

*Global Health Information  
Technology: Better Health in the  
Developing World*

*The Role of International Agencies*

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3<sup>rd</sup> Health Information Technology Summit

Washington DC, 9-10 July 2006



**World Health  
Organization**

# World Health Organization

- Specialized agency of the United Nations
- Public health mandate, founded 1948
- 6000 staff across headquarters (Geneva), regional offices and 192 countries
- Major initiatives for combating infectious diseases (HIV/AIDS, TB, malaria, influenza, polio); for maternal and child health; tobacco control, others



# Overview

- I. Perspective on ICT and health in developing countries
- II. ICT diffusion and globalization: challenges
- III. Looking to the future

# Globally, ICT is redefining health

## New opportunities and relationships

- Citizens, consumers
- Providers, suppliers
- Governments

## New services, players, markets and issues

*...demands from consumers, and drivers from industry and health are making ICT indispensable...*

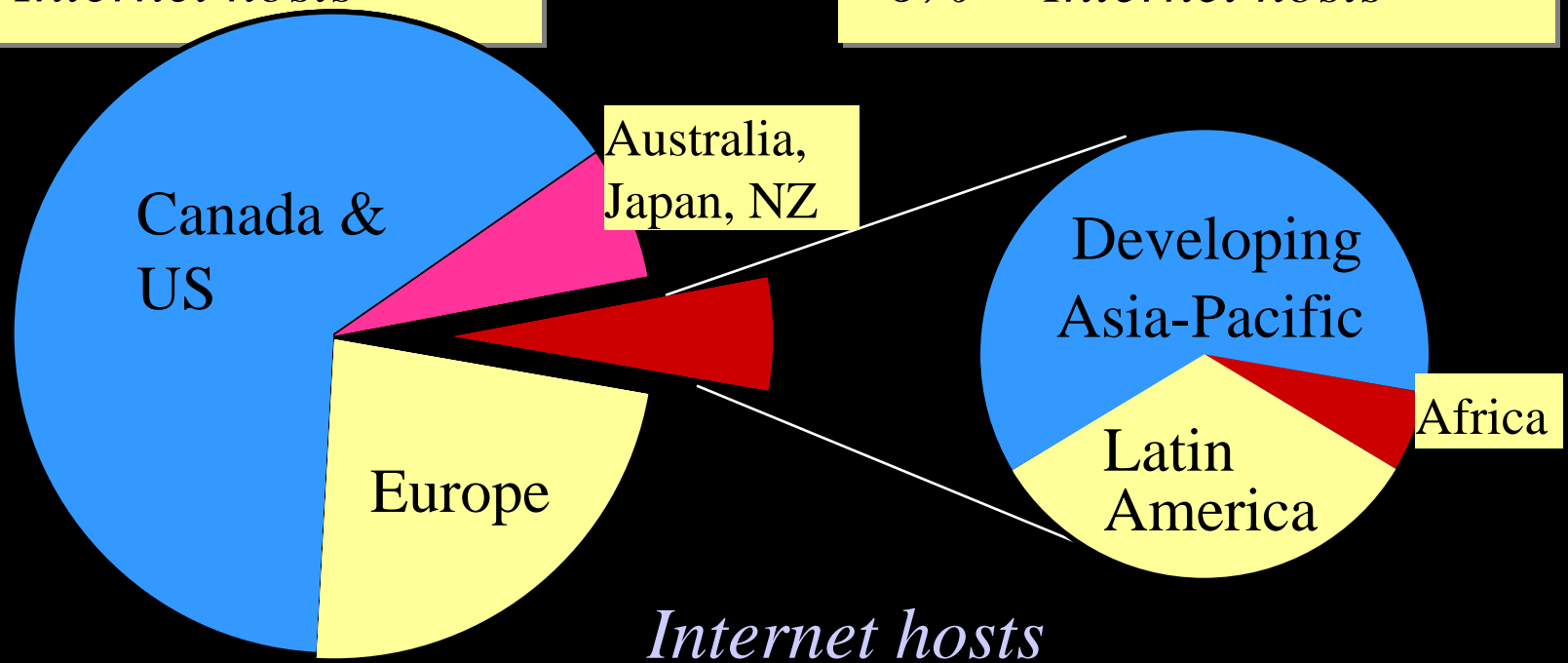
# Equity: our biggest challenge

## High-income countries

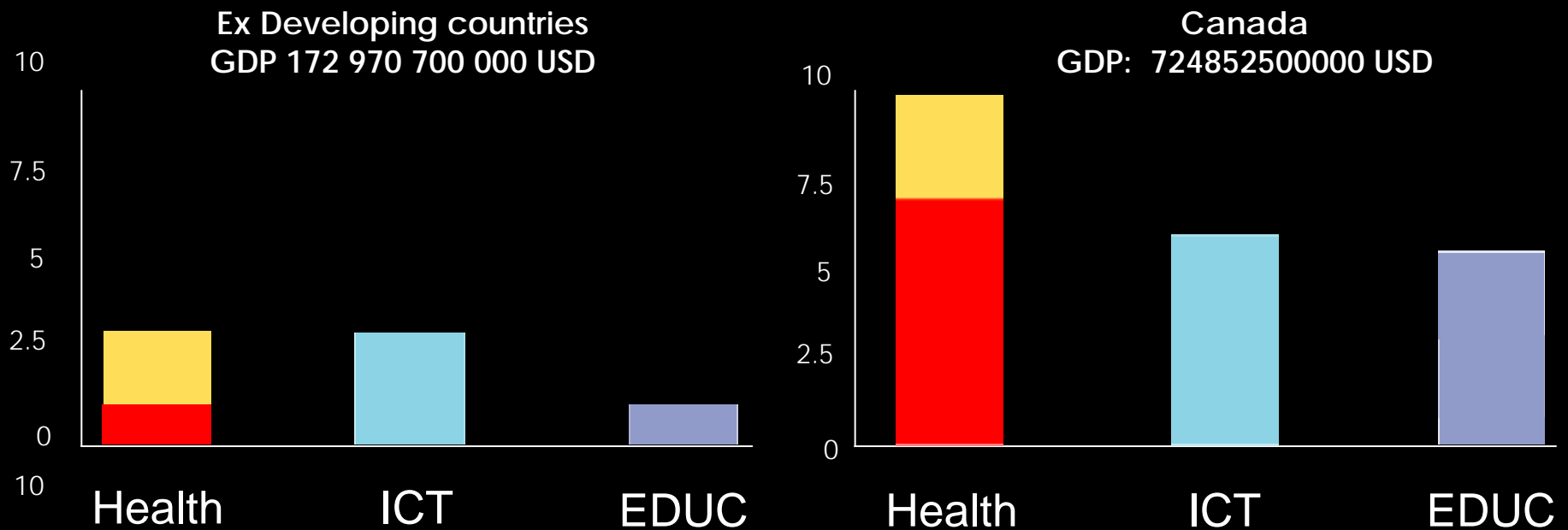
16% population  
7% burden of disease  
89% health spending  
94% Internet hosts

## Low-income countries

84% population  
93% burden of disease  
11% health spending  
6% Internet hosts



# Spending on health, ICT and education, % GDP



■ Private  
■ Public



# Attitudes are changing (?)

- ICT has limited role or there are other priorities in low-income countries (Gates)
- 'Either/or' scenario: unacceptable tradeoffs in health development investments
- New technologies 'not appropriate' for poor countries and institutions

# Attitudes are changing (!)

- Historical shift: *World Summit on the Information Society, 2003 & 2005*
