

# Toilets and More...



## Reference Manual



सत्यमेव जयते

**Rajiv Gandhi National Drinking Water Mission  
Department of Drinking Water Supply**

Ministry of Rural Development

Government of India

New Delhi

November 2008



शान्ता शीला नायर  
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## PREFACE

In order to pursue common goals under a common definition of sanitation in South Asia, it was decided to convene the South Asian Conference on Sanitation periodically in all SAARC countries. This Conference aims at fulfilling the Millennium Development Goals and the commitments made in the World Summit on Sustainable Sanitation in Johannesburg.

The first Conference held at Dhaka, Bangladesh in October, 2003 resolved to curb open defecation practices, provide subsidy only to the poorest of the poor, build capacity and bring in attitudinal changes in the community, active involvement of all stakeholders and gender sensitivity. The second SACOSAN Conference held in Islamabad in September, 2006 resolved to accord high priority to sanitation and pursue active inter-country partnerships, apart from the issues already resolved in the Dhaka Declaration.

The third SACOSAN Conference scheduled in November, 2008 at New Delhi aims at focusing on the key elements of dignity, health and sustainability.

Sanitation technologies ranging from the frontiers of OUTER SPACE to Earth and Environment friendly ECO-SAN, understanding Sanitation beyond Toilets, Closing the loop on Waste Management, returning nutrients to the soil. SANITATION that is sensitive to the special needs of GENDER/AGE/Infants Babies, Children Adolescents, Senior Citizens, DISABILITIES / Specially ABLED, the Warriors of Armies, the Nomadic Tribes, the Disaster affected. The role of Central / State and Local Governments, NGOs, Industry, Academics, Social Scientists, Media even "Celebrity Endorsements" for "marketing" Good Sanitation – all these and more we hope will be discussed in SACOSAN-III and disseminated in all our countries for achieving the Common goal of New Standards of Hygiene, Health and Empowerment for the people of the SOUTH ASIAN REGION.

JAI SWACHATHA – VICTORY TO SAFE SUSTAINABLE SANITATION!

New Delhi,  
November 15, 2008.

  
(Santha Sheela Nair)



# Poor Sanitation – Poor Health – Poorer People



## A Unclean Village with open Defecation Practice



Unsafe water and insanitary conditions can cause....

- ? Diarrhoea
- ? Dysentery
- ?? Jaundice
- ?? Paralysis of limbs
- ?? Hookworm diseases causing weakness/ anemia

Malnutrition further increases the disease burden with insanitary conditions

As per World Health Report (2001), water, sanitation and hygiene related ill health amounted to 3.9% of the total global deaths and 5.6% of DALYs (Disability-Adjusted Life year).

According to WHO (2001), there are more than 2 million deaths and 59.7 million SALYs lost due to diarrhea.



30.7% & 21.1% global children are deprived of proper sanitation and water

Unicef

Cleaning of Septic Tanks is a Hazardous Task

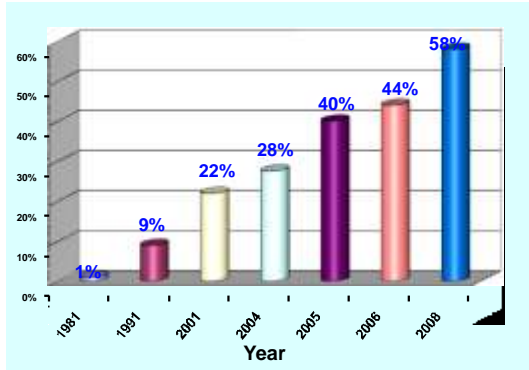


Central Bureau of Health Intelligence, Ministry of Health & Family Welfare (2002-03) reports

