Sanitation Knowledge, ‘Adequate’ vs. ‘Improved’ and the Price of Failure

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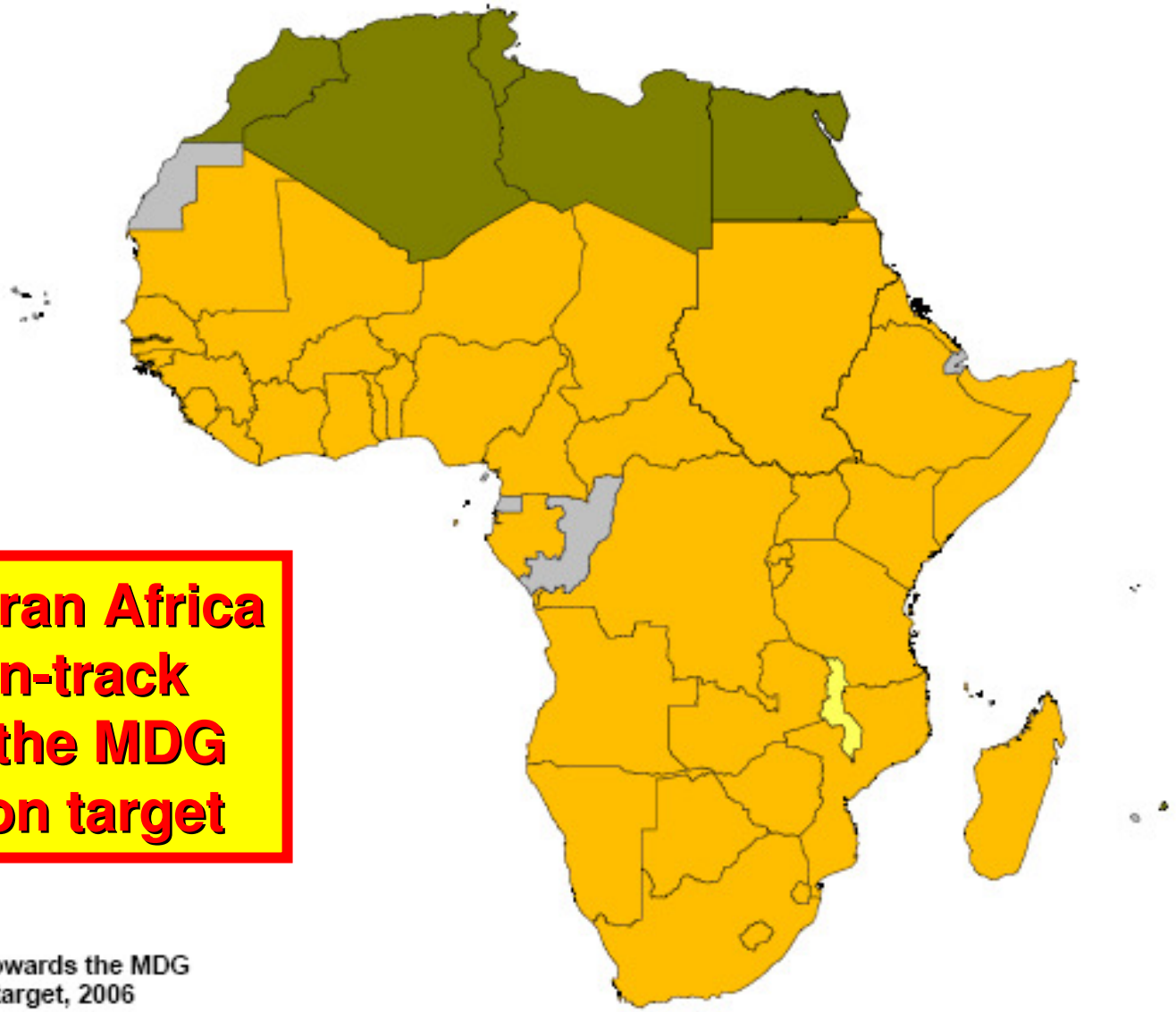


