

**Urban Sanitation in this Century -  
Will We Finish our Unfinished Business?**

***- a Critical Assessment of  
the UN's Hashimoto Action Plan***

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# WHAT IS IT ABOUT SANITATION?

Special international concern about sanitation was expressed 30-45 years ago beginning with the 1972 UN Conference on the Environment (Stockholm), the 1976 UN Conference on Human Settlements (Vancouver, BC), the 1979 Alma Ata Declaration of “Health for All by the Year 2000”, and the mid-1980's Water and Sanitation Decade program.

Since the mid-80's, that concern has continued with a number of conferences, declarations, and goals set. Instead of being solved, if anything, sanitation problems have gotten worse.

In our world  
2 of  
every 5  
persons  
are without  
this →



WITH WATER



WATERLESS

# *What are we talking about here?*



# *What are we talking about here?*



# *What are we talking about here?*



# *What are we talking about here?*



# 2007 Progress Chart for MDG #7 -by continent and sub-continent

Goals and Targets	Africa		Asia				Oceania	Latin America & Caribbean	Commonwealth of Independent States	
	Northern	Sub-Saharan	Eastern	South-Eastern	Southern	Western			Europe	Asia
<b>GOAL 7   Ensure environmental sustainability</b>										
Reverse loss of forests**	low forest cover	medium forest cover	medium forest cover	high forest cover	medium forest cover	low forest cover	high forest cover	high forest cover	high forest cover	low forest cover
Halve proportion without improved drinking water	high coverage	low coverage	moderate coverage	moderate coverage	moderate coverage	high coverage	low coverage	high coverage	high coverage	moderate coverage
Halve proportion without sanitation	moderate coverage	very low coverage	very low coverage	low coverage	very low coverage	moderate coverage	low coverage	moderate coverage	moderate coverage	moderate coverage
Improve the lives of slum-dwellers	moderate proportion of slum-dwellers	very high proportion of slum-dwellers	high proportion of slum-dwellers	moderate proportion of slum-dwellers	high proportion of slum-dwellers	moderate proportion of slum-dwellers	moderate proportion of slum-dwellers	moderate proportion of slum-dwellers	low proportion of slum-dwellers	moderate proportion of slum-dwellers

**SANITATION** is the 3rd line down.

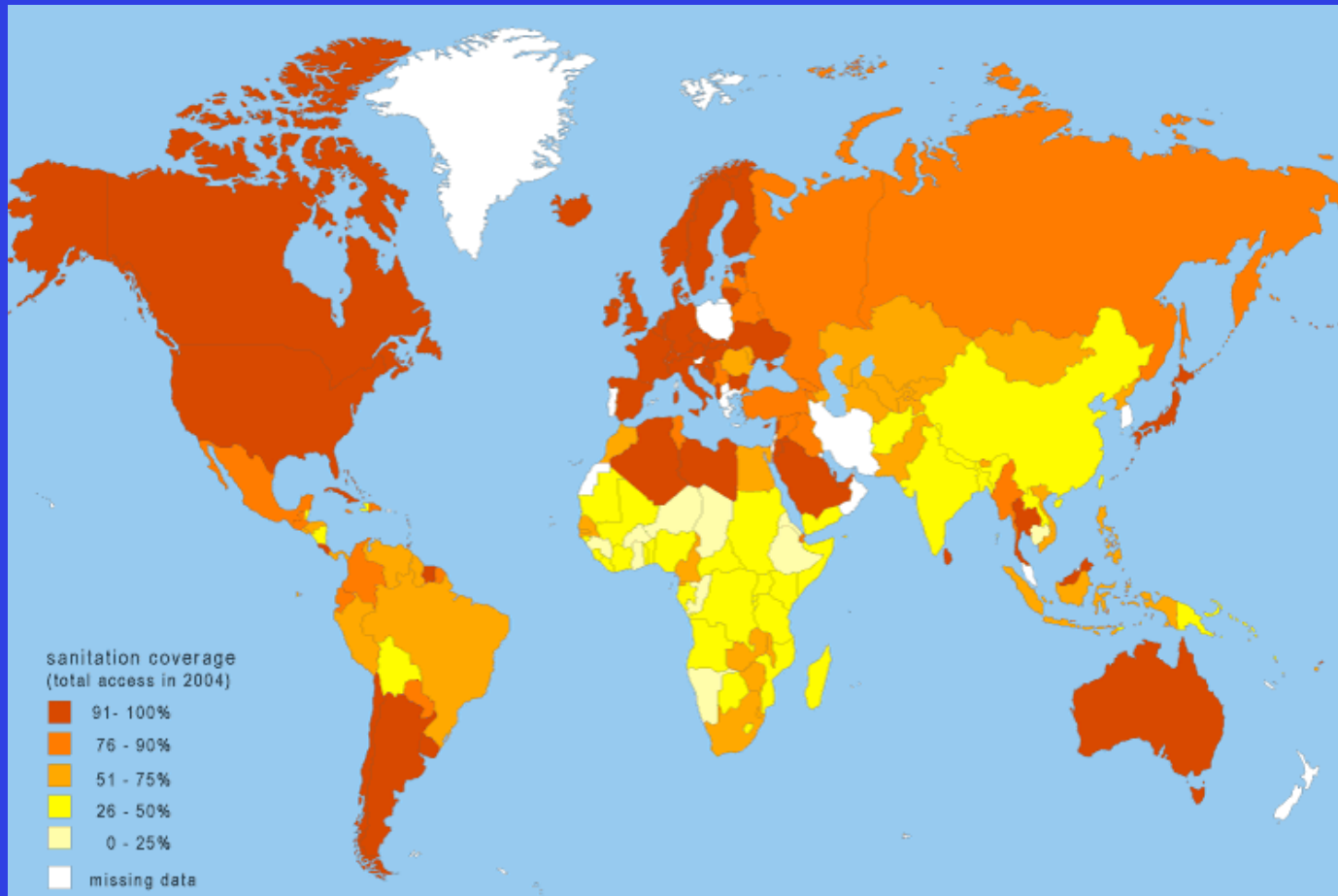
Note that there is “very low” coverage in Sub-Saharan Africa, Eastern and Southern Asia. There is also “low” coverage in South-Eastern Asia and in Oceania.

[The red color indicates that in Sub-Saharan Africa, Southern Asia, and Oceania, there has been no progress or there has been deterioration or a reversal.]



