

Evidence Aid Symposium

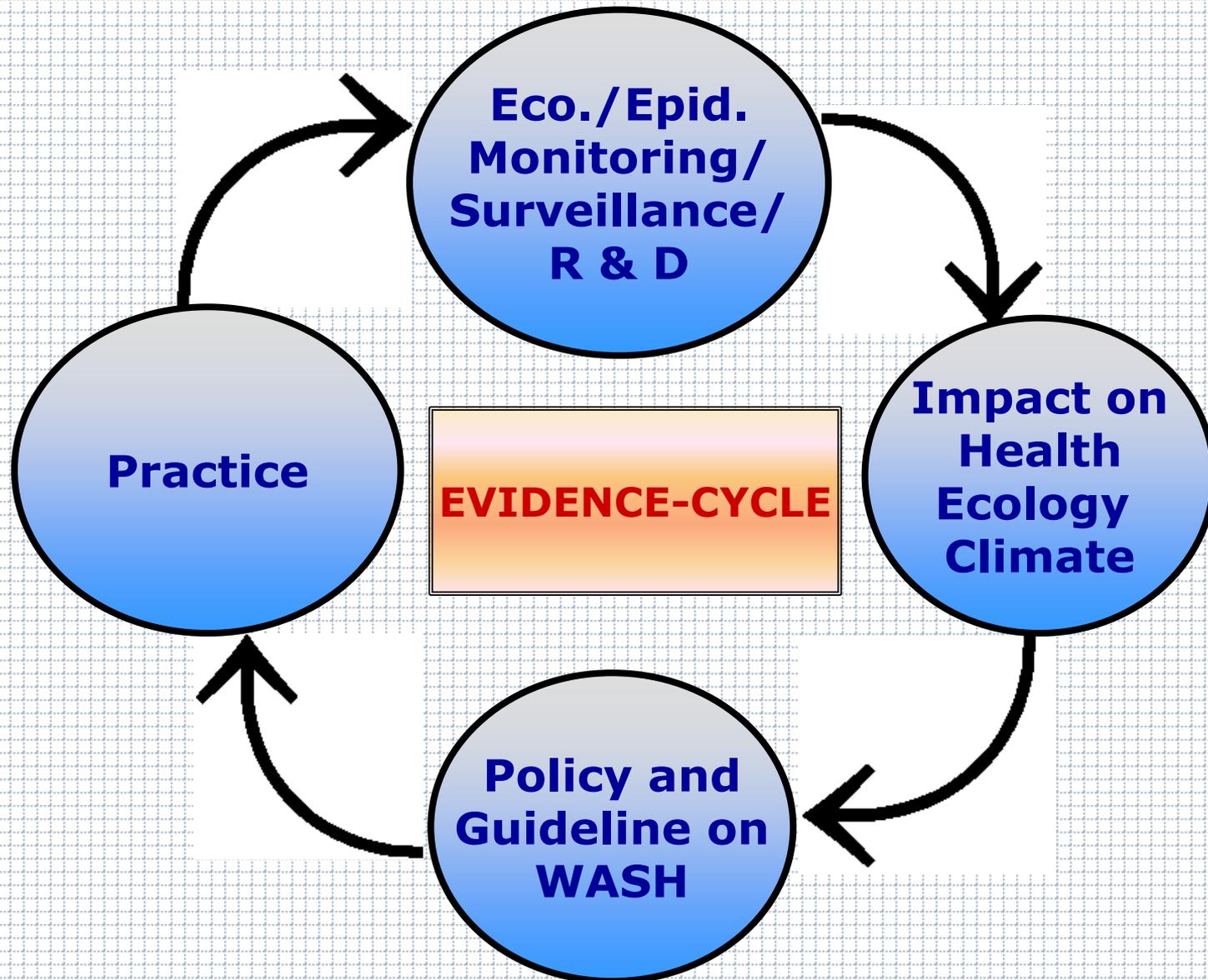
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Framing WASH Policies and Guidelines and Practicing the same: An Evidence Based Approach

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Evidence helps informed option for WASH that improve Public Health



WASH IMPACTS

Improvement/Decline in WASH Facilities Impacts Health, Social and Ecological issues, Overall Economy and Well Being of The Community. Evidence on the same is Critical for Investment Policy Framing.