Sub-Saharan Africa is not on-track to meet the MDG Sanitation target

Progress towards the MDG Sanitation target, 2006

On track	Coverage in 2006 was less than 5 per cent below the rate it needed to be for the country to reach the MDG target, or coverage was higher than 95%
Progress but insufficient	Coverage in 2006 was 5 per cent to 10 per cent below the rate it needed to be for the country to reach the MDG target
Not on track	Coverage in 2006 was more than 10 per cent below the rate it needed to be for the country to reach the MDG target, or the 1990 - 2006 trend shows unchanged or decreasing coverage
Insufficient or no data	Data were unavailable or insufficient to estimate trends

MDG Sanitation costs

Much higher than earlier calculated!

Now estimated as:

US$ 14.2 billion per year during 2005–2014 to meet MDG target,

plus US$ 21.6 billion per year during 2005–2014 to maintain existing infra-structure

Source: *Bull. WHO*, January 2008

Benefit-cost ratios for sanitation and water supply investments in selected African countries to meet the MDG WatSan targets

Country	Benefit-cost ratio for improved sanitation	Benefit-cost ratio for improved water supplies
	5.7	3.7
	8.3	5.2
Almost all >>1	1.6	1.1
	7.4	4.7
and	5.5	3.5
	3.6	2.6
all >B-C ratio for water	4.2	2.9
	4.7	3.1
	4.8	2.9

Source: Hutton et al. (2006)

Available sanitation systems

High-density urban:

- Simplified sewerage
- Low-cost combined sewerage
- Community-managed sanitation blocks

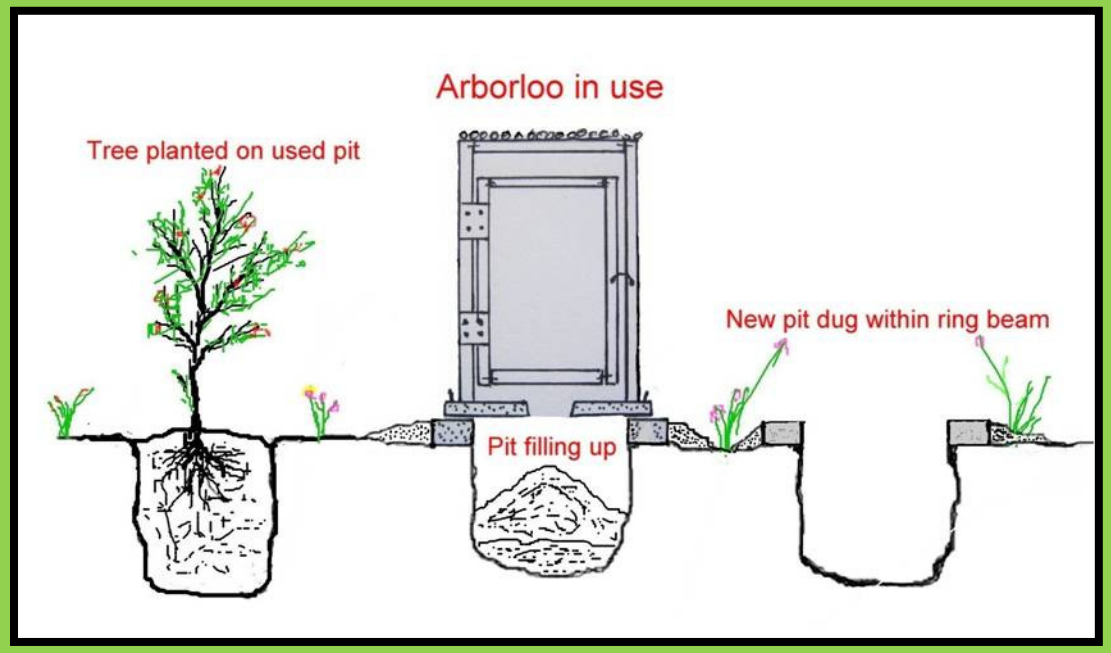
Rural and medium-density urban:

- VIP latrines (single pit & alternating twin pits)
- UD-VIV latrines (“eThekwini” latrines)
- PF toilets (single pit & alternating twin pits)
- Arborloos [simplest rural EcoSan]
- Biogas toilets

In countries with a very low rural sanitation coverage a good system is ...