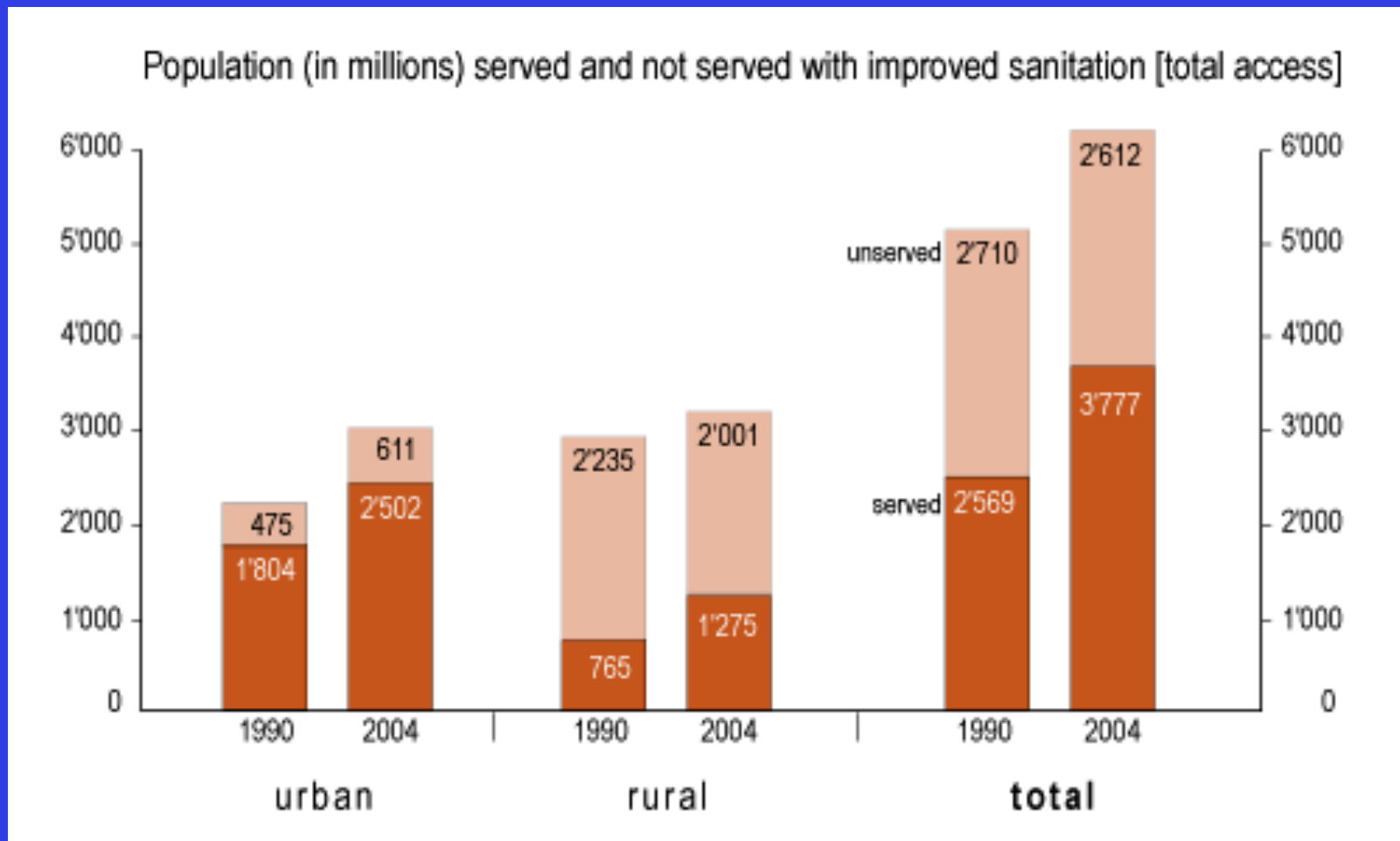
# Access to Improved Sanitation Facilities - 2004

[Source: WHO-UNICEF Joint Monitoring Program]



# Global Population

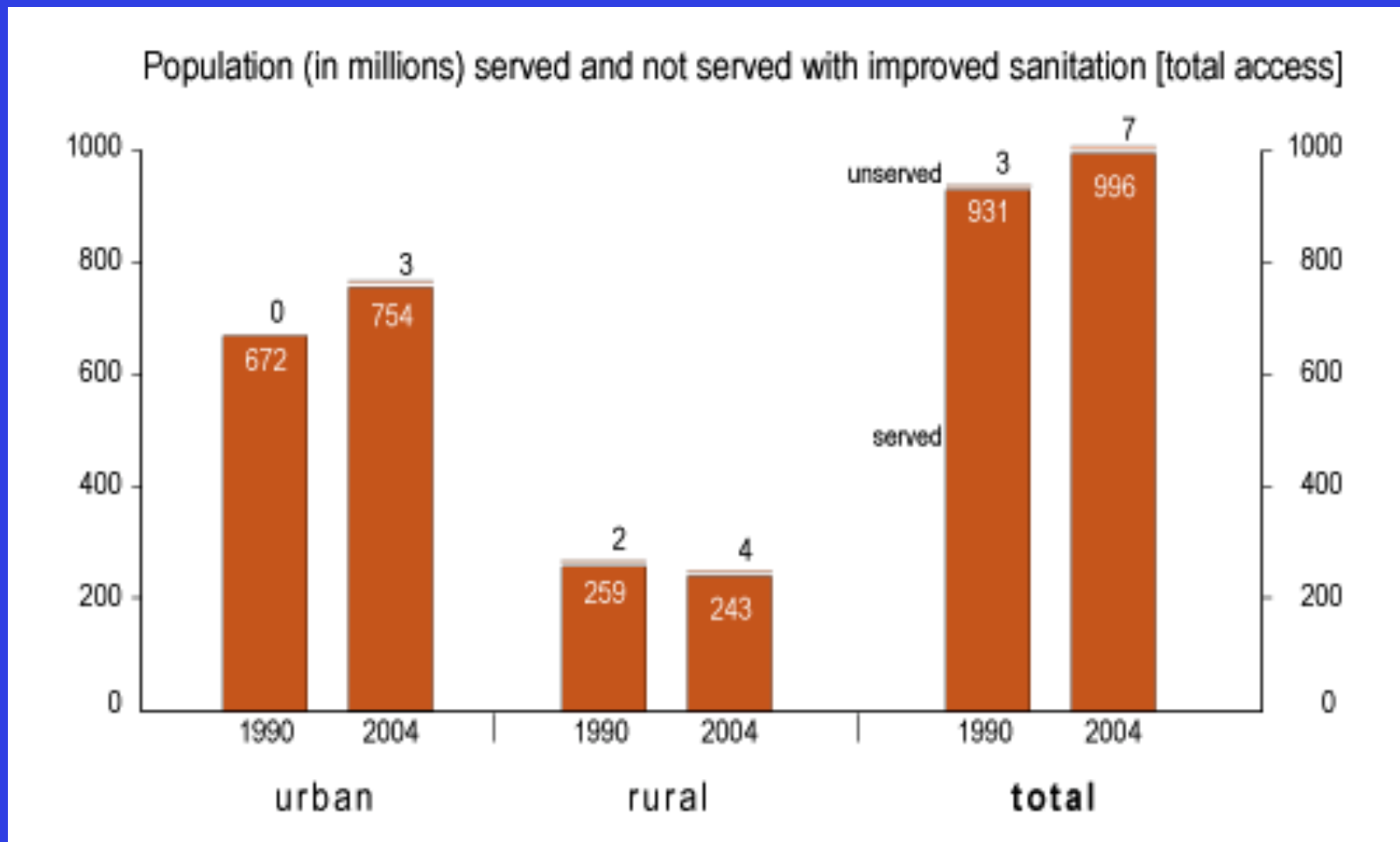
## *Served and Unserved by Sanitation - 1990 & 2004*



