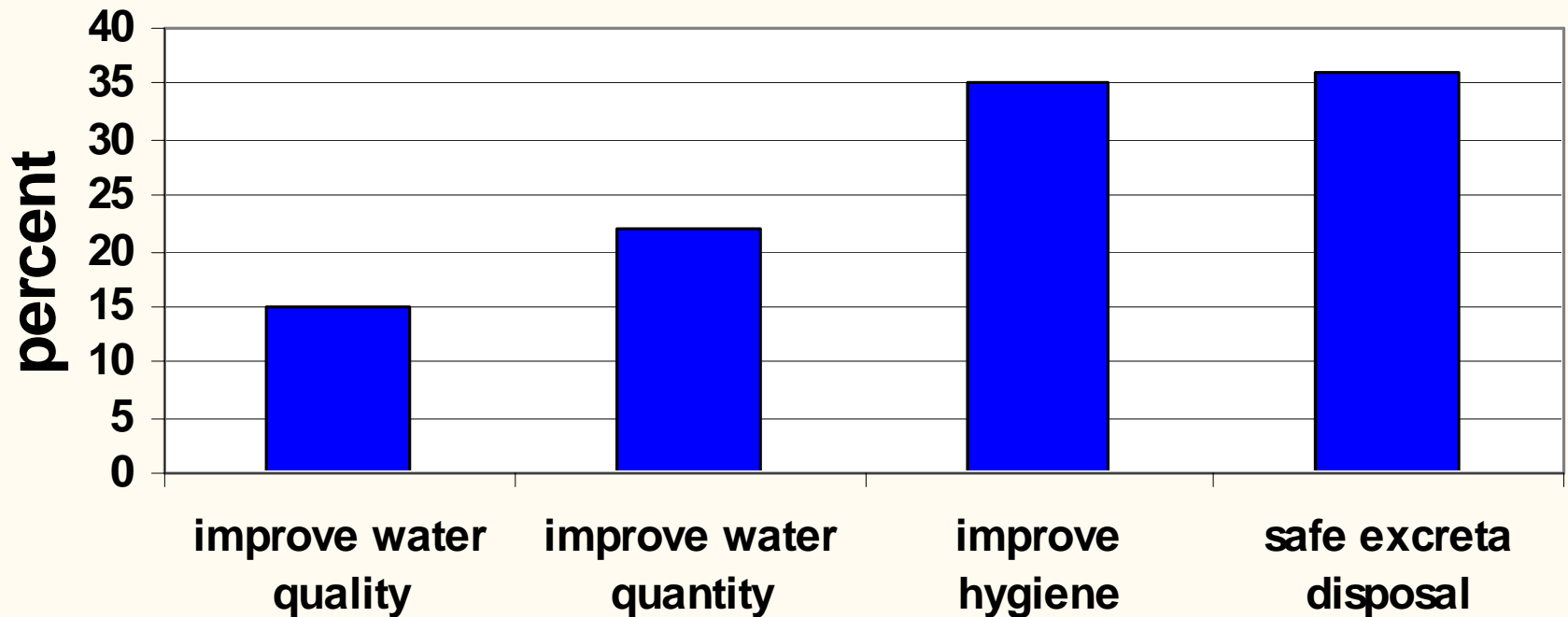


Global experience in sanitation & hygiene promotion

Some highlights

Results of research from 144 studies show the following

% reduction in diarrhoea by intervention



Impact of hygiene promotion

Impact of water supply, sanitation and hygiene promotion:

Intervention	Reduction in diarrhoea (%)	Source of information
Water supply		
- public source	17	Esrey et al (1985 and 1991)
- additional, for house connection	63	Esrey et al (1985 and 1991)
Excreta disposal	36	Esrey et al (1985 and 1991)
Hygiene promotion	48	Literature review on hand washing by Curtis & Cairncross (2003)

Source: Cairncross 2004

Impact of hygiene promotion on diarrhoea

Cost-effectiveness of four water and sanitation intervention scenarios.