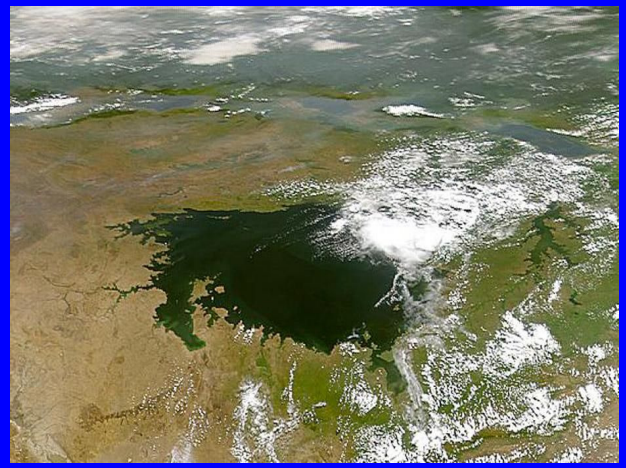
Arborloo

- The simplest form of EcoSan
- Short-life shallow pit latrine. Soil, ash or leaves added after each use.
- When full place soil on top and plant a young tree (a fruit tree or a medicinal tree)



‘Improved’ or ‘Adequate’?

The UN-HABITAT Lake Victoria Water and Sanitation Initiative



‘Adequate’ vs. ‘Improved’ Water Supplies

Case study:

Five secondary urban centres in Western Kenya

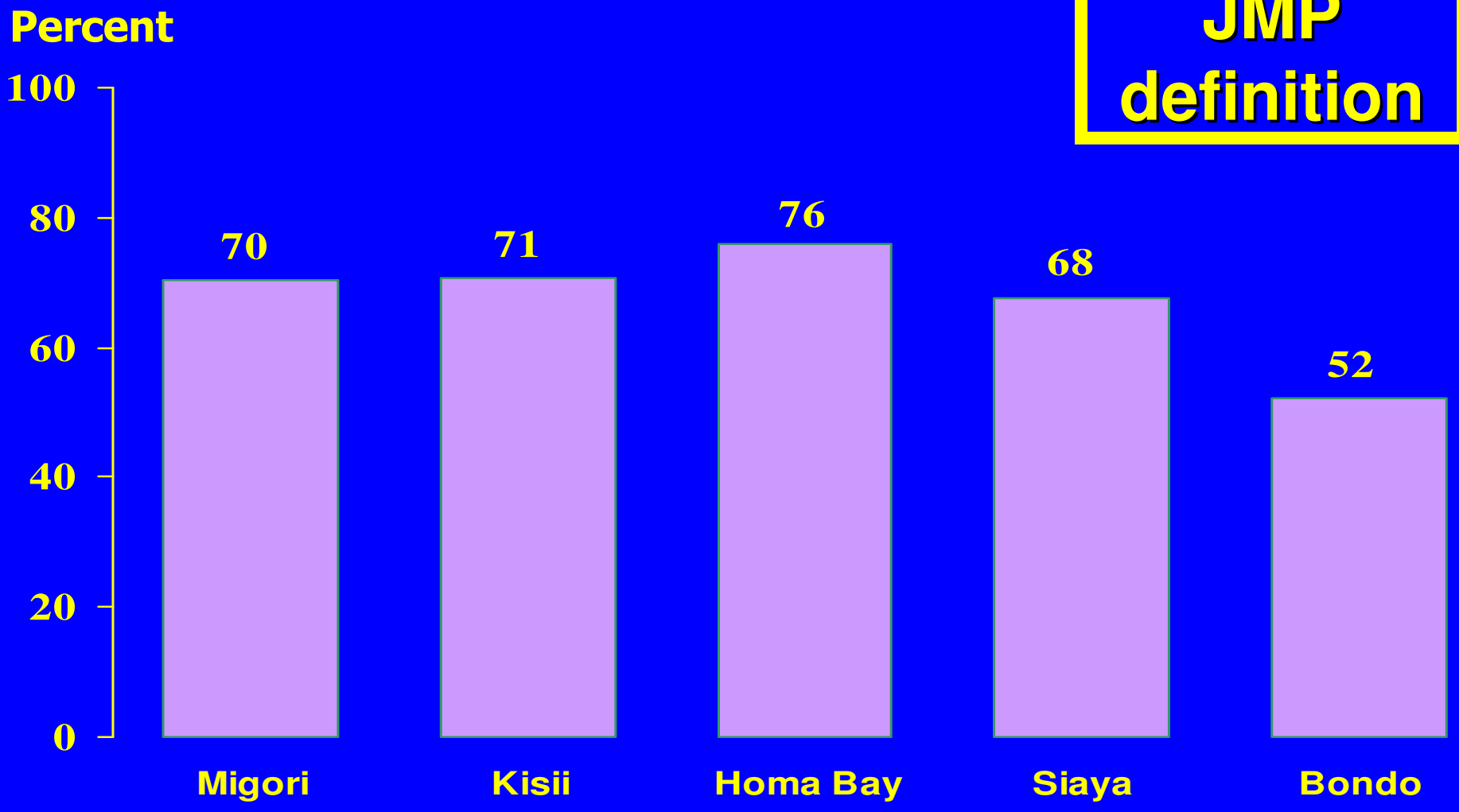
Total Population of Selected Secondary Urban Centres, Kenya, 2006