SOURCE: WHO-UNICEF JMP

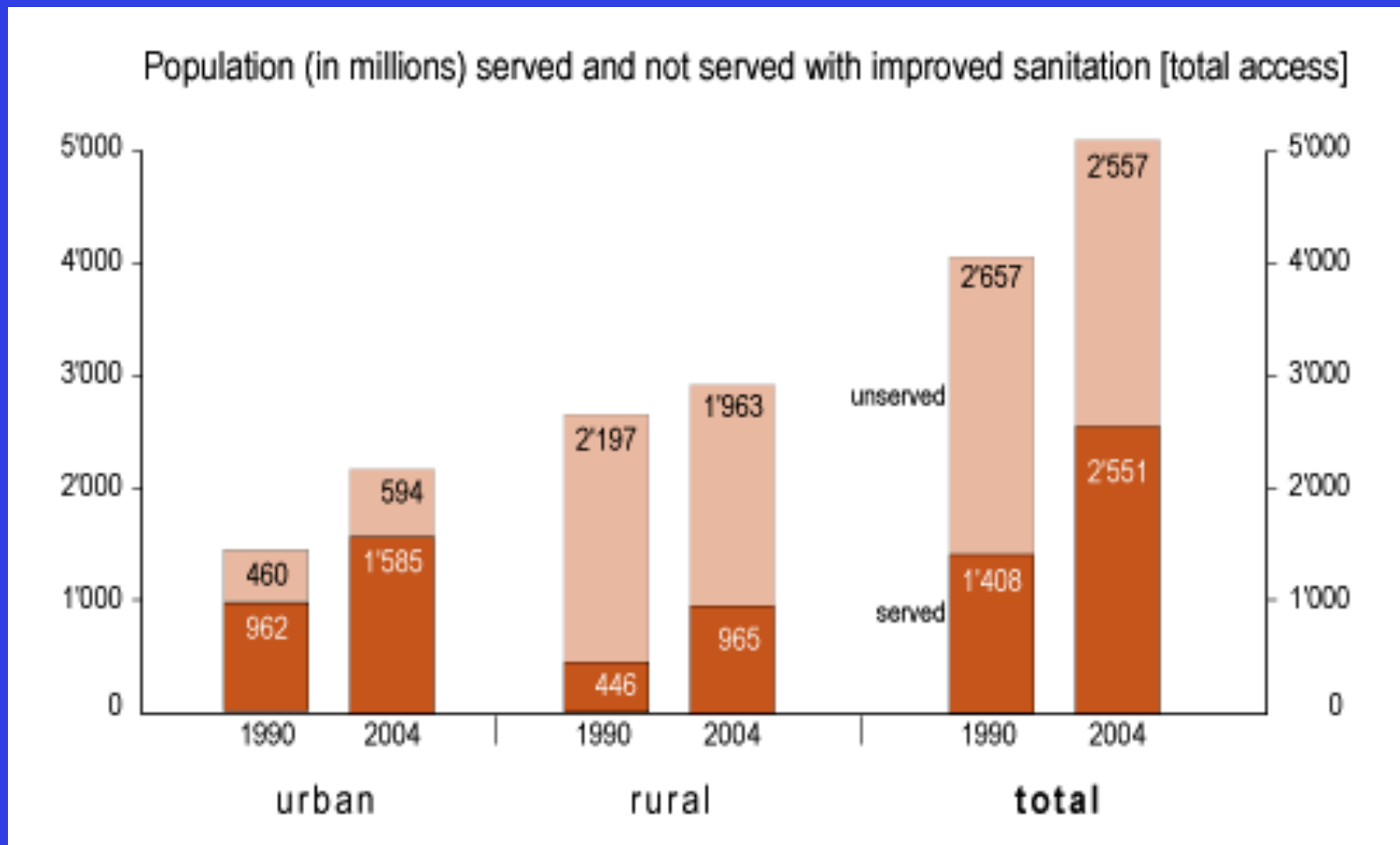
# Population of Developed Regions

## *Served and Unserved by Sanitation - 1990 & 2004*

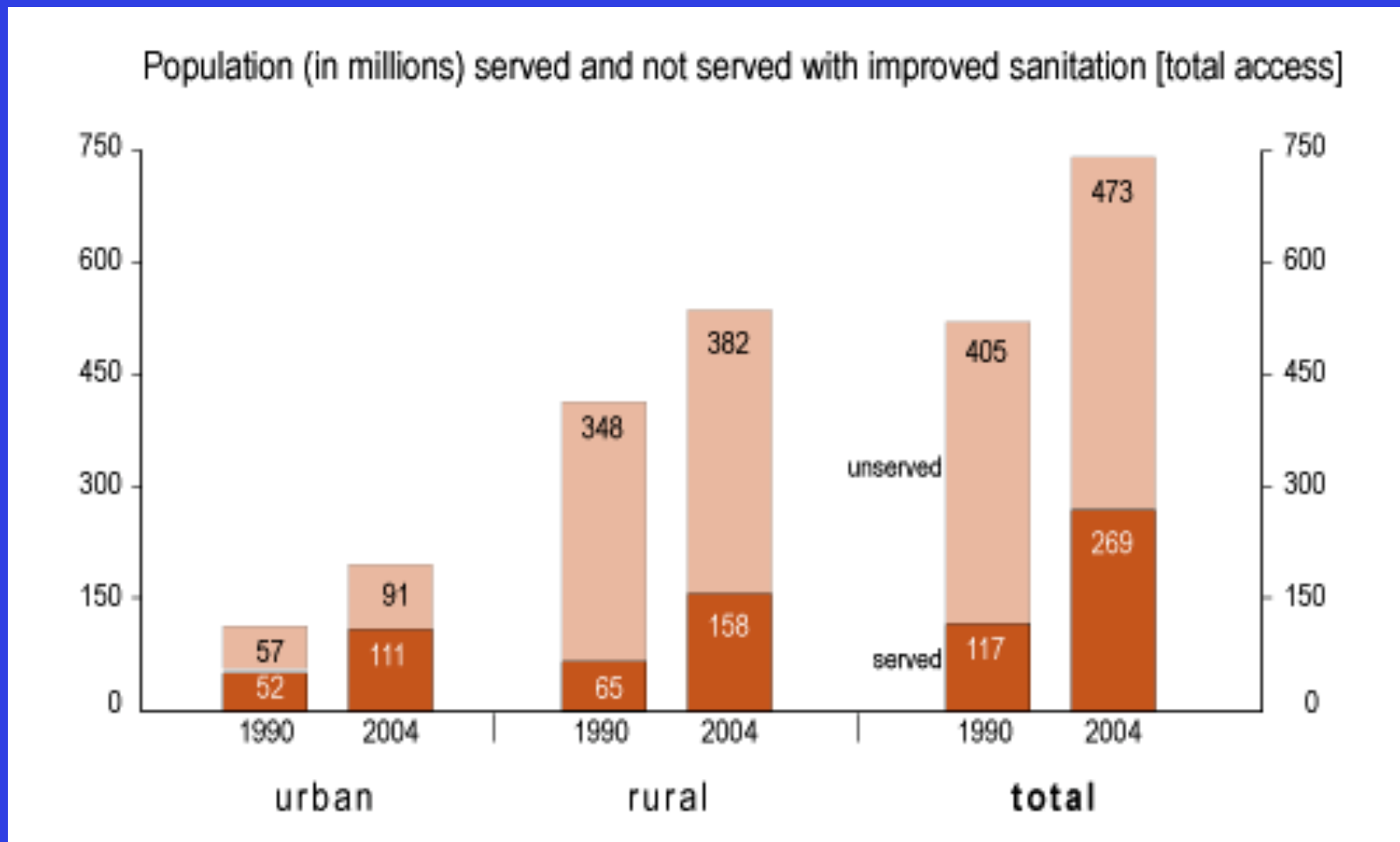