Environmental Threats to Public Health

Air Quality
Ambient/Indoor

Total Suspended Particle (TSP)

Respirable Suspended Particle (RTSP)

SO₂/NO_x/Toxins

Respiratory (ARI)
Cardiovascular
Cancer
Asthma
Tuberculosis

Water & Food Safety
Domestic/Personal &
Environmental Hygiene

Microbial

Faecal Oral Infections

Bacteria
Virus
Helminths
Protozoa

Diarrhoea
Cholera
Typhoid
Enteric fever
Hepatitis

Chemical

Arsenic
Pesticides
Fluoride
&
Other
Chemical
Toxins

Cancer
Arsenicosis
Fluorosis

Drainage,
Waste Management
Peri-Domestic Hygiene

Vector Breeding

Malaria
Filaria
Dengue
Encephelitis

Water , Sanitation and Human Health

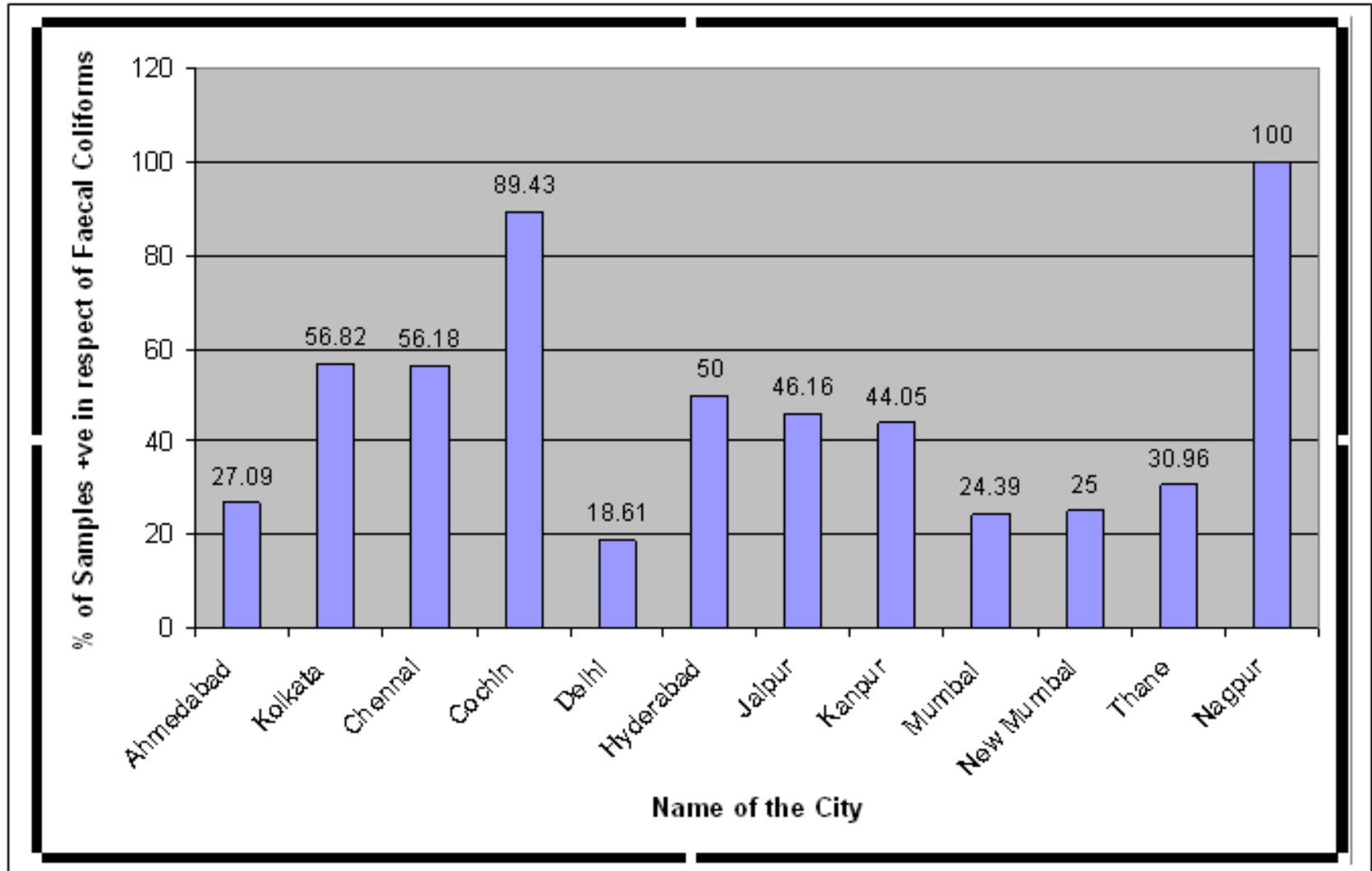
Sufficient quantity of safe water and minimal sanitary facilities are critical to ensure a healthy environment. According to the World Health Organization (WHO) 4 billion cases of diarrhea each year in addition to millions of other cases of illness are associated with lack of access to water that is safe for human consumption. Per year 2,2 million people die as a result of diarrhea most of them are children under the age of five. Human health is severely impacted by water-related diseases (waterborne, water-washed, water-based, and water-related vector-borne infections) as well as by chemical pollution discharged to water, or occurring naturally in ground water like Arsenic and Fluoride.