- Interdependent world: Travel and trade
- Can leverage ICT for social response, public awareness, multi-stakeholder action, debate on values & social justice
- Focus on ICT for development



*“From trade to telemedicine, from education to environmental protection, we have in our hands, on our desktops and in the skies above, the ability to improve standards of living for millions upon millions of people...”*



Kofi Annan  
UN Secretary General  
World Summit on the  
Information Society  
Geneva 2003

# Health situation in poor countries

- Grappling with endemic and epidemic infectious diseases; rising chronic diseases
- Major threat from HIV/AIDS, TB, malaria



# Health situation in poor countries

- Complex emergencies arising from political instability, war and migration
- Natural disasters: floods, drought, landslides, earthquakes



# Countries in conflict and transition

- Policy making capacity diminished
- Coordination mechanisms limited
- Implementation capacity hindered
- Ongoing fiscal crisis
- External aid and technical assistance essential



# Access still the main challenge

- Reliable communications: health centers, laboratories, clinics, district medical offices
- Infrastructure & access devices
- Training, integration of ICT into curricula
- Content that reflects local needs



Main need: robust, scalable, affordable applications & qualified technical support

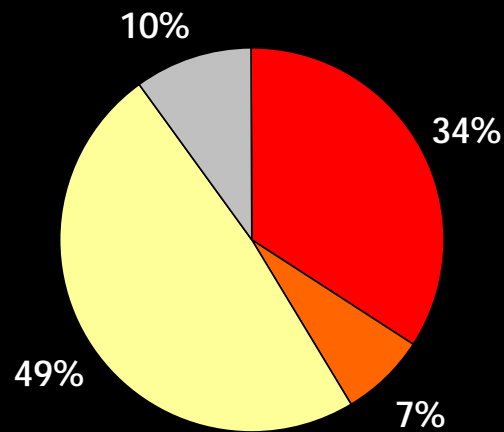


3<sup>rd</sup> HIT Summit, Sept 2006

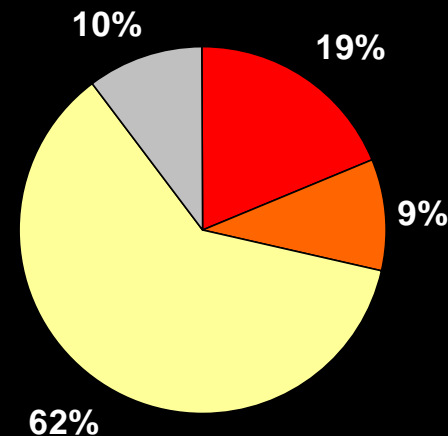


# Death by cause in SE Asia

Low-income,  
high mortality  
countries



Low-income,  
low mortality  
countries



- Communicable diseases (including maternal causes)
- HIV, TB, malaria
- Noncommunicable conditions
- Injuries