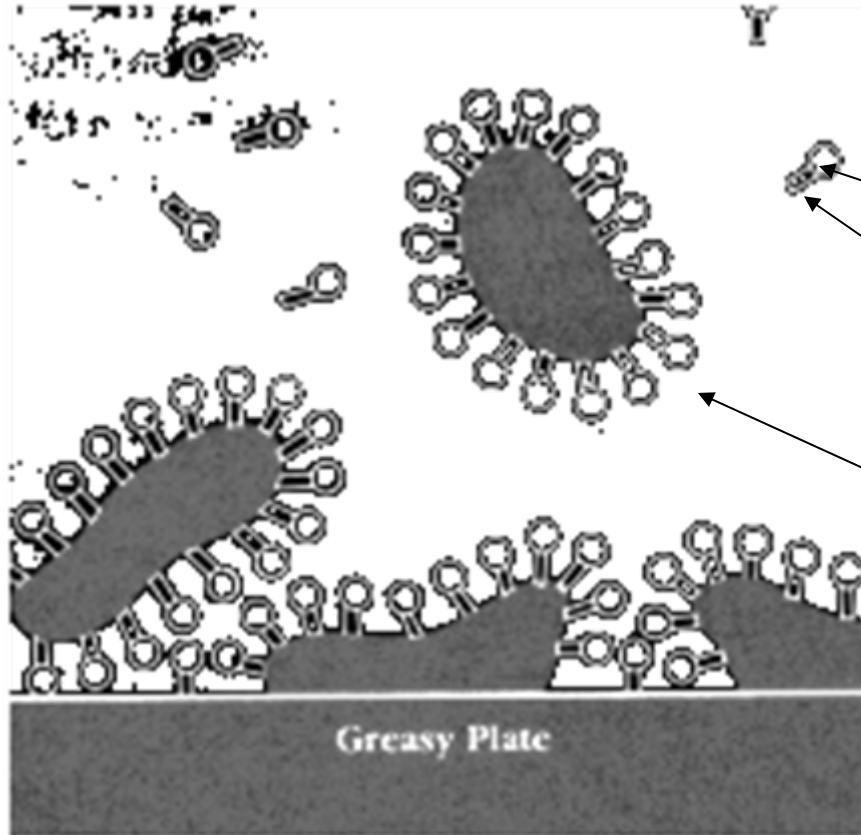
Scenario	Effectiveness (% reduction in diarrhoea cases)	Cost per case averted (in US\$)	Cost per death averted (in US\$)	Cost per DALY averted (in US\$)
Hygiene promotion added to hardware	20%	2,93 US\$	689 US\$	20 US\$
Hygiene promotion and hardware both provided	30%	60,58 US\$	14 253 US\$	413 US\$
Only hardware provided	10%	168,81 US\$	39 720 US\$	1152 US\$
Only hygiene promotion provided	10%		1520 US\$	44 US\$

Source: Varley 1998



Handwashing

How does soap work?



Soap molecule
water-“loving” end
water-“hating” end

Grease and dirt being carried away by soap molecules

Soap, ash... with friction!

handwashing

Impact of handwashing

Location	% reduction in diarrhoea	Reference
Burma	30%	Han & Hlaing
USA	48%	Black et al.
Bangladesh (urban)	35%*	Khan

* Impact on shigellosis. S. Huttley, 1992

Impact of handwashing

OPERATION 'STOP COUGH'

Navy recruits who 45 percent fewer bouts of respiratory illnesses after being ordered to wash their hands frequently.

Margaret A.K. Ryan, *Journal of Preventive Medicine*. 2001

Naval Health Research Center in San Diego

Consistent use of toilets



Safe excreta disposal is important

One gram of excreta can contain:

10,000,000 viruses

1,000,000 bacteria

1,000 parasite cysts

100 parasite eggs



Water

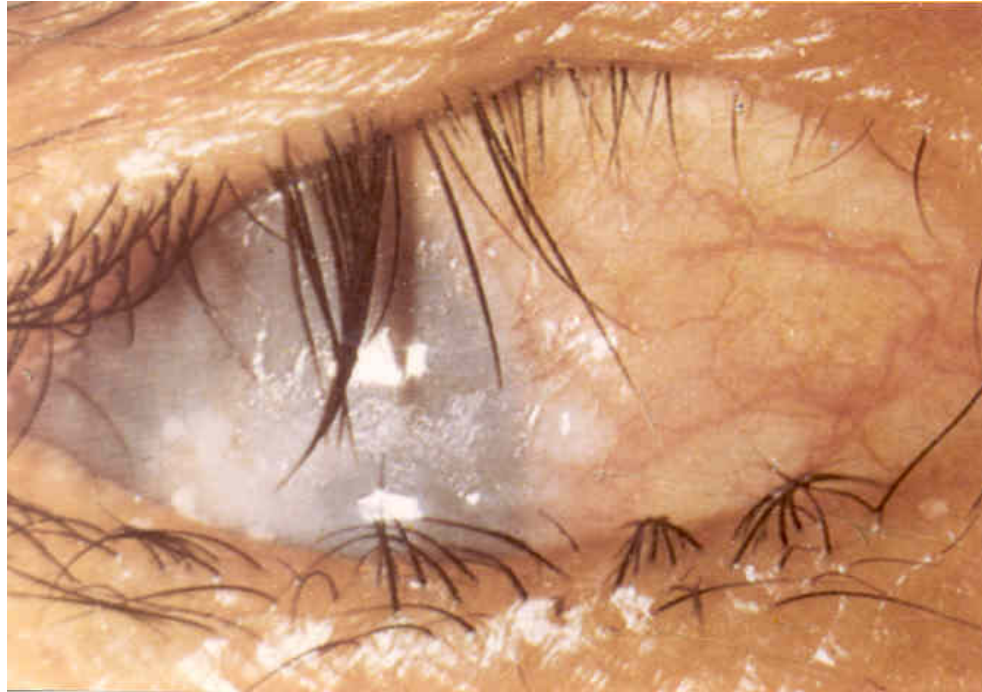
Availability

Safe storage and handling

Drainage and maintenance

Are hygiene behaviours only about
diarrhoea?

6 million people become blind each year in the world



A large proportion could have been averted by consistent face washing



Worms, Parasites

Worm infections in India

Estimate of infection with intestinal worms in India (data from 1990)

Worm	Number of people infected (crores)	% of the population infected
Round worm (Ascaris)	19.8	23%
Whip worm (Trichuris)	13.7	16%
Hookworm	31.9	38%

Adapted from M.S. Chan et al . (1994)

Deworming with improved hygiene behaviours improves

- Growth**
- Nutritional Status**
- Ability to learn**

The good news

New behaviours are sustained

Longitudinal research in Kerala (2000-2003) showed that

- handwashing behaviours were sustained as long as 9 years ***after*** an intense interventions, that included personal contacts through hygiene classes,
- interventions need to be aimed at ***both men and women.***

Key hygiene behaviours

<i>Part of the body</i>	<i>What to do</i>	<i>Likely problems if not done</i>
<i>Hands</i>	Washing both hands, rubbing with plenty of water and soap or ash after using toilet and before/after eating	Dysentery, diarrhoea, Some worms, cholera, colds
<i>Head</i>	Washing face with plenty of water/ soap Cleaning teeth after meals Bathing	Eye disease, tooth decay, lice
<i>Body</i>	Bathing regularly Washing clothes	Lice, scabies, ring worm
	Use toilet and urinals	Dysentery, diarrhoea, some worms, cholera
<i>Feet</i>	Wear chappels or shoes	Some worms
<i>Mouth</i>	Drink safe water. Safe water storage and transport. Safe food hygiene. Washing, hand with clean hands and utensils, safe storage.	Dysentery, diarrhoea, some worms, cholera

Malaria?

இது போன்ற கழற்சி
 இது போன்ற கழற்சி
 மூலமாக மலத்தின்
 கிருமிகளும் பூஞ்சைகளும்
 மல நுண்ணிழைப்புகளும்
 இழக்கின்றன.

மலம்-வாய் வழி மூலம் நோய் பரவும் விதம்.



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 இழக்கின்றன.

What we have learnt about the Environmental Sanitation based on past trends

These issues can be defined into four variables which include:

- Time frame
- Demand
- Technology selection
- Cost

Time frame

- The timeline for sanitation efforts can be rather long with physical and financial implementation developing somewhat slowly.
- Specifically, a **long time may be needed to stimulate demand** and organize inputs before mass construction takes place.
- **Donors (national or external) should be committed to support programmes consistently.** Simple three or four-year project cycles are probably not sufficient to succeed with sanitation except on a small scale.
- Short project cycles without **strong institutional anchors** are probably also insufficient to create conditions for sustained behavioural change needed to ensure health benefits.

