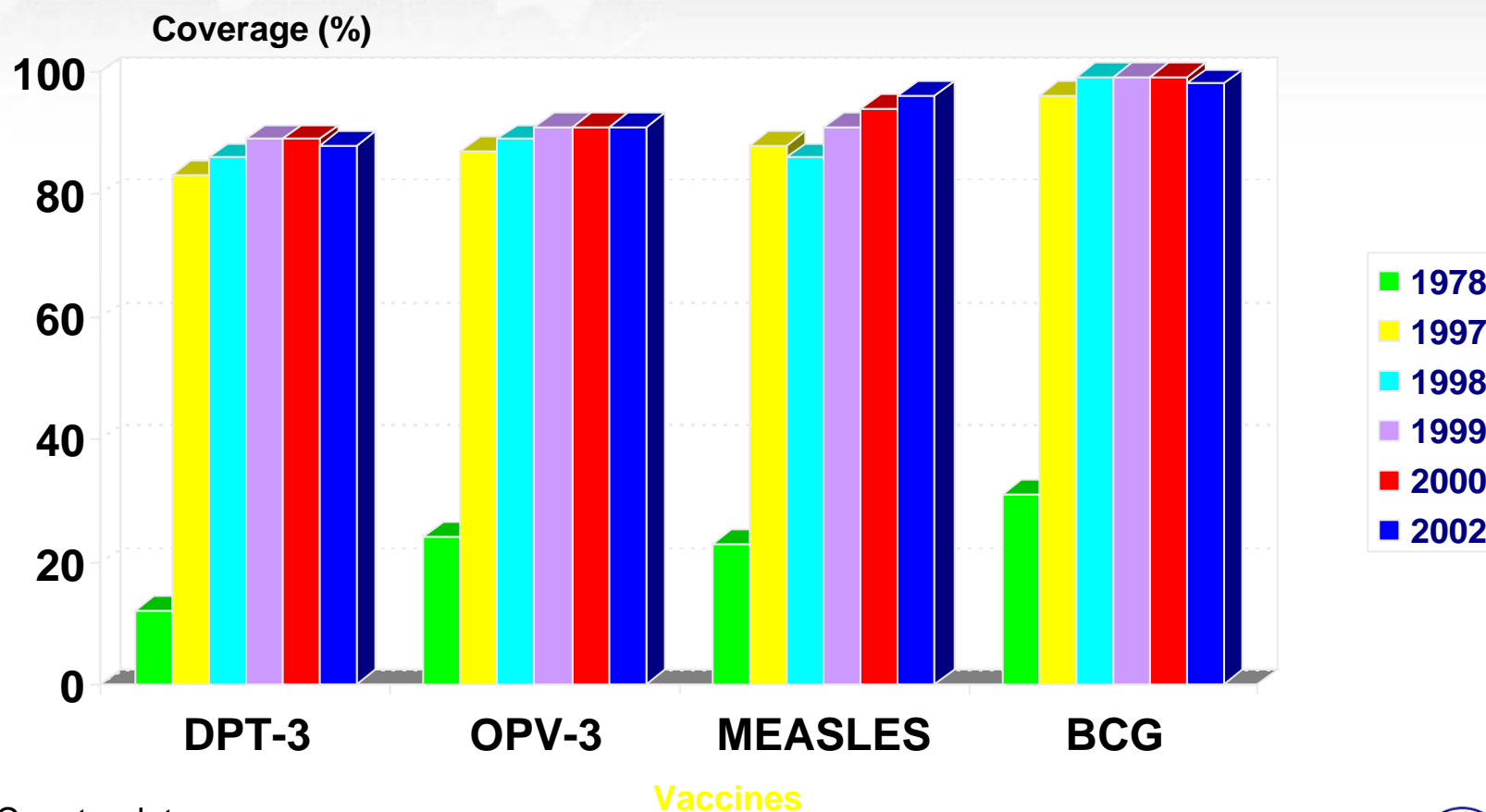
■ Cases —■— Coverage

\* Coverage data for children <1 year of age

# Type 1 vaccine derived virus in 2000 and 2001



## Vaccination coverage of children <1 year of age Region of the Americas\*, 1978-2001



Source: Country data

\* Excluding Canada and USA



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## Reasons for success in scaling up immunization

- ✓ Supply driven effective technology
- ✓ Leadership – political
  - organizational
  - individual
- ✓ Social factors controllable
- ✓ Public/private partnership
- ✓ Stable supply of vaccines

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### **PAHO Revolving Fund for Vaccine Procurement**

**Established in 1979; Initial capitalization-\$1 million**

#### **Objectives;**

- **Provide vaccines and immunization supplies**
- **Ensure uninterrupted supply of vaccines**
- **Consolidate contracts for bulk purchasing**
- **Facilitate the use of local currency**
- **Assure vaccine quality**



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## The Last Case of Polio, 1991