World Health Report 2004 - WHO

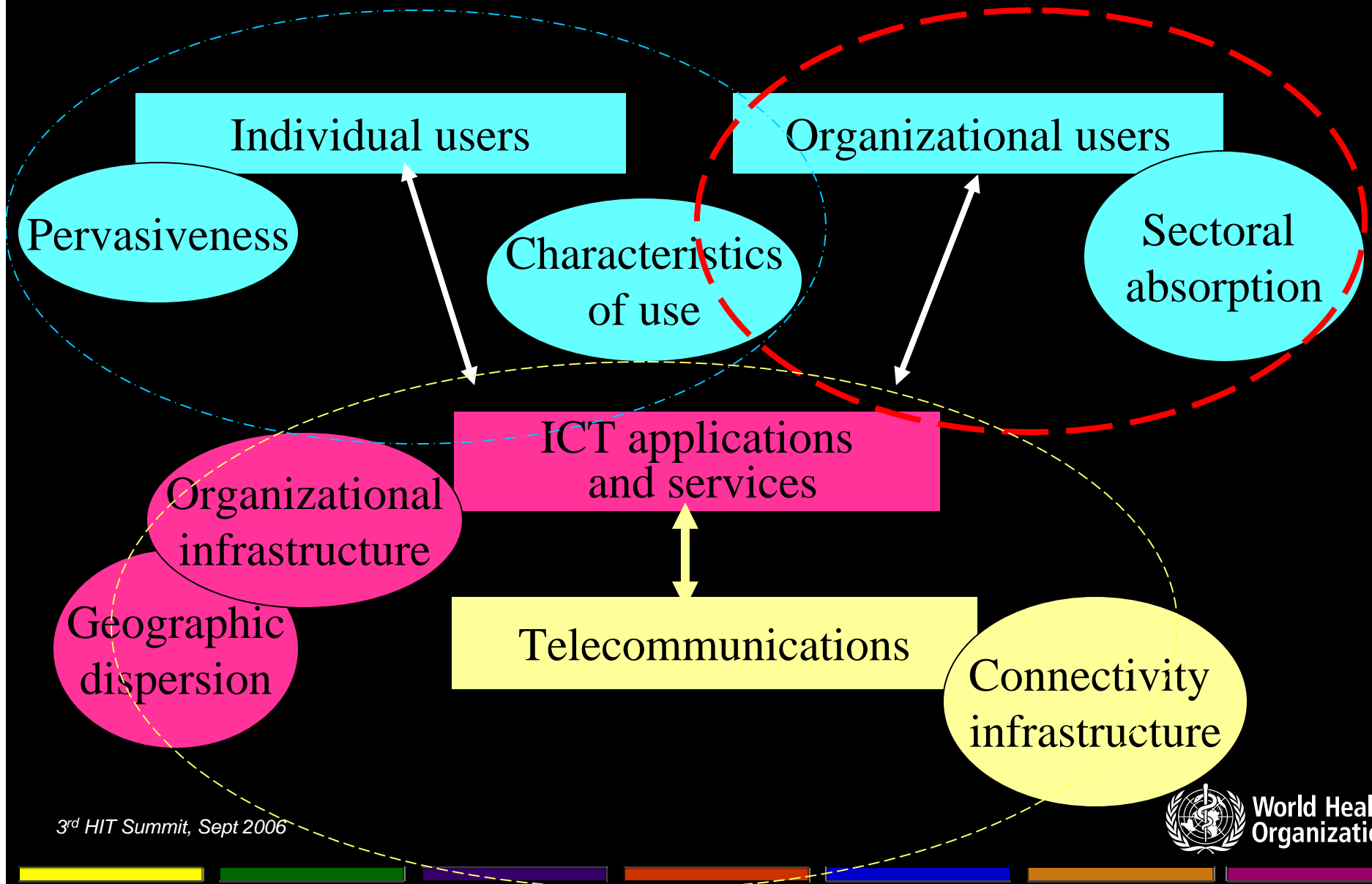
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# Chronic care: Seizing the opportunities of ICT

- Increase workforce and workplace efficiency
- Quality and safety: avoid medical mistakes, reduce costs and improve care
- Networks and tools for learning and practice, research and development, innovation
- Information, products, advice and tools for promotion, prevention and management



# Model of ICT in health systems



# Using evidence: United Nations ICT index

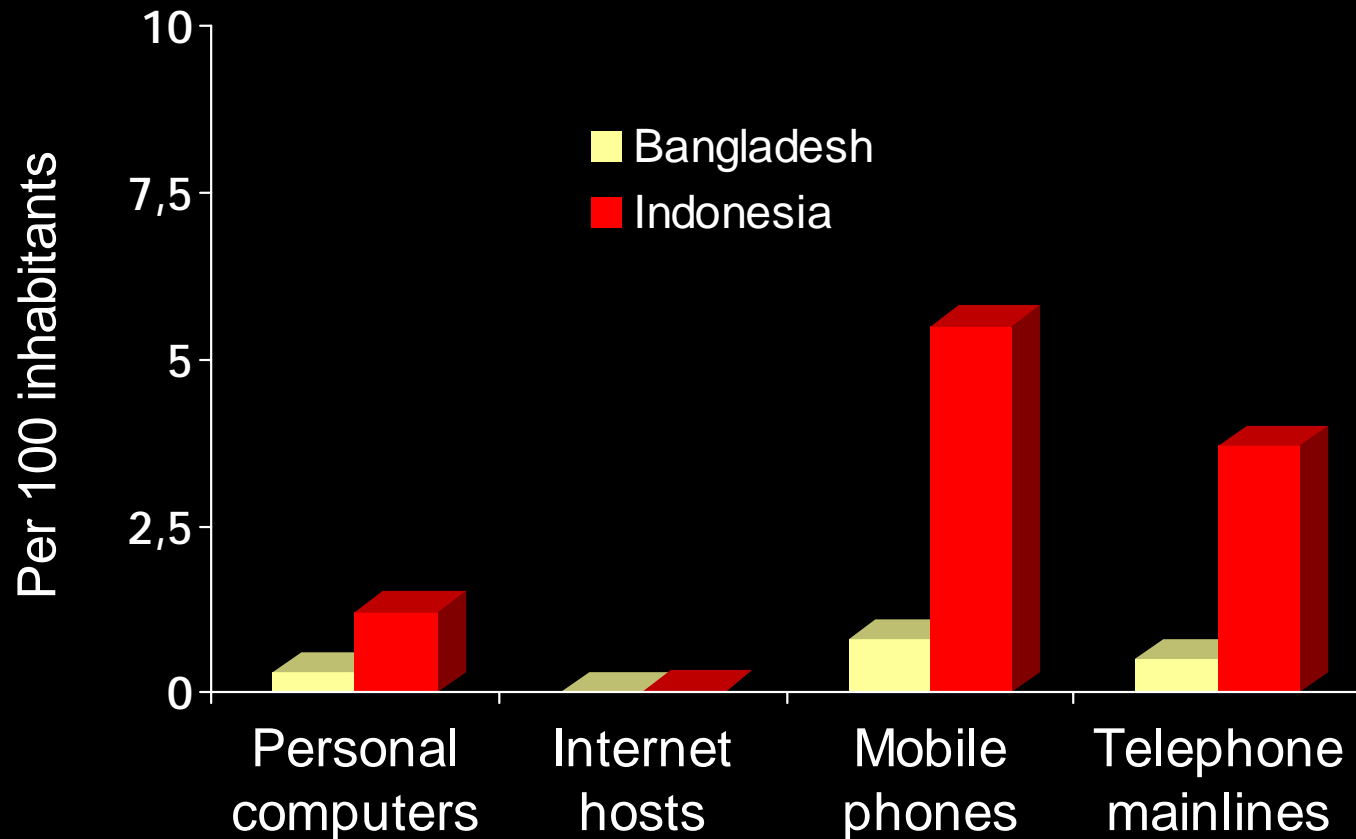
ICT is not a single innovation, but a  
cluster of related technologies