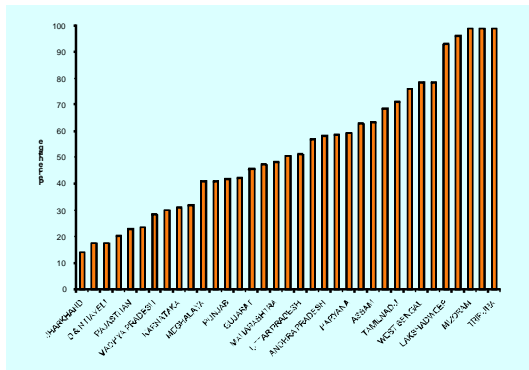
- ? Of all communicable diseases, 29% shared by diarrhoeal diseases
- ? 10.5 million cases of diarrhea reported and 4,709 deaths occurred
- ? 2,893 cholera cases reported
- ? India is the second largest number of polio cases in the world.
- ? Number of viral hepatitis cases was more than 4 lakh

Improper Solid and liquid waste management leads to various diseases like malaria, Chicken guniya, etc.





Increasing Access to Rural Sanitation in India



State-wise Sanitation Coverage in India

Jai Swachatha  
Jai Hind



Ventilated Improved Pit



Simple Pit Latrine



Open Defecation Into A Pit



Open Defecation



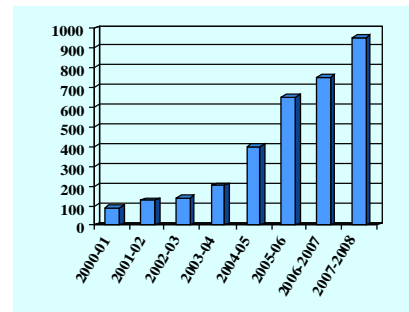
Ecological Sanitation



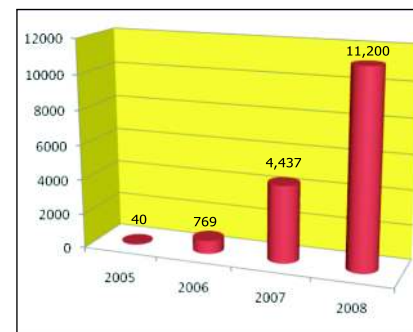
Urine Diversion Latrine



Pour Flush Latrine



Increasing Government Investment



Number of Gram Panchayats achieving Nirmal Gram Puraskar for achieving Open defecation free status