In India, diarrhoeal diseases cause more than 0.6 million deaths annually and the reported morbidity of water borne diseases is more than 10 million/year.

Eco. Epidemiological Monitoring/Surveillance

Irrespective of the institutional responsibility for drinking water and environmental sanitation system, it remains a function that is seldom fulfilled with adequate coverage or integrity in most SEAR countries. In most rural systems, it is nonexistent. The most glaring evidence of non-existent Water Quality Surveillance System in the rural areas, is the episode of Arsenic contamination of ground water sources in India & Bangladesh. People were using Arsenic Contaminated sources for years, without the quality of water sources, being tested even once. It is only after some of them got sick, that the problem was identified.

Bacteriological contamination of municipal water supply at the POE to the Buildings in Indian cities



Hygiene affects water safety in the home

Samples bacteriologically contaminated (%)			
Deep tube-well	Consumer points	KMC hand pumps	Overhead/ underground tank inside houses
27.5	63.66	24.66	87.5

Poor Water Quality Affects the Poor Most!

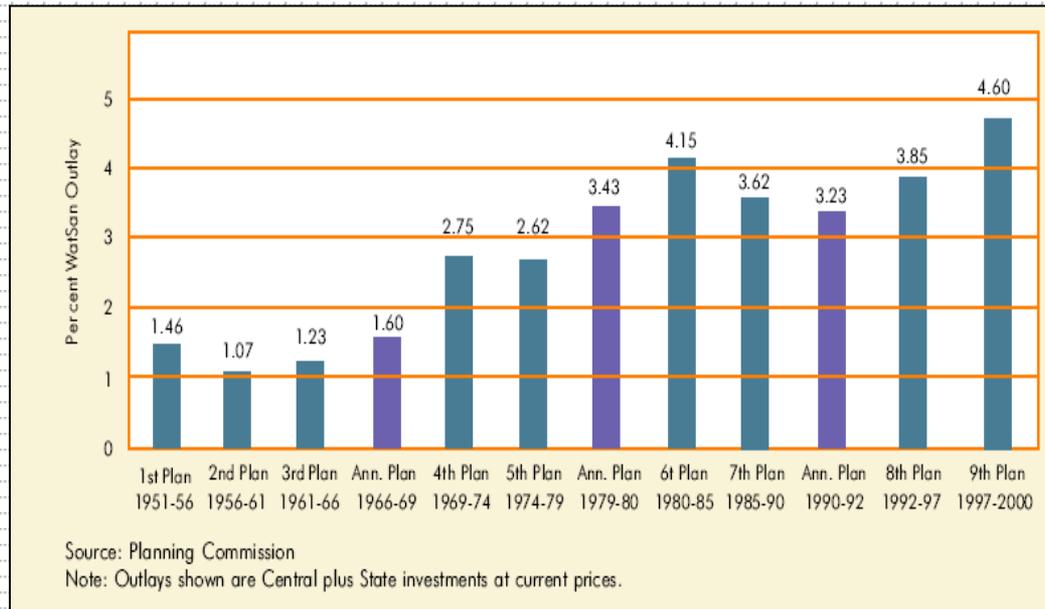


KMC supplies more than 200 litres of water per person per day.