*Diffusion* of ICT in a country consists of  
an index of these summary measures:

- Connectivity
- Access
- Policy



# Connectivity in 2 countries

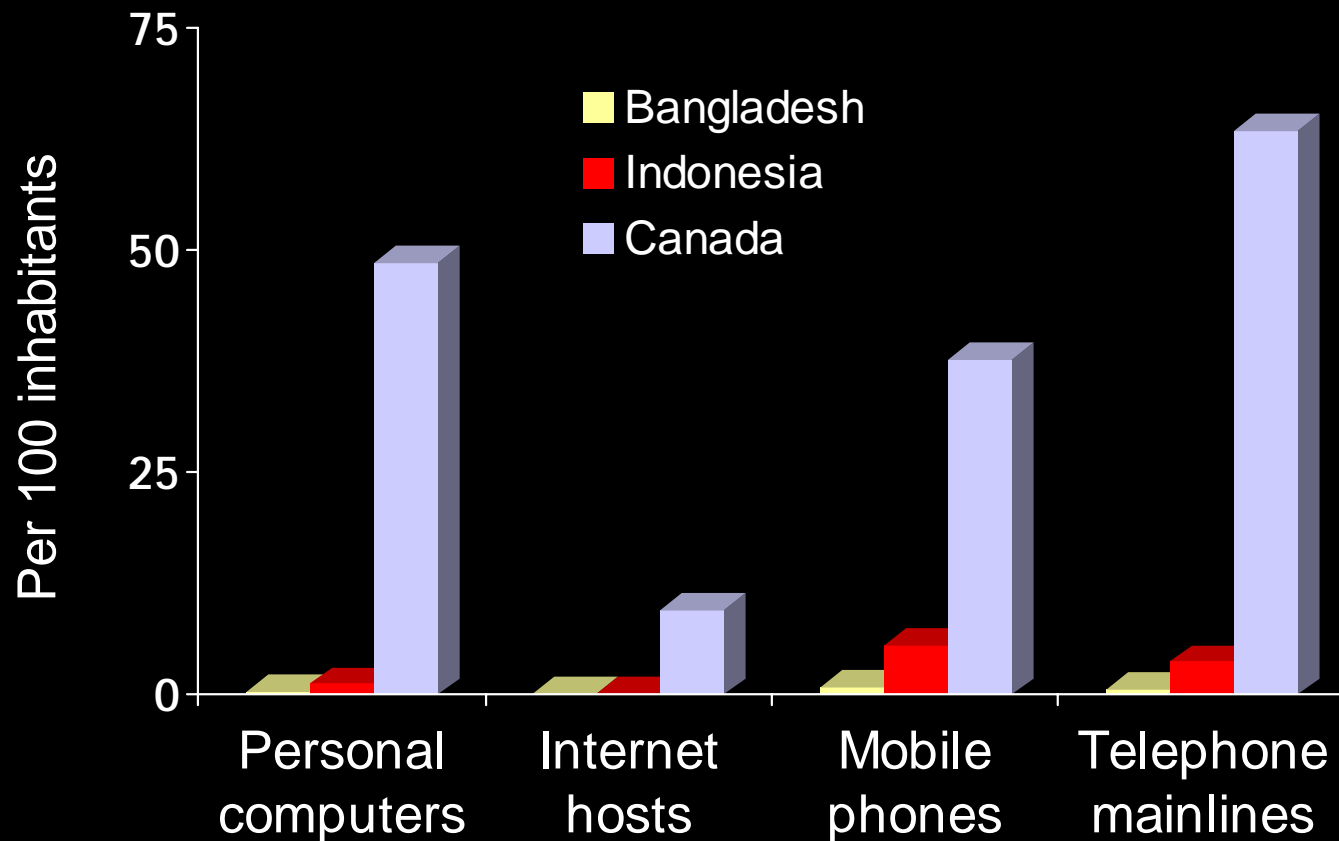


UNCTAD Handbook of Statistics 2004

3<sup>rd</sup> HIT Summit, Sept 2006



# Connectivity in 3 countries

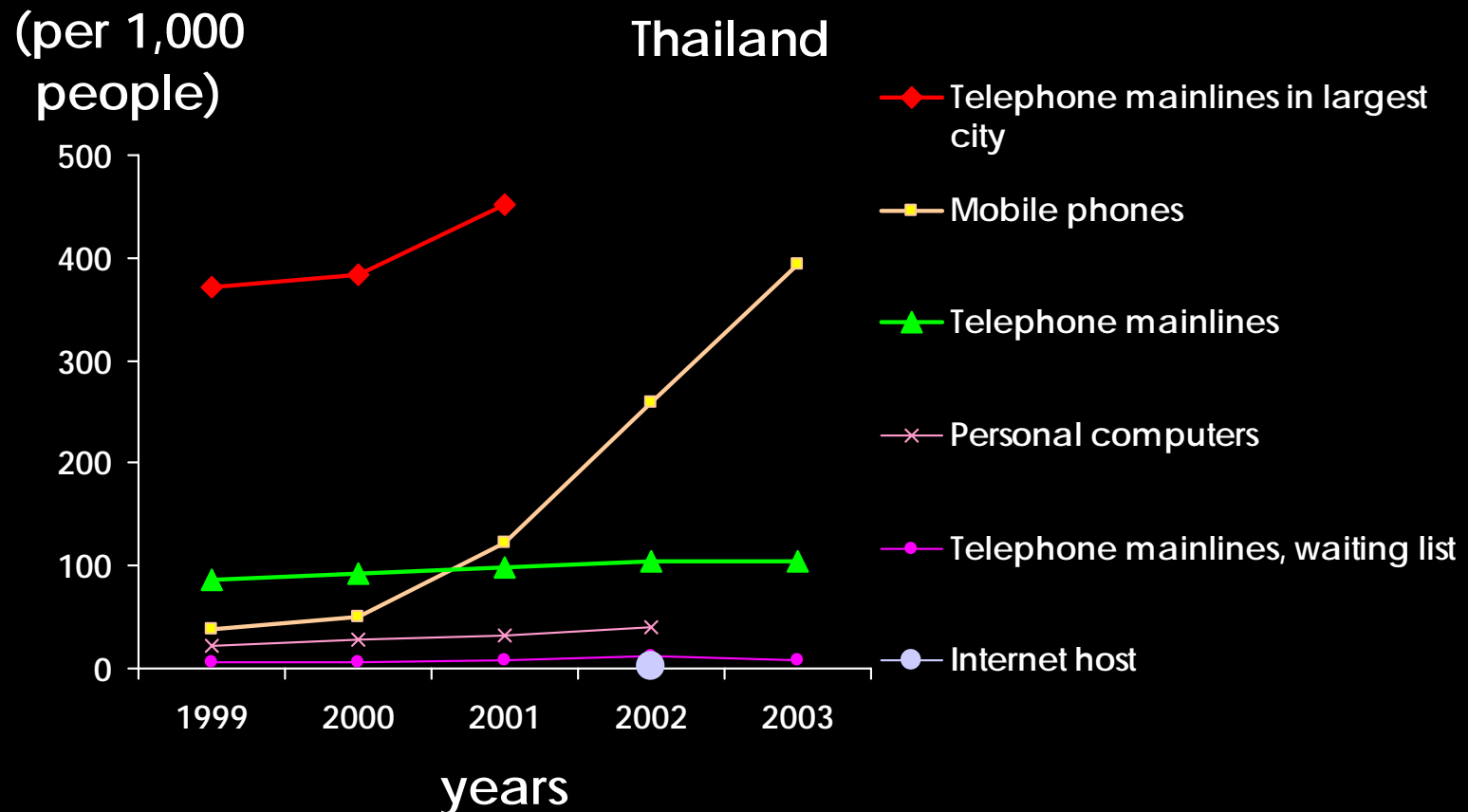


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# Growth of mobile technologies