Town	Total Population
Migori Municipality	56,700
Kisii Municipality	88,400
Homa Bay Municipality	59,528
Siaya Municipality	49,343
Bondo Township	36,229

Estimated from the Kenya Population and Housing Census, 1999

Access to improved water supplies in 2006

JMP definition



JMP: 'improved' and 'not improved' water supplies

Improved:

- household connection
- public standpipe
- borehole
- protected dug well
- protected spring
- rainwater collection

Not improved:

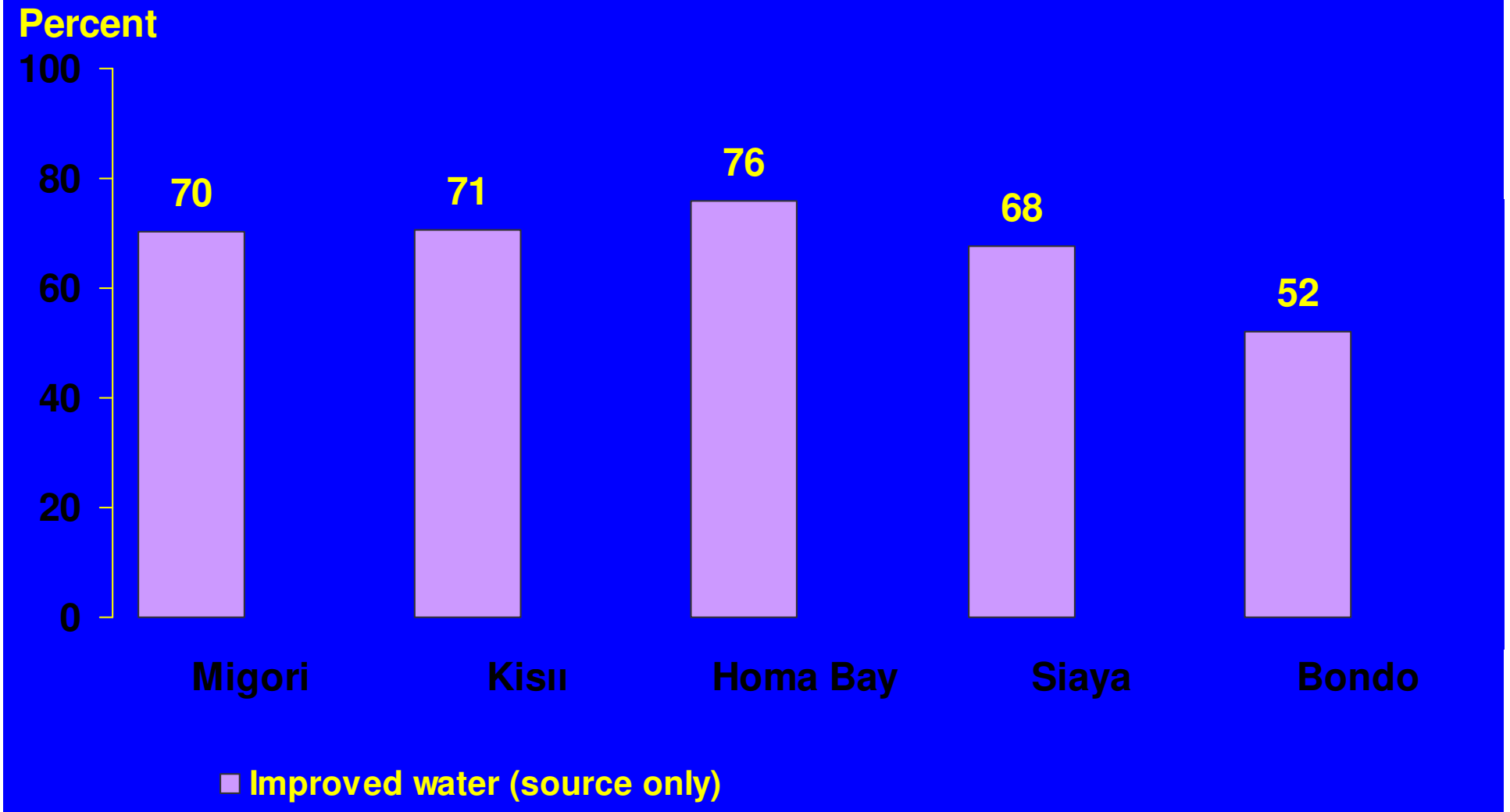
- surface water
- unprotected well
- unprotected spring
- vendor-provided water
- bottled water
- tanker-truck water