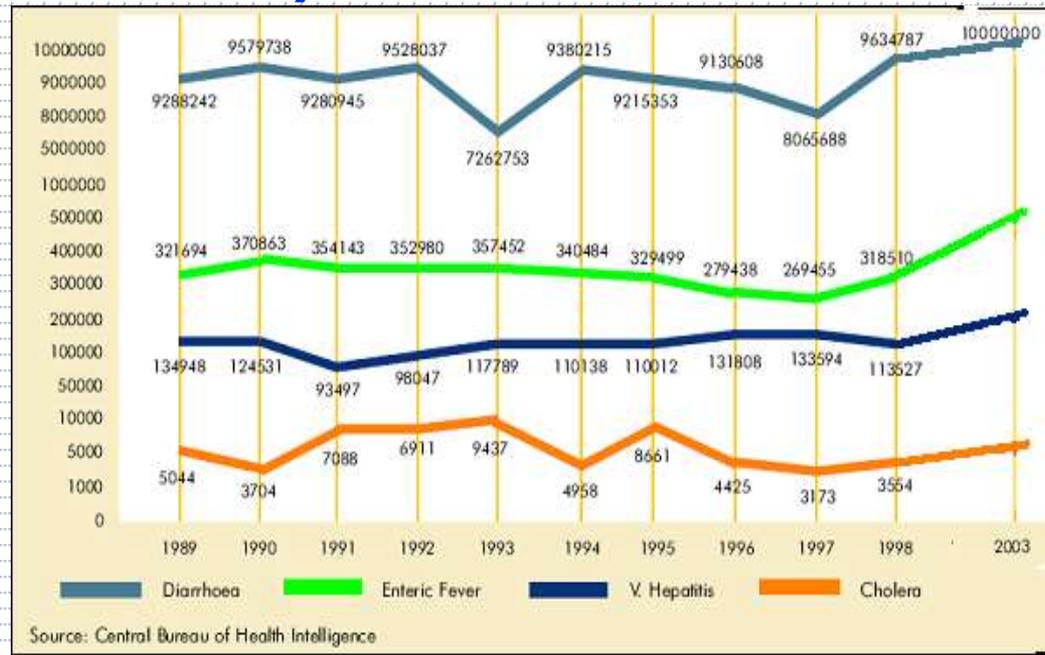
Need for an Integrated Action

Given the present situation in South East Asian & African countries in respect of water, sanitation and hygiene at home, water alone can go only part of the way in achieving the basic objective of improving the health status of the community. It would largely depend on the implementation of an integrated strategy aimed at improving water quality and availability, and sanitation, along with improving hygiene practice at home through changes in attitudes and higher levels of health education.

Increased planned investments in WSS Sector in India



Reported Morbidity on selected water borne diseases



Relative importance and cost effectiveness of WASH components

Access to improved water supply, safe sanitation and hygiene behavior change in comparison to female literacy and immunization was studied by Mr. B. Larsen. A cost effective analysis revealed that hygiene improvement can prevent the death of a child at only a fraction of the cost of water supply and sanitation in the developing region of the world. A hygiene education programme that reaches households with children under the age of 5 years, with illiterate mothers, and without safe sanitation (30 million households worldwide), is estimated to prevent about 0.6 million – 1 million deaths per year”.

Regional Child Mortality & Select Determinants

	India	China	Other Asian countries	Latin America/ Caribbean	Middle Eastern Crescent	Sub-Saharan Africa
Child mortality – under 5 (per 1000 live births) in 1999	90	37	65	38	92	166
Access to improved water source in 2002 (% of total population)	88%	75%	78%	85%	83%	54%
Access to sanitation in 2000 (% of total population)	31%	38%	66%	78%	76%	54%
Female illiteracy in 2000 (% of 15-24 year olds)	35%	4%	20%	6%	31%	27%

Source: Calculated based on data from World Development Indicators (World Bank) and Global Water Supply and Sanitation Assessment 2000 Report (WHO/UNICEF)

Synergy between Perception and Practice/ Integration with Sustainable Technology

It is the experience in the countries like India, Bangladesh, Cambodia, etc, that hygiene behavior changes in the community, triggered with community lead sanitation programmes, could not be sustained in absence of sustainable technology. A case study in 5 Indian States, on "Perception and Practice of Hygiene and Impact on Health in India", presented by the undersigned and others in the South Asian Hygiene Practitioners Workshop, Dhaka, Feb. 2010, and published by IRC, highlights the issues.

Cont....

The study findings very emphatically indicates that to optimize health benefits from community water supply and sanitation, the hygiene behaviour issues should be integrated with the programmes undertaken by the National Govts. for provision of water supply and sanitation hardware in the developing countries. The perception of the community particularly the women regarding the public health and hygiene issues is an important influencing factor in conditioning the practice of hygiene in the community. The disease burden related to Community Water Supply and Sanitation could be significantly reduced if provision of sanitary toilets in individual houses is accompanied by appropriate health and hygiene education campaign.

Cost of Inaction

In India, according to a World bank report, the total costs in terms of health and productivity impact of lack of safe water and sanitation and environmental degradation, add up to a total of US\$ 9.7 billion per year i.e 4.5% of the GDP of the country at 1992 values. The health impact of water and air pollution and lack of sanitation account for 73% of the total damage. Unfortunately, the health sector, which bears the burden of the activities of sectors like urban & rural development, industry etc, does not have adequate institutional capacity, infrastructure for monitoring the environmental health impact of the same. As such, it can do little advocacy for protecting and promoting environmental health.

Evidence Based Adaptation To Climate Change In Health Policy In Least Developed Countries Through Climate Resilient WASH