# Population of Developing Countries

## *Served and Unserved by Sanitation - 1990 & 2004*

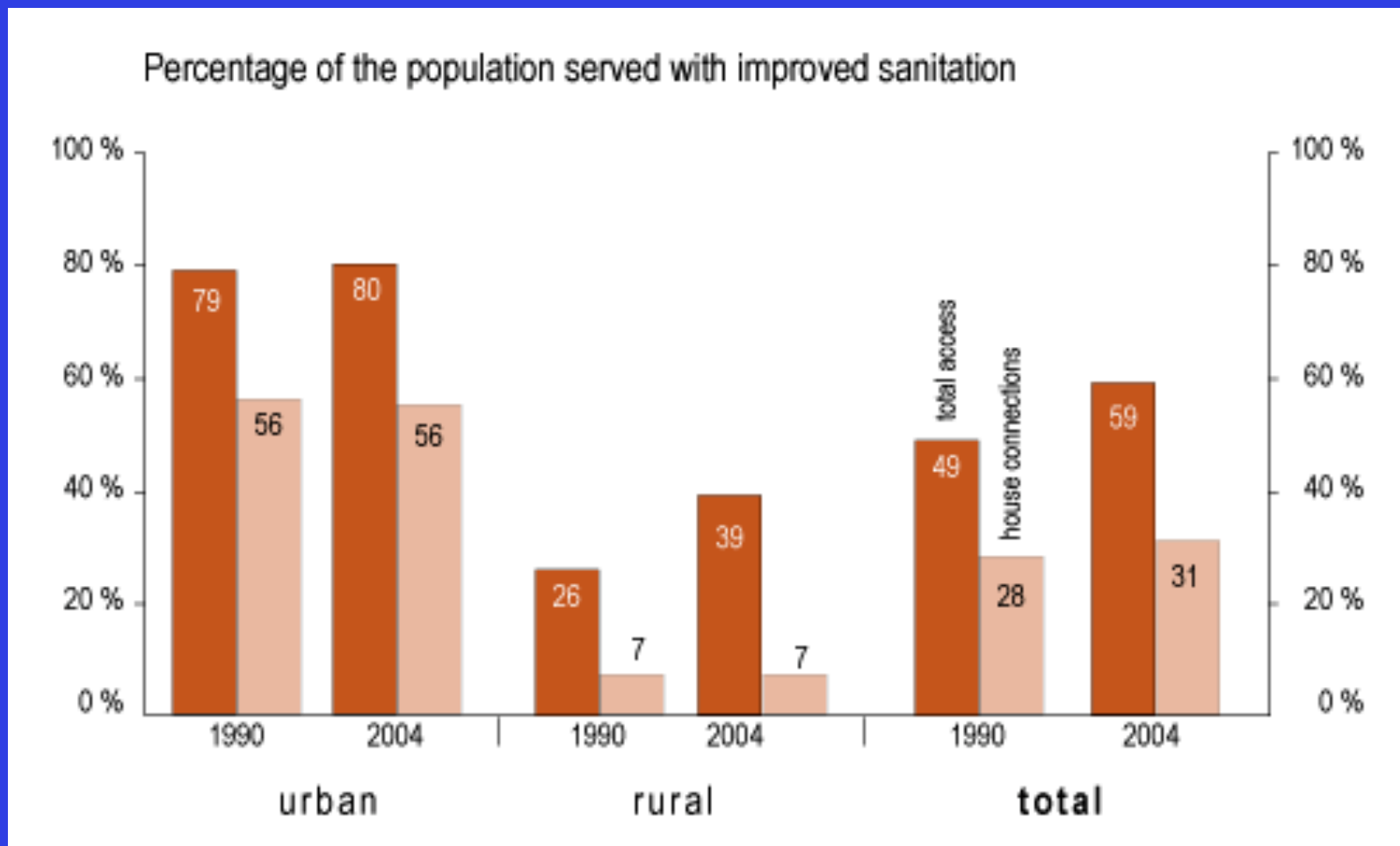


# Population of Least Developed Countries *Served and Unserved by Sanitation - 1990 & 2004*



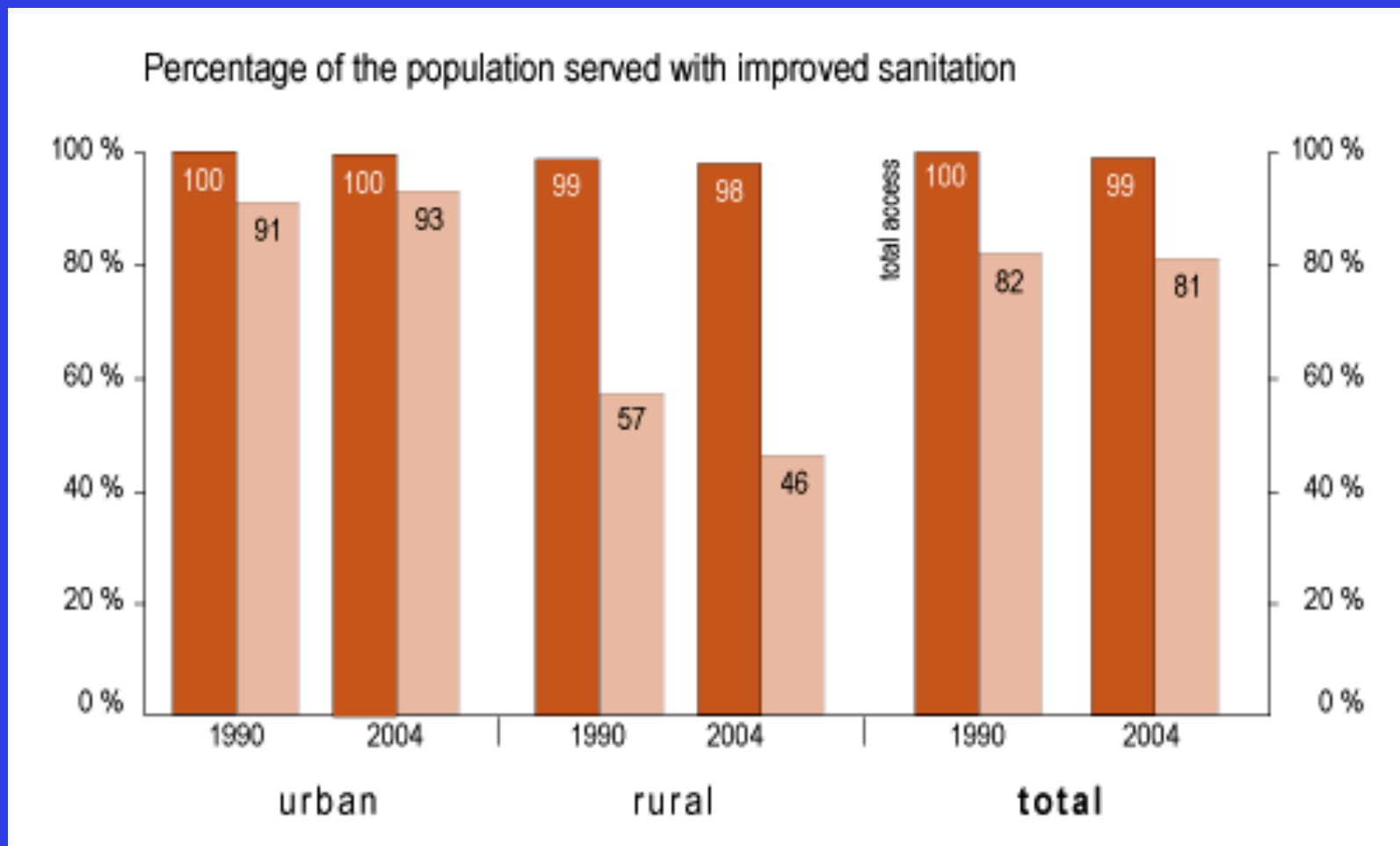