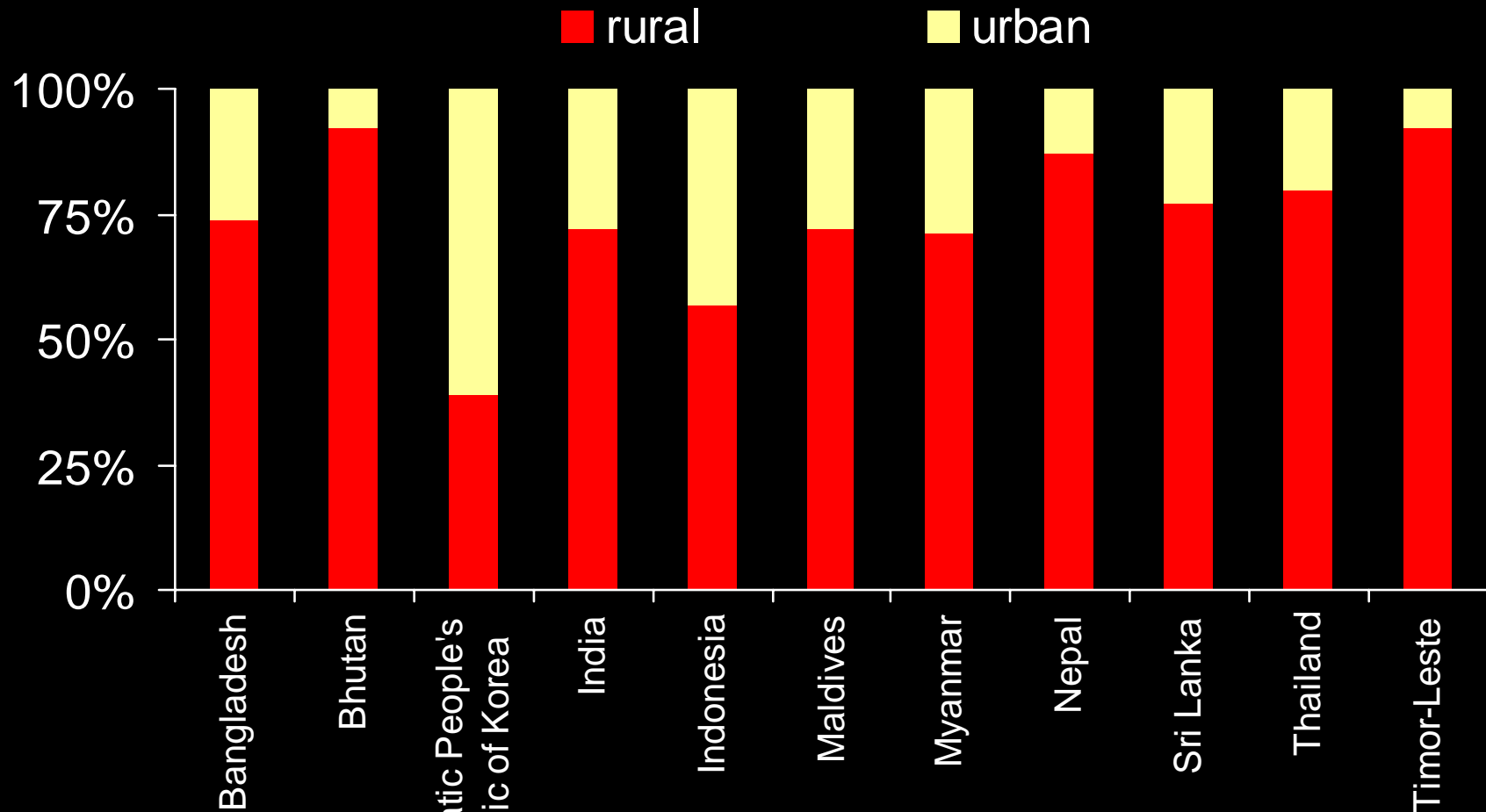
# Measuring 'access'

Country	Internet users per 1000 inhabitants 2002 (1)	Adult literacy rate 2005 (2)	Cost of 3- minute fixed- line phone call (US \$) 2002 (3)	GDP per capita (PPP, current int'l \$) 2002 (4)
Bangladesh	2	41.1	0.029	1696
Indonesia	21	87.9	0.026	3178
Spain	193	...	...	22391
Canada	513	...	...	30677