No consideration of quality, quantity, cost or burden of collection

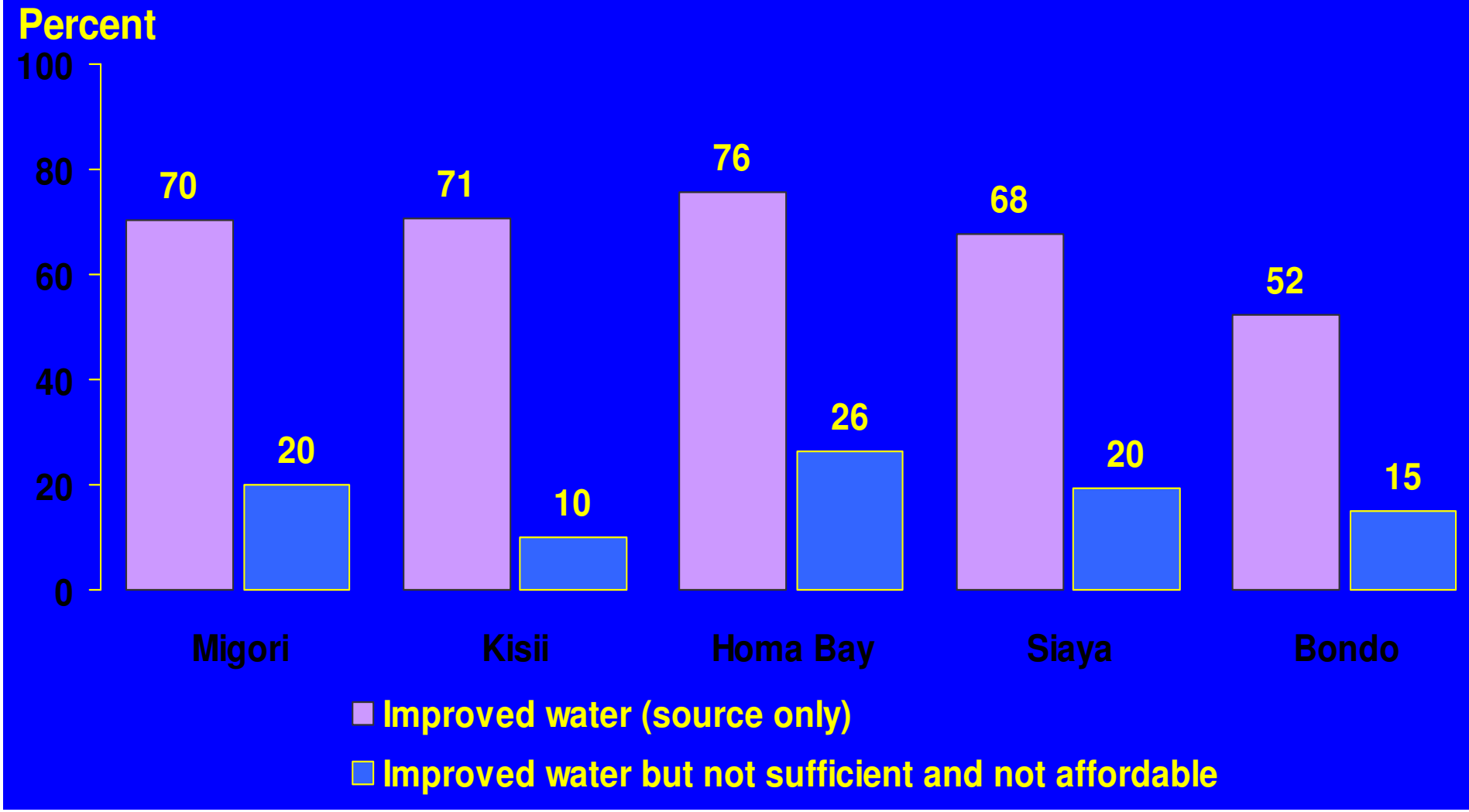
For ‘adequate’ water supplies:

- **Quantity:** not less than 20 litres per person per day
- **Cost:** not more than 10% of household income
- **Burden of collection:** not more than 1 hour per day