# Global Population Percentages

## *Sanitation - total access & house connections - 1990 & 2004*



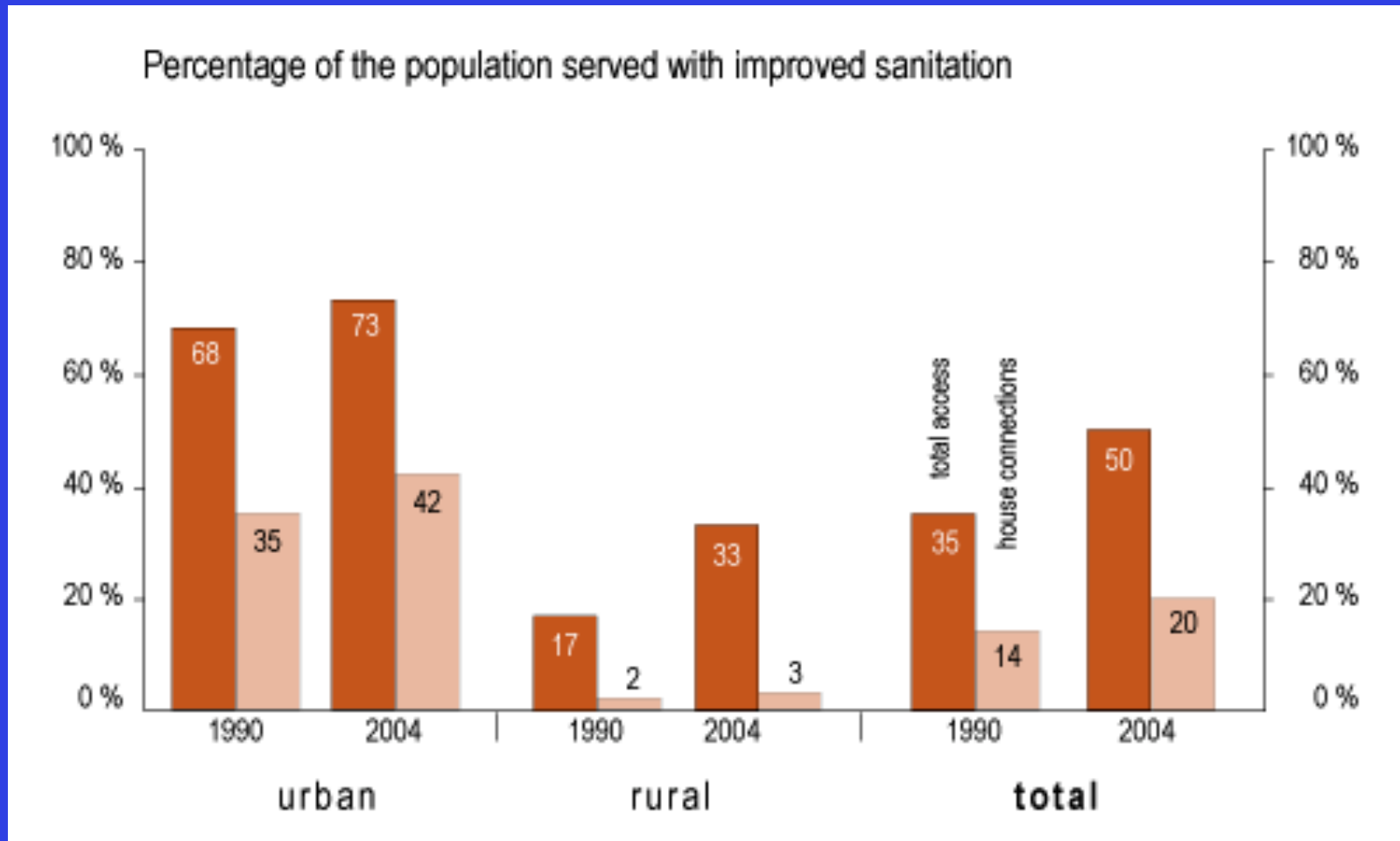
# Population Percentages of Developed Regions