Nirmal Gram Puraskar to Sanitation Revolution

# Toilet Menu



No Cost No Water

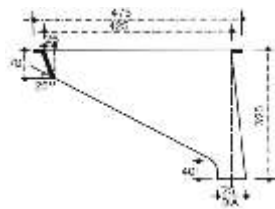


Traditional Ladaki Ecosan Toilet

Low Cost Low Water



Leach pit latrines with steep pan with seal of only 10-20 mm



Steep Slope

High Cost Low Water



A Steep Pan With Pucca Super Structure

High Cost High Water



Water Closets, Glamorooms

High Cost No Water



Vacuum Toilets



Space Toilet



Ecological Sanitation





Baby Friendly Anganwadi Toilets



Pre-School Potty



Toilet for Specially Abled Persons



Menstrual Hygiene



Eco-toilets in Tsunami Affected Area

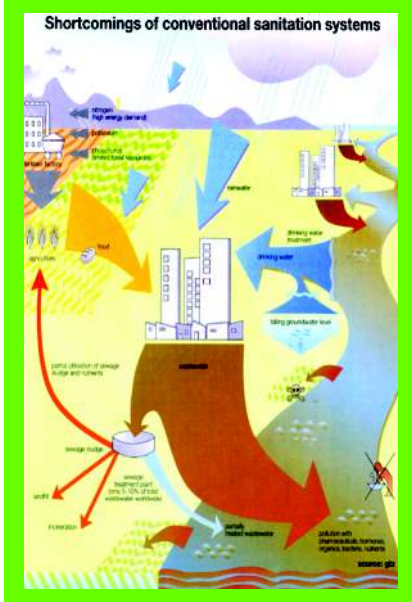


Menstrual Hygiene





Conventional Loop – Open Ended



Ecosan – Closing the Loop



Traditional Ecosan – Spiti & Leh



First Ecosan Toilet



Urine Diversion Eco-san



Ecosan Toilet & Bathroom



Ecosan for The Old Aged



Musiri – First Use and Get Paid



Backwashing of Contaminants by Roof Water Harvesting





## Rural Water Supply with National Rural Health Mission



Gender Friendly Toilets

Girl Child Attendance

IEC

Awareness for Hand Washing

## Total Sanitation Campaign with Sarva Siksha Abhiyan



Asha Worker to Test Water Quality and Conduct Sanitary Survey

Domestic Chlorination

Extended IEC





Solid Waste Collection



Transportation



Dumping



Segregation



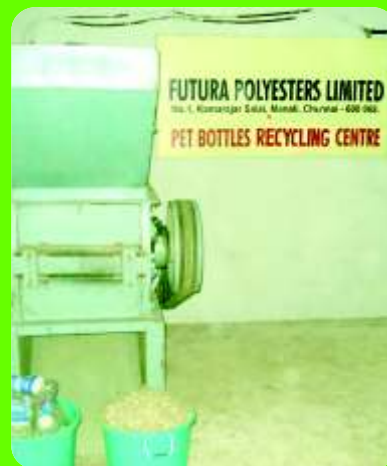
Aerobic Composting



Aerobic Composting & Tilling



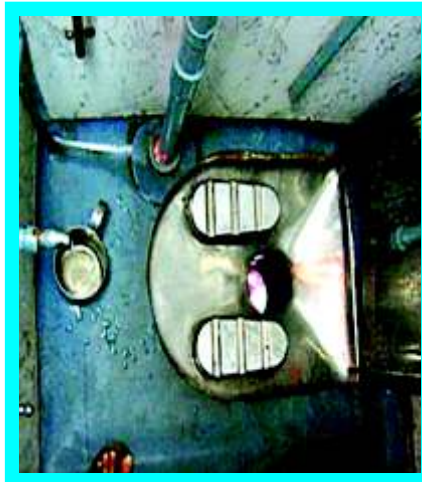
Vermi-composting



Recycling Pet Bottles



Green Belt Development



Train Toilet



Vacuum Toilets In Flights



Ecosan Toilet Using Solar Energy



Solar Composting Toilet

Mobile Temporary Toilet





# Sanitation Beyond Toilet



Urine Collection

To produce 250 kg of cereals, 7.5 kg of chemical fertilizer is required.

In 500 litres of urine and 50 litres of faeces, the nutrient content (N, P and K) available is 6.3 kg.



Urine Collection

Diluted Urine Application



Rich Harvest



Bio-gassifier Earning  
Carbon Credits (Andhyodaya)



Toilet Linked Bio-gas Plant



Rich Harvest







Torch bearer of Sanitation



Leading the Campaign



Role of Sanitation worker



Dinesh, a 13 year old boy from Rajasthan built a toilet to protect the dignity of his elder sister



Learning composting techniques



Collective Decision of Sarpanches

INDIA NEEDS MANY MORE DINESH'ES. LET US INVEST IN OUR CHILDREN AND THEIR FUTURE FOR NIRMAL BHARAT



Teaching hygiene habits to the family



# Nirmal Gram Puraskar Sanitation Movement



HE The President of India awarding NGP to Panchayat President from the remotest corner of the Country, Ladakh

## CELEBRATING SUCCESS

HE The President with NGP awardees at Guwahati, 20/10/2008



From 40 Panchayats in 2005, 11,200 Panchayats got selected for Nirmal Gram Puraskar (NGP)



Access to safe sanitation has increased from 22% in 2001 to 58% in 2008



NGP has now turned into Sanitation Revolution



Happy NGP awardees - shortly to launch another incentive award for creating drinking water security