- 1) UNCTAD Handbook of Statistics 2004
- 2) World health statistics 2005, WHO
- 3) UNCTAD Handbook of Statistics 2004
- 4) World Bank, World development indicators 2005

3<sup>rd</sup> HIT Summit, Sept 2006

# Urban – rural population, SE Asia (2002)



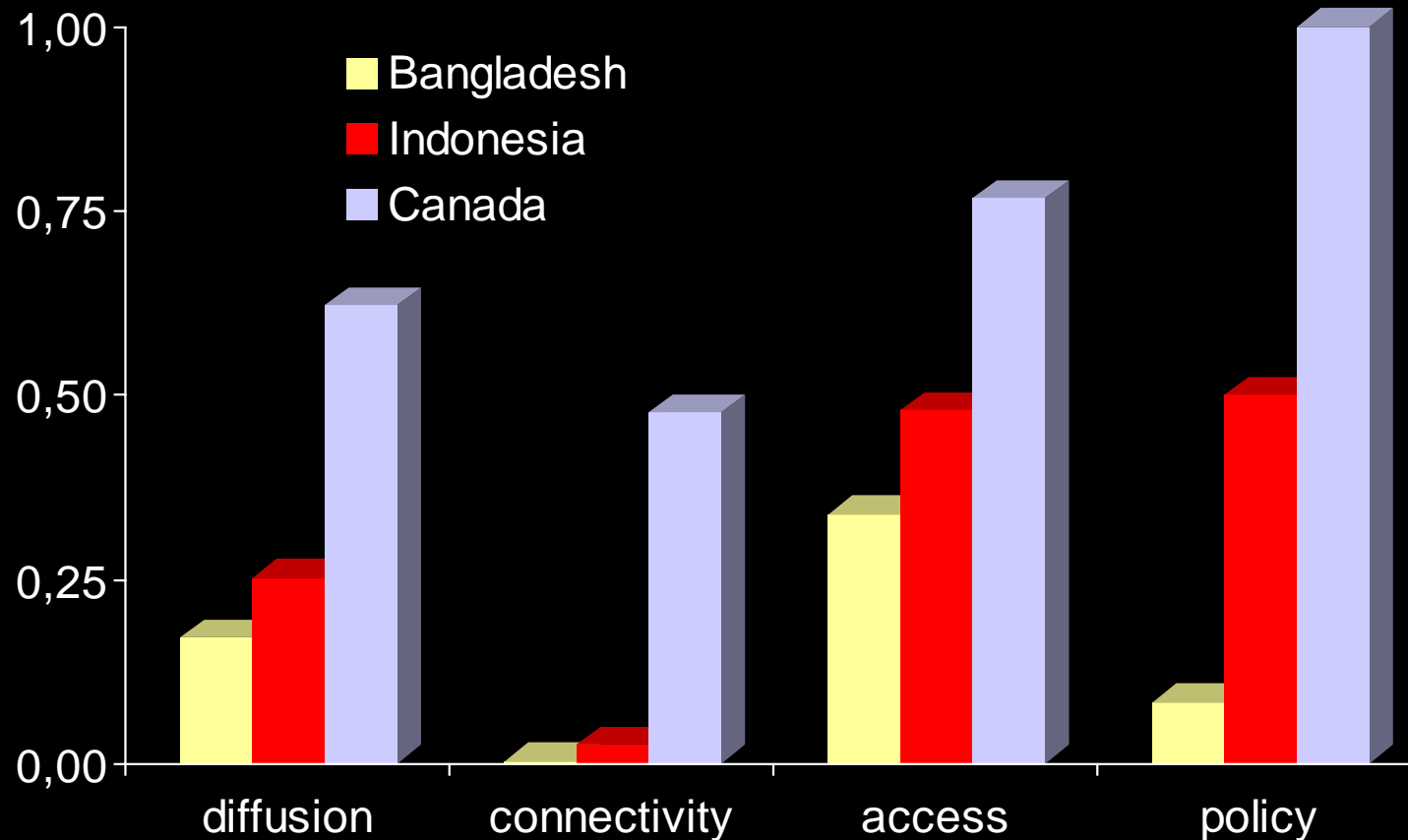
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World Health Organization