## *Sanitation - total access & house connections - 1990 & 2004*



# Population Percentages of Developing Countries

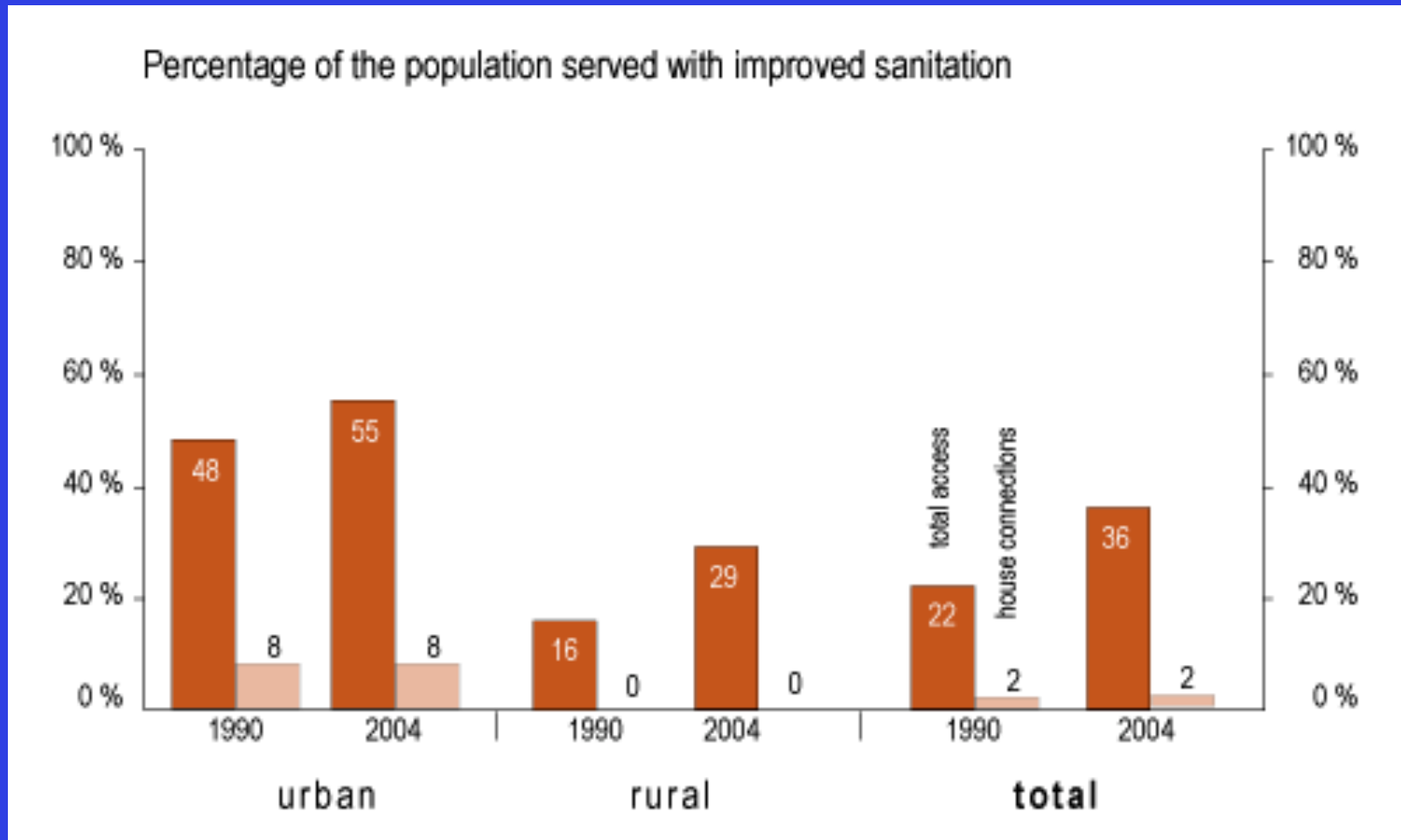
## *Sanitation - total access & house connections - 1990 & 2004*





# Population Percentages of Least-Developed Countries

## *Sanitation - total access & house connections - 1990 & 2004*



# Major poll conducted earlier this year:

## BRITISH MEDICAL JOURNAL

### Medical Milestones

From 5-14 January 2007 we conducted an online poll to decide the most important medical advance since 1840. From a list initially suggested by our readers, an expert panel chose the top 15, which formed the basis for the vote. We also published a supplement, where champions argued the merits of each individual advance.

**Sanitation** emerged as the winner.

<u>Results of poll</u>	Number	Proportion (%)
<b>Sanitation (clean water and sewage disposal)</b>	<b>1795</b>	<b>15.8</b>
Antibiotics	1642	14.5
Anaesthesia	1574	13.9
Vaccines	1337	11.8
Discovery of DNA structure	1000	8.8
Germ theory	843	7.4
Oral contraceptive pill	842	7.4
Evidence-based medicine	636	5.6
Medical imaging (x-rays, etc.)	471	4.2
Computers	405	3.6
Oral rehydration therapy	308	2.7
Risks of smoking	183	1.6
Immunology	182	1.6
Chlorpromazine	73	0.6
Tissue culture	50	0.4
Total Respondents	11341	100

# Diseases associated with lack of sanitation

*[Source: Hunt C. (2001) "How Safe is Safe? A Concise Review of the Health Impacts of Water Supply, Sanitation and Hygiene - A WELL study under Task 509 - Loughboro University]*

- Fecal-oral diseases (primarily diarrhoea)
- Soil-transmitted helminths (hookworm, roundworm, whipworm)
- Beef and pork tapeworms
- Water-based helminths (schistosomiasis, bilharzia)
- Excreta-related insect vectors (trachoma, filariasis)

# Some Effects of these diseases:

- Fecal-oral diseases (primarily diarrhoea) - **death to children, dehydration, depletion of electrolytes, lowering of disease resistance, gastric distress, contagion**
- Soil-transmitted helminths (hookworm, roundworm, whipworm) - **anemia, intestinal blockage, stomach pain, rectal prolapse**
- Beef and pork tapeworms - **weight loss, stomach pain, weakness, nausea, organ and tissue damage**
- Water-based helminths (schistosomiasis, bilharzia) - **rash, muscle ache, organ damage, even seizures and paralysis**
- Excreta-related insect vectors (trachoma, filariasis) - **visual irritations, blindness, extreme fluid build-up, thickening of the skin**

# What is basic sanitation?

Is it referring to Improved or Unimproved Sanitation facilities? *What are these:*

## UNIMPROVED SANIT.

Flush or pour flush to  
elsewhere  
Pit latrine without slab  
or open pit  
Bucket  
Hanging toilet or latrine  
No facilities: bush or  
field

## IMPROVED SANIT.

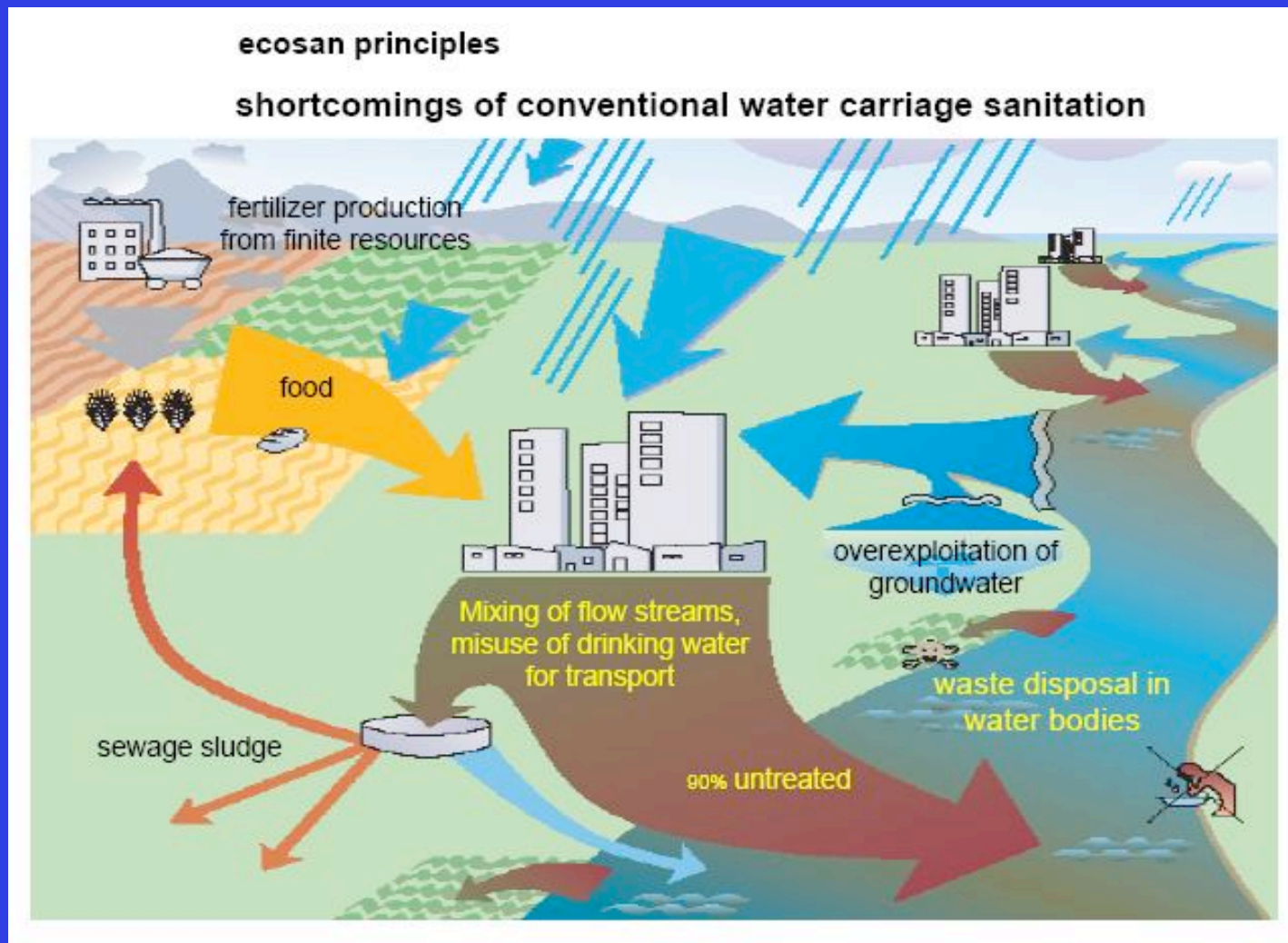
Flush or pour-flush to:

- piped sewer system
- septic tank
- pit latrine

Ventilated improved pit  
latrine  
Pit latrine with slab  
Composting toilet

# CONVENTIONAL SANITATION

[Source: GTZ]

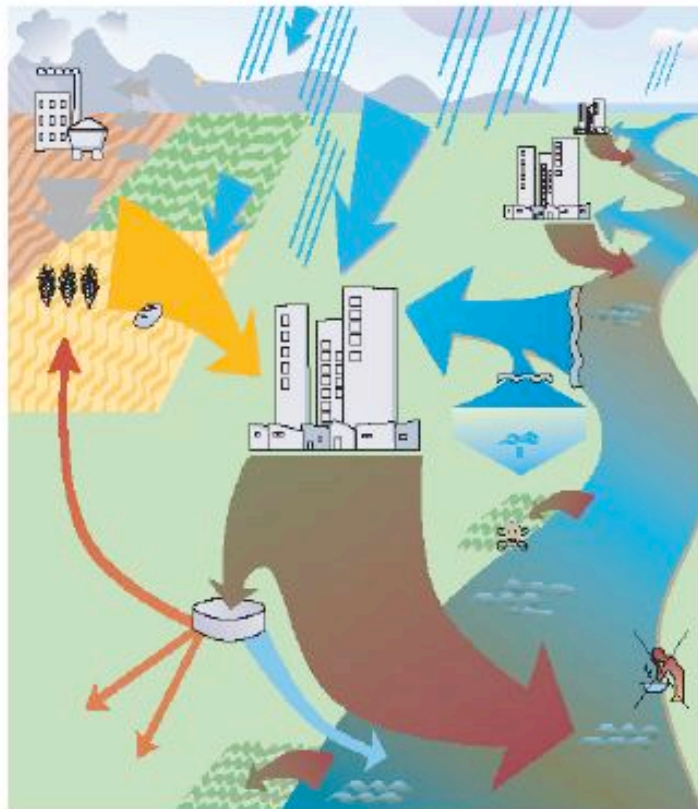


# Conventional Sanitation – explained

[Source: GTZ]

ecosan principles

shortcomings of conventional water carriage sanitation



Unsatisfactory purification or uncontrolled discharge of more than 90 % of wastewater worldwide

Severe water pollution, unbearable health risks

Consumption of precious water for transport of waste

High investment, energy, operating and maintenance costs

Frequent subsidization of prosperous areas and neglect of poorer settlements

Loss of valuable nutrients and trace elements contained in excrements due to discharge into waters

Problems with contaminated sewage sludge in combined, central systems

Linear end-of-pipe technology

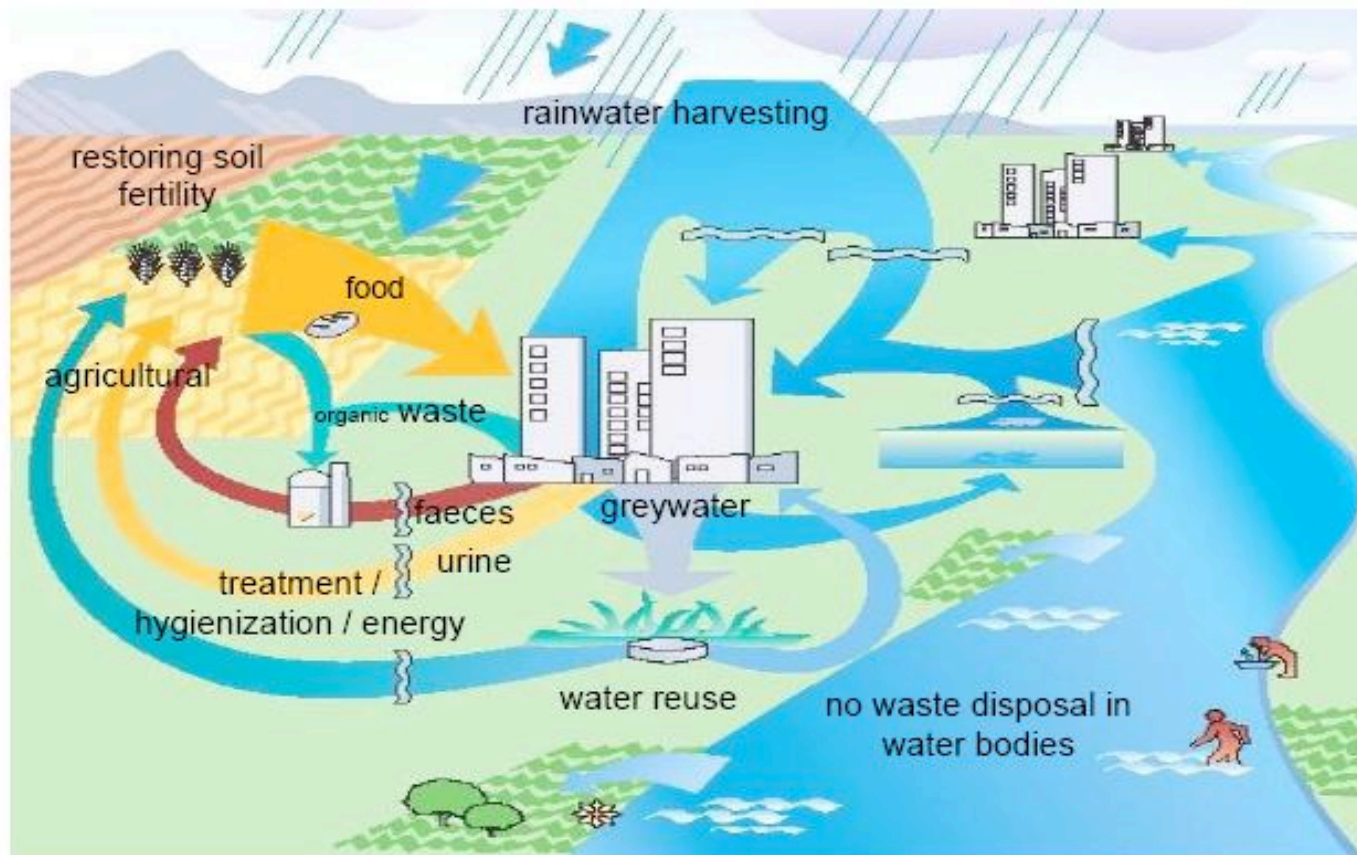


# ECOLOGICAL SANITATION

[Source: GTZ]