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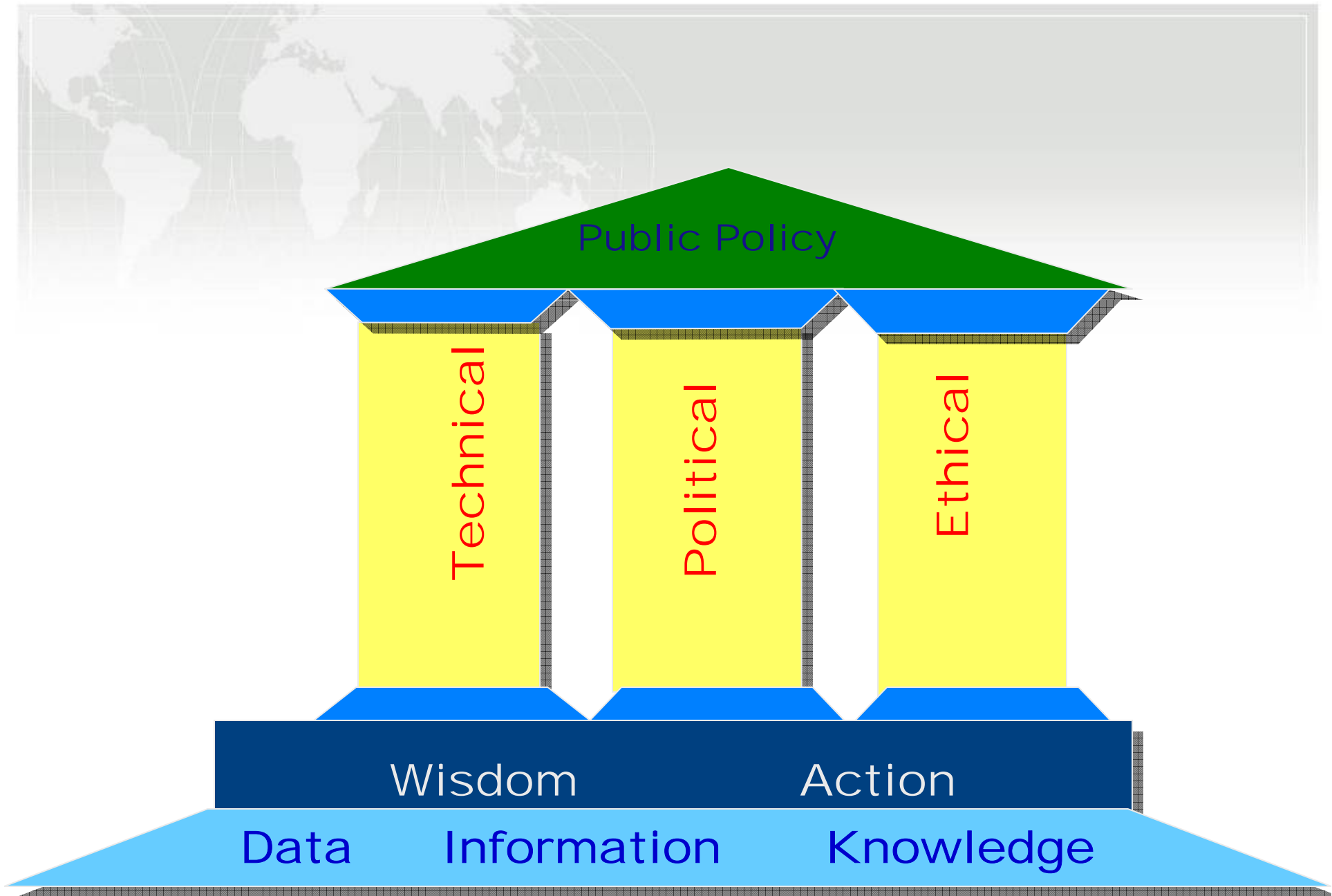
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**“The best chances for successful policy change occur when three stream of events come together:**

- 1) The objective situation-the problem stream**
- 2) The availability of a possible solution-the policy stream**
- 3) The flow of political events-the political stream.”**

*(Reich, citing John Kingdon)*





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## **DCPP and the technical pillar**

**This is the forte of DCPP as per its major objective- developing an evidence base to inform decision-making by:**

**Providing estimates of the cost-effectiveness and impact of single interventions and packages**

**Collaborating in defining disease burdens globally and regionally**

**Summarizing implementation experience in different regions and globally**

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## **DCPP and the ethical pillar**

**The ethics of resource allocation- two main considerations**

**-is the allocation cost effective?**

**-is it equitable or just**

**The ethics of stigma and discrimination-eg  
HIV/AIDS**



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## **DCPP and the political pillar**

The main drivers of change are at the political level. The principal instruments available at that level for policy change that will affect the population as a whole are:

- ❖ Taxation--- tobacco-alcohol
- ❖ Legislation—financing care-immunization
- ❖ Regulation—anti helminthic treatment, blood screening

The major impact of DCPP at this level is through appropriate dissemination of the products and focused advocacy.



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## The resolve/commit dialectic

1-The divorce between resolutions at the group (regional) level and the possibility/feasibility of local action

2-The selection of issues that make for genuine collective regional action

3-The absence of a regional mechanism to ensure compliance



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## Summary

- ❑ No doubt about the magnitude of the challenge in achieving the MDGs in ECOSA.
- ❑ But there is evidence on the availability of tools for establishing the priority interventions to be applied to the challenges and scaling them up.
- ❑ DCPP can supply the tools-the technical part.
- ❑ But we ignore the political at our peril!



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