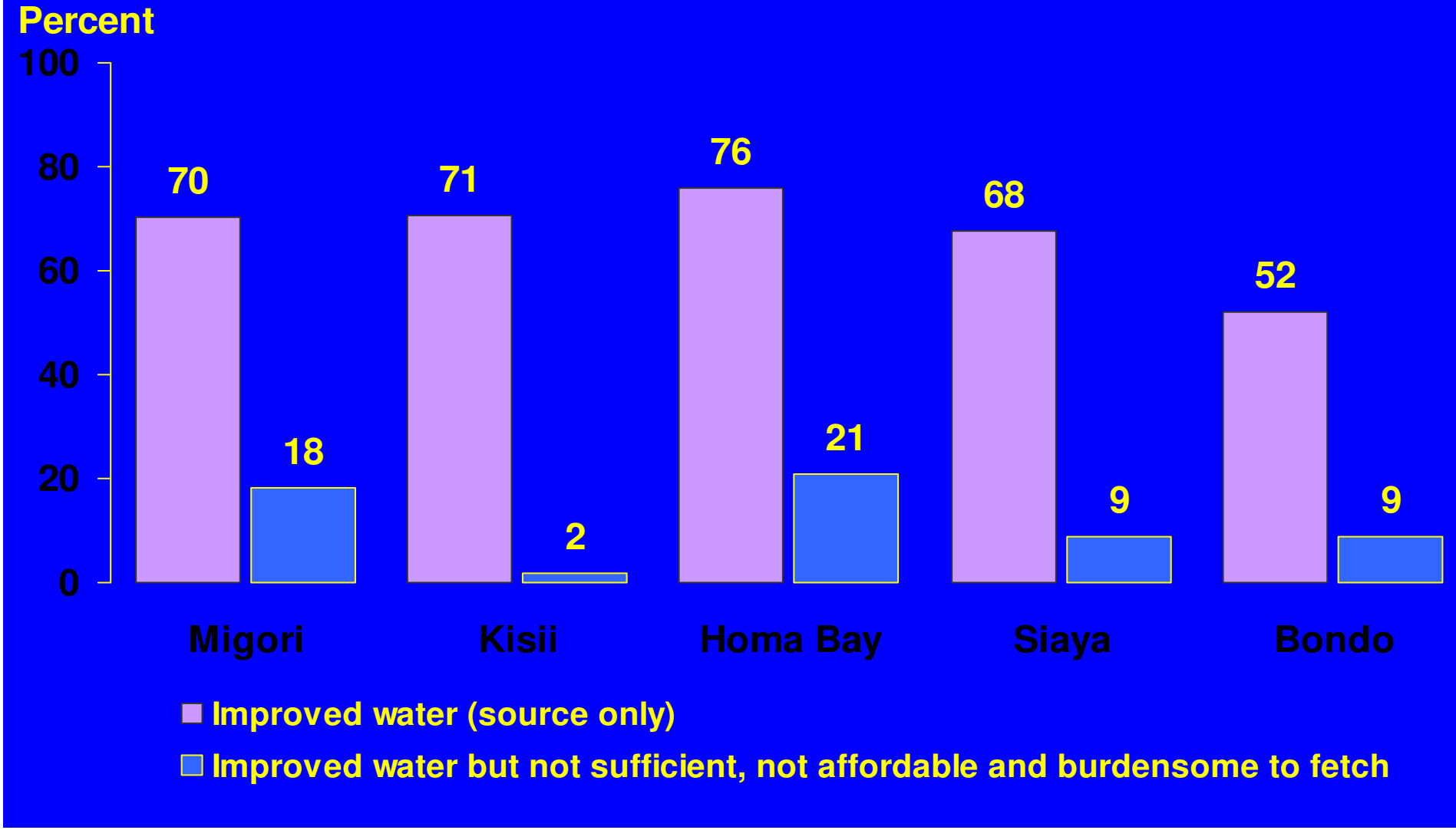
Access to improved water decreases when quantity is considered



Access to improved water decreases dramatically when quantity and cost are considered



Access to improved water decreases much further when quantity, cost, and the burden of fetching water are considered



CONCLUSION

‘Improved’
is a long way from
‘Adequate’

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DESIGN KNOWLEDGE NEEDED!

KNOWLEDGE

How can we get the knowledge to design all these sanitation systems to those who need it – engineers in central and especially local government?

This is the challenge we face now and probably for the next 10 years (at least)

KNOWLEDGE

We can plan well, take gender into account, talk to all the stakeholders, arrange microfinance, etc., etc.

But if we don't know how to make a sensible sanitation technology choice, or how to design the chosen system properly, then all is wasted – time, money and, worst of all, the poor remain unserved or badly served.

“If you think education is expensive, try ignorance”

Professor Derek Bok, Harvard

We’ve tried ignorance for a few decades, it’s now time for education and training

KNOWLEDGE TRANSFER NEEDED NOW!

IF WE FAIL:

We are effectively choosing to allow poor people to continue to die – to "defecate themselves to death" – and in increasingly large numbers.

SHOULDN'T WE BE TRYING TO AVOID THIS?