ecosan principles

closing the loop between sanitation and agriculture



# Ecological Sanitation – explained

[Source: GTZ]

ecosan principles

ecological sanitation - a new approach



Improvement of health by minimizing the introduction of pathogens from human excrements into the water cycle

Promotion of safe recovery and use of nutrients, organics, trace elements, water and energy

Preservation of soil fertility and improvement of agricultural productivity

Conservation of resources

Preference for modular, decentralised systems for more appropriate, cost-efficient solutions

Promotion of a holistic, interdisciplinary approach

Material flow cycle instead of disposal

# The Compendium of Actions [on safe drinking water and basic sanitation]

First issued in March 2006 at the World Water Forum IV in Mexico City, the Compendium calls for actions to achieve the 2015 Millennium Development Goals (MDGs) in water and sanitation. Especially in sanitation, the world is way behind schedule in obtaining coverage - the target is to reduce by half the proportion of people without basic sanitation - right now, 2 in 5 of the world's people lack adequate sanitation.

# FOCUS ON SANITATION

“SANITATION” is mentioned a total of 94 times in the Compendium document. It is mentioned in all but one of the document's nine sections. 34 or over 1/3 of these mentions may be found in Section 4, which is devoted exclusively to sanitation.

But, frequency must not be confused with effective commitment!

A majority of times in the Action Plan sanitation is mentioned as part of the familiar twosome of “water and sanitation” - which, for the almost the last 30 years has resulted in sanitation becoming, for the most part, an afterthought – hence, the poor stepchild relative to water.

# Why has sanitation remained a “poor stepchild” to water?

- 1) Not sexy or glamorous like water - the “stuff of life”.
- 2) Deals with bodily wastes which are smelly, full of pathogens, dirty, distasteful, and disgusting (think of the negative associations in many languages), and cultural taboos.
- 3) Ignorance on the part of those for whom sanitation problems were solved years ago.

## ...“poor stepchild” to water? (continued)

- 4) Failure to understand life as part of an ecological process, rather than an end-state – of which waste generation and disposal are necessary parts. In other words, both sides of the pipe are important.
- 5) Failure to appreciate the seriousness for public health of insanitary conditions – and, that we are all part of the public...
- 6) Indifference about the “unwashed masses” who gather in urban and peri-urban settlements (or condoning or even favoring the natural reduction of the poor by disease due to lack of sanitation – a kind of Social Darwinism).

# First – who was Hashimoto?

Mr. Ryutaro Hashimoto was the first Chair of the United Nations Secretary General's Advisory Board on Water and Sanitation (UNSGAB), until his untimely death at the age of 68 in 2006. He had a long political career in Japan, serving as:

- ◆ Member of the Japanese Diet for 42 years
- ◆ Minister of four different government agencies for a total of six years
- ◆ Prime Minister of Japan from 1996-98.

The UNSGAB Compendium of Actions was renamed for Mr. Hashimoto after his death, in honor of his commitment to achieving its goals.

# The Hashimoto Action Plan

*Essentially, there are Two Objectives:*

- 1) a) Raise awareness about hygiene, household sanitation, and sewage arrangements
- b) Promote accelerated actions to achieve MDG target
- c) Develop and apply the capacity for regional campaigns to support financing, marketing, technology, and guidance to organizations
- 2) National governments to formulate sanitation plans and policies tailored to their economic, social, and environmental situations



# Objective 1 – Awareness, Action, and Capacity

- International Year of Sanitation (2008)
- Sanitation Prize
- Critically review MDG sanitation target database
- Responsibility for assistance at the regional level
  - Design a program
  - Workshop meetings to promote policy and organizational change
  - Global Sanitation Conference
  - Include more discussion of “ecosan”

## Objective 2 – National Policies and Plans

- Donors and national govts. to distinguish sanitation from water supply
- National govts. to evaluate plans and policies
- Donors to study policies and plans, including promotion of household micro-credit
- Donors to fund more capacity development
- UN agencies to support actions by households and local communities
- UN agencies to emphasize small-scale ecosan in regional workshops
- Academics and scientists to accelerate R&D and technological innovation for more efficient, environmentally friendly local adoption.

# Privatization:

- At the local neighborhood levels, the line between the public and private sector can get blurred, and may be less important since it is not accompanied by large economies of scale.
- Where it becomes more important is at the level of national and multinational business enterprises (large corporations). The great power of such enterprises makes it difficult for governments (even at the national level - much less provincial or local) to fix accountability and require openness and transparency.
- The issues are **quantity** and **quality** of service, and **affordability** of same by **all** members of the general public.

## Privatization (continued)

- Although privatization has preceded apace in water services, the costliness, maintenance demands, and pollution regulations appear to have slowed the rate of privatization of wastewater services.
- With water scarcities leading to new looks at ecological sanitation (Ecosan) and waterless toilets, the issue of large unit privatization may not be as great because the technology does not lend itself to such as readily as does the large centralized sewerage system.
- Nonetheless, it is likely that most large urban areas which are currently without full coverage for sanitation will choose to follow the large conventional centralized system model until such time as Ecosan develops better technology for large and dense urban settlements.

*Beyond Hashimoto and the Compendium -*  
*STRATEGIES TO ADVANCE SANITATION*

- 1) Sustained effort for a minimum of five years (instead of “the International Year of Sanitation”).**
- 2) Meetings each year to evaluate the sustained effort.**
- 3) An array of sanitation prizes and incentives, particularly for successful local efforts.**

## *SANITATION STRATEGIES (continued)*

- 4) **Commitment of all international, multilateral, and bilateral donors to give top priority to increased sanitation**
  
- 5) **No privatization without full accountability, openness, and transparency, with full and permanent regulatory and legal control of all contractors - and support for public facilities.**
  
- 6) **PUBLIC HEALTH must move to the forefront of these efforts.**

**Without finishing the unfinished business of sanitation for all, all the global efforts to improve the public's health and to reduce poverty will ultimately remain frustrated, and these problems will become intractable.**

**The decision was made at least 150 years ago to provide sanitation to all in those geographical areas now considered the developed regions. If it could be done for them, it can also be done for all others.**

**This is a matter primarily of political will. PUBLIC HEALTH has the means to help develop this political will. Will it become sufficiently motivated to use these means? Only time will tell...**

**\* \* \***