Demand

- There are examples of successful sanitation programmes that concentrated on so-called software such as leaving construction activities totally in the hands of the private sector.
- However, there are more examples of unsuccessful programmes that have only concentrated on construction. The key is that ***sanitation is, to a large extent, a social phenomenon, rather than a technical one*** (Wegelin, 2000).
- Demand, and its cognates—mobilisation, marketing, education and participation—therefore appear to be crucial issues

Technology

- There are many technologies for low-cost sanitation such as the simple pit latrines, sanplat with pit, Ventilated Improved Pits (VIP), double-pit, pour-flush, composting latrine, small bore systems, ecological toilets, mechanical flush and septic tanks).
- In general, however, **current so-called low-cost technologies appear to be too costly for poor households** (*Year 2000 Global Assessment: WHO and UNICEF Joint Water supply and sanitation monitoring programme*).

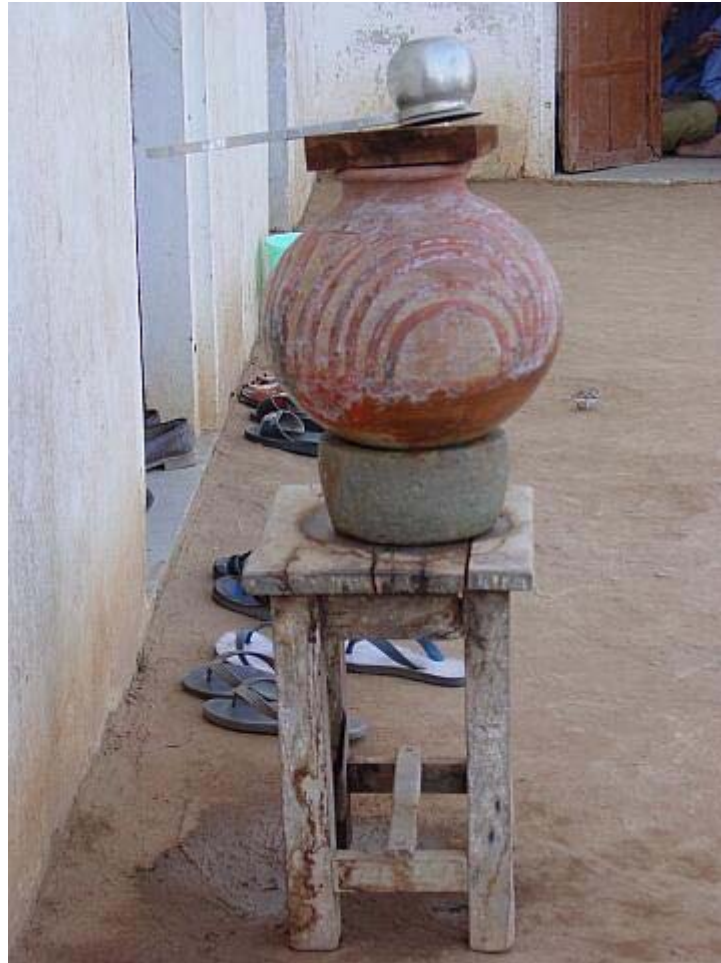
- **Level of latrine technology is far behind low-cost water supply facilities option**
- **There is no truly low-cost sanitation technology that operates throughout the year in high water table areas.** This affects coastal populations including those in dense urban population located in coastal cities around the world;
- Where population density is high, **on-site solutions** such as mechanical pit emptying and small bore systems need **further refining and dissemination** as they do not work optimally;
- Studies on **leaching and cross pollution from latrine pit to drinking water source** need to be collected, validated and **identified gaps** need to be filled; and
- **Consistent programme strategies** should be applied that enable users, and those who pay for the facilities to make at least part of the technology selection.

Costs

- **Cost control, subsidies and incentives** are three important financial aspects of sanitation programmes.
- **Cost control relates to the provision of adequate product at the lowest price.** This is particularly important where the public pays all or a percentage of the costs

Few photos.....





















Conclusion

- Successful sanitation and hygiene programmes balance hardware (construction) with software (hygiene promotion)

(Refer to article if you have time.....)