# ICT diffusion in 3 countries





# Globalization of ICTs: challenges in the networked world

- Human rights – access to information, equity
- Digital divide – key in health development
- Spam – drain on critical resources
- Cyber crime – identity theft, disruption to systems
- Protection – records and systems
- E-business – transactions and jurisdiction

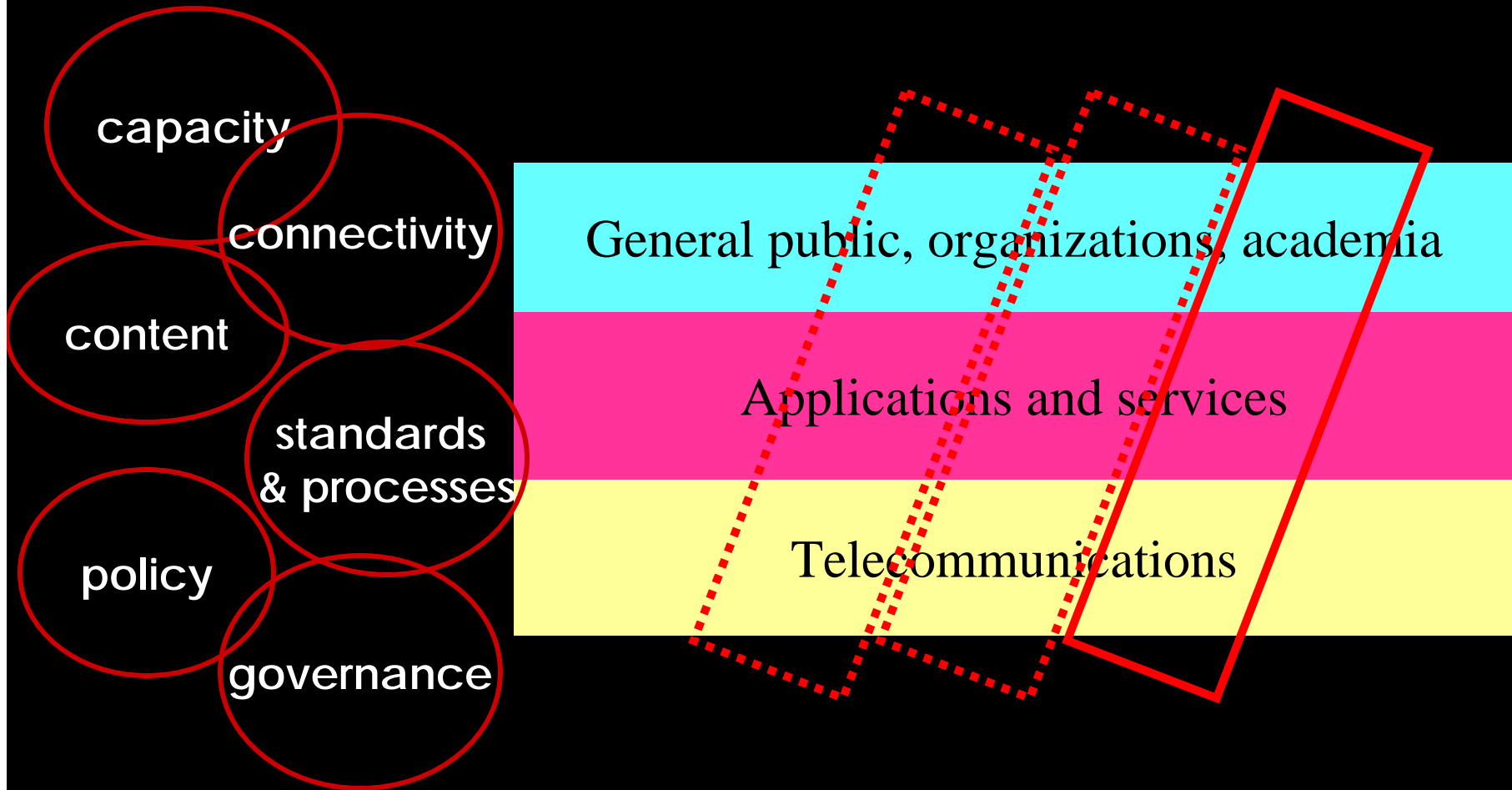
*...context of growing risks and shared resources*

# Many stakeholders

- Governments: health, ICT, defense, interior ministries
- International agencies
- Communities, individuals
- Health and humanitarian personnel
- Business, academia, donors, media...