Sikkim – Becoming Nirmal Sikkim Very Shortly



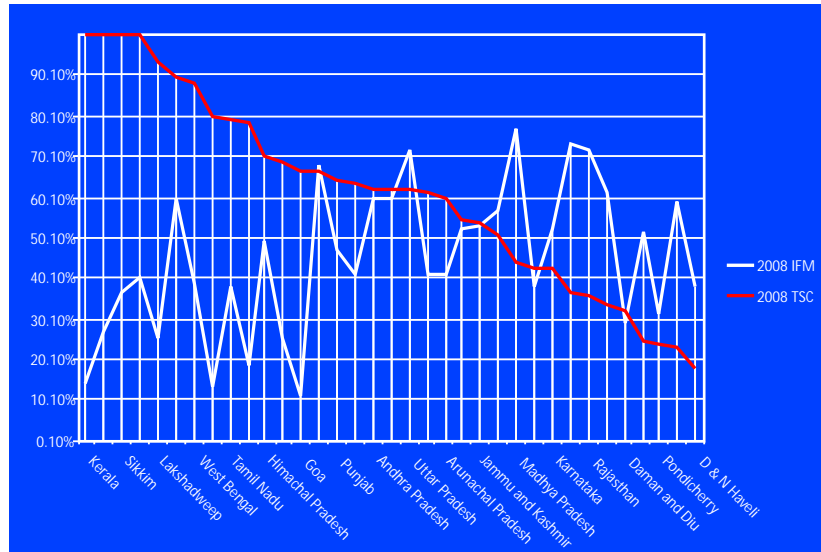
View of Nirmal Village



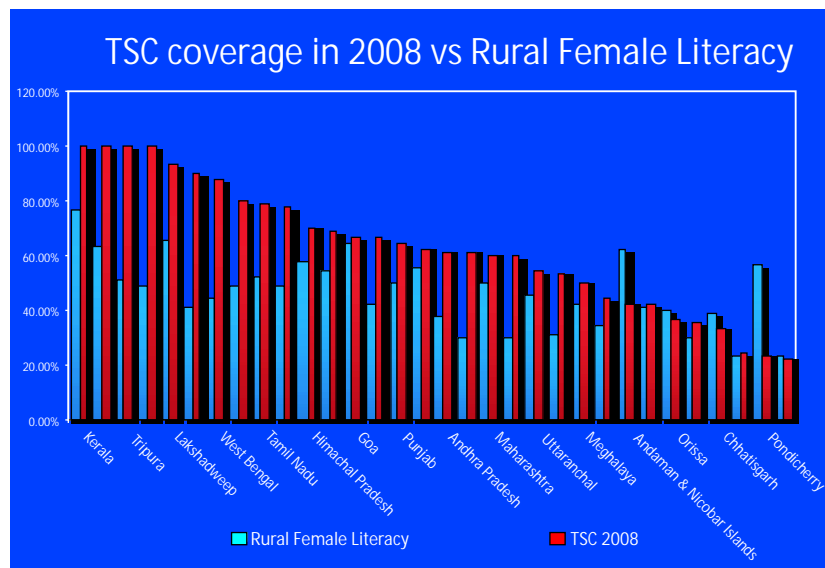
Women Empowerment is The  
Mantra for Nirmal Bharat



# Good Sanitation – Good Health



By comparing 2008 TSC progress status with Infant Mortality in 2008 across the states, it is observed that a broad trend that IFM decreases as TSC coverage goes up is seen. The statistical correlation is -41.65 which is considered quite strong.



TSC coverage is directly proportional to the rural female literacy. A strong correlation factor of 56.72 has been observed.

Good Sanitation also

- ? Reduce drudgery from snake bites
- ? Greater gender empowerment



Provides Dignity

Better Convenience



Improved Girl Child  
Enrolment

Overall Increase in  
Productivity







# SACOSAN – III COUNTRIES



AFGHANISTAN



BANGLADESH



BHUTAN



INDIA



MALDIVES



NEPAL



PAKISTAN



SRI LANKA

MARCHING TOGETHER FOR FULLY SANITIZED SOUTH ASIAN REGION  
SACOSAN-III - DIGNITY AND HEALTH