# Evolution: From partnerships towards broader engagement



# International agencies (1)

- Promote a solid ICT foundation that benefits all sectors and allows local growth
- Ensure broad debate and diverse perspectives in policy forums
- Facilitate global and regional solutions to shared challenges: spam, security
- Alliances, partnerships and innovation in priority areas

## International agencies (2)

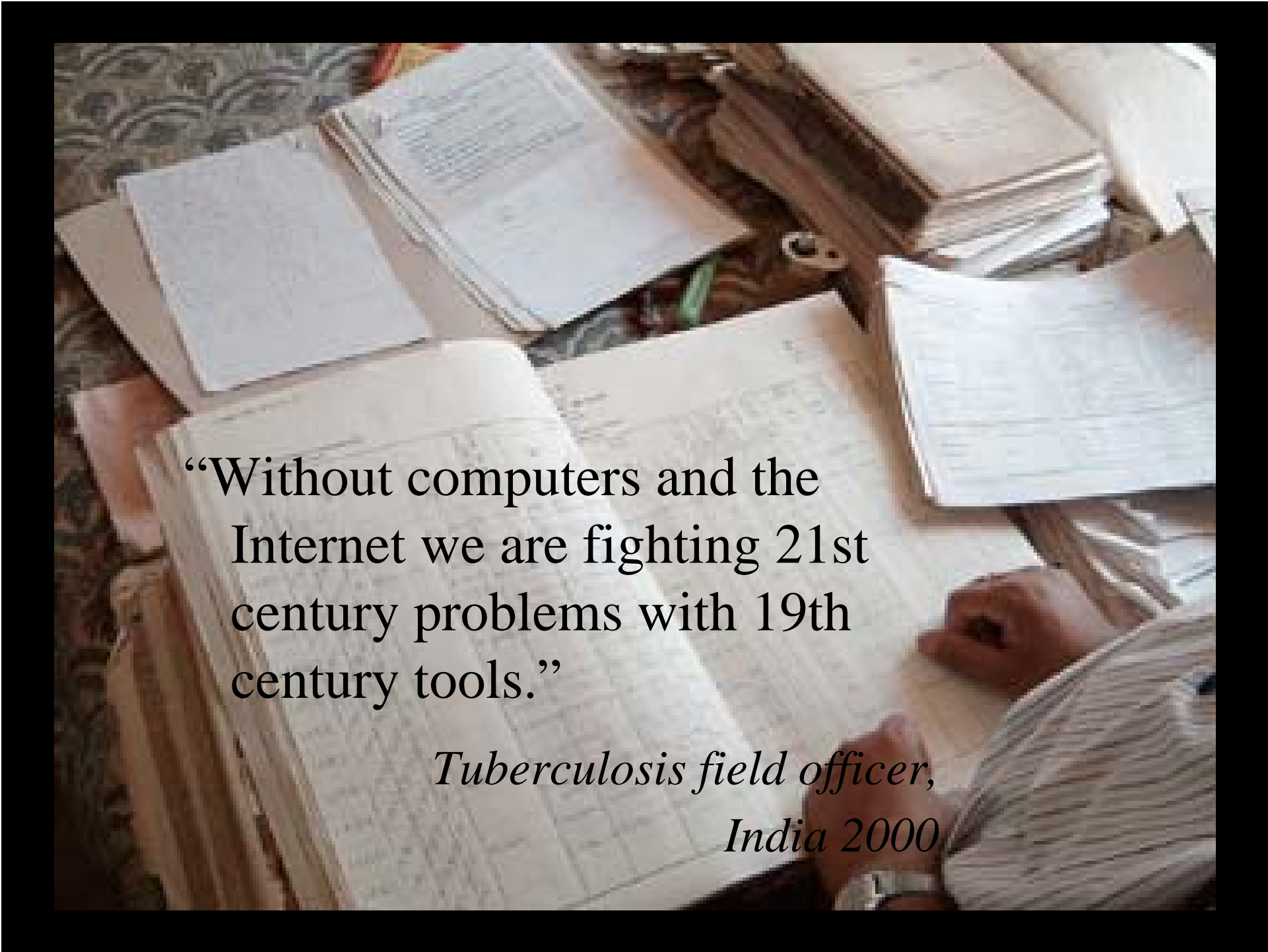
- Standards, legal and ethical guidelines
- Measures to promote, preserve “trust” online
- Assessment of impact of new technologies
- Evidence and information for policy
- Equity: available, affordable ICT

# WHO Global eHealth Strategy

- Sets direction and action lines for e-health at headquarters, regions, Member States:
  - Policy
  - Access
  - Quality and safety
  - Best use
- Countries encouraged to develop national e-strategies

# Looking to the future

- Huge unfinished agenda
- Governance (shared accountability)
- National and international coordination takes time, communication and commitment
- Positive perception of health: driver as well as beneficiary of ICT
- Extraordinary time to influence ICT for health development



“Without computers and the Internet we are fighting 21st century problems with 19th century tools.”

*Tuberculosis field officer,  
India 2000*



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*With thanks to Gael Kernen for  
assistance with data and graphics*

*Country profiles in ICT and health:  
[www.who.int/ehealth/resources/en](http://www.who.int/ehealth/resources/en)*