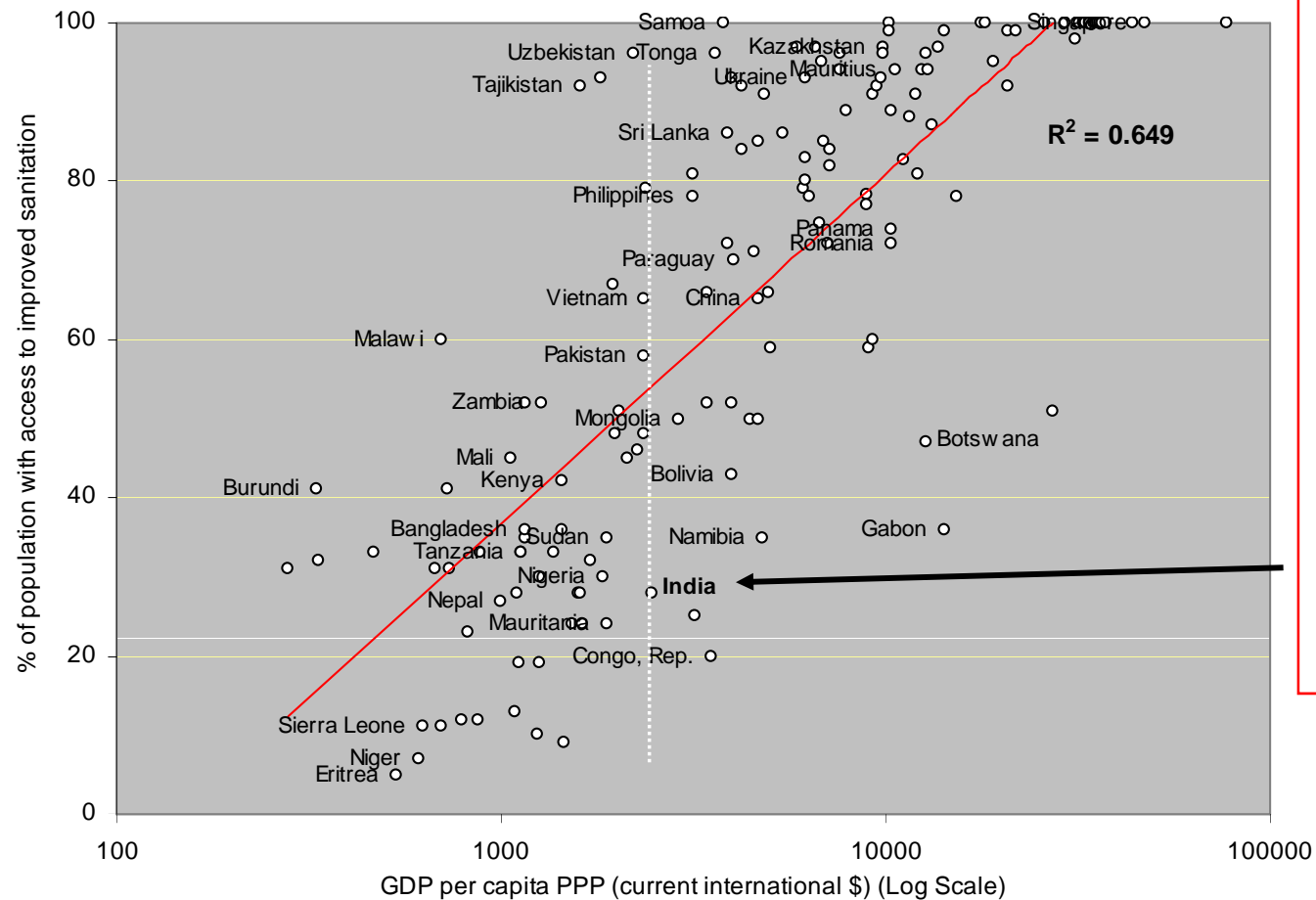


Meeting Urban Sanitation Challenges Responses and Innovations

V. Srinivas Chary
Director, Urban Program, ASCI
(schary@asci.org.in)

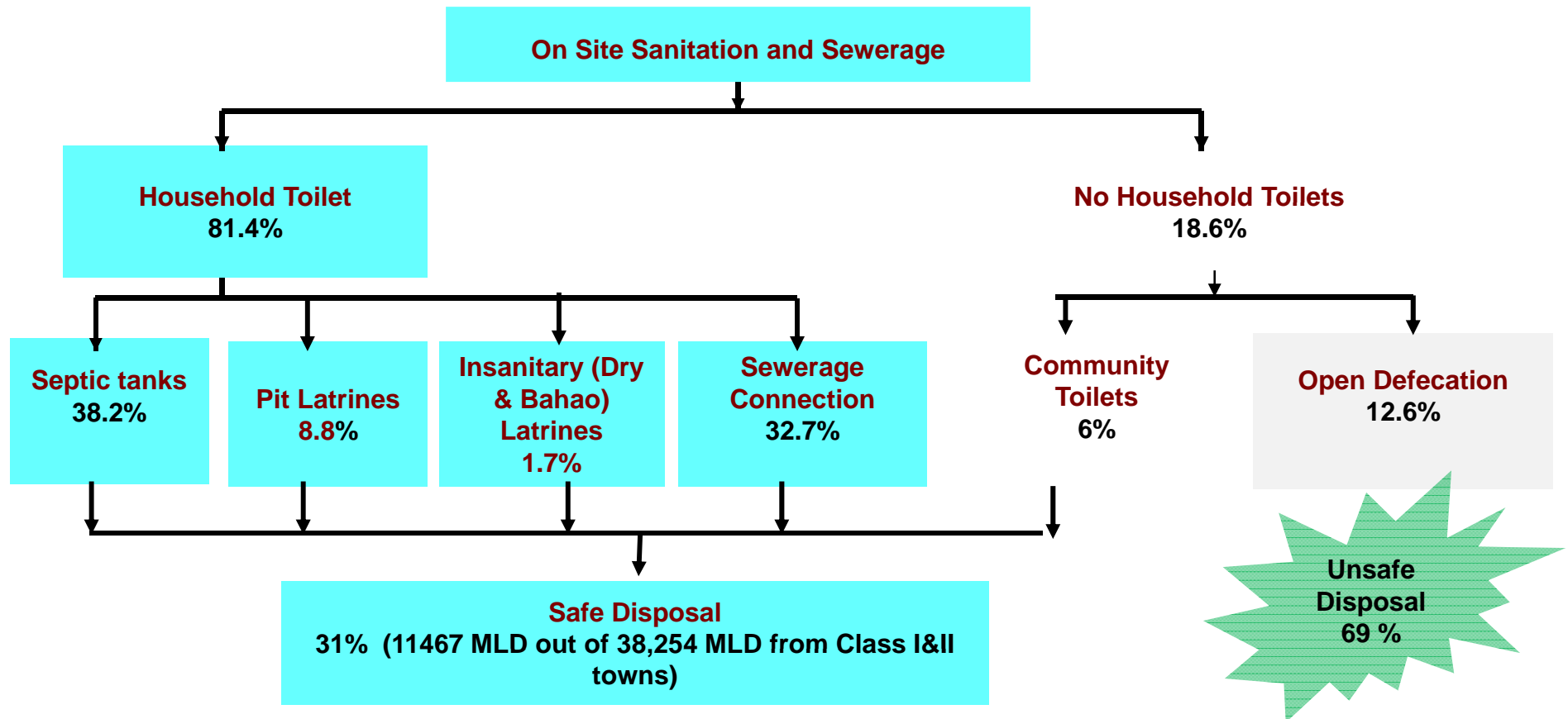
India's Relative Performance

Scatter-plot of % of population with access to improved sanitation and GDP per capita
PPP (current international \$)



India's progress is lower than some of the other countries with similar or lower per capital GDP

Urban Sanitation Situation in India (Census 2011)



- 75% of fresh water resource which is being used for drinking purpose is contaminated.
- Sewage contributes 60% of total pollution load.
- 93% of total domestic wastewater is generated in Class-I cities.

Ref.: CPCB Report, 2009

Key issues

- Coverage
- Access – especially to the poor
 - Last mile connectivity
 - Procedure related barriers
 - Financial barriers
- O & M
- Septage management
- Regulations
- School WASH
- Waste water recycling – community level and city level
- Urban Drainage
- Planning tools and information

Drivers for Change

NUSP

NURM

SSBA - SWM

SSBA - LWM

Manual
Scavengers
and Rehab Act
2013

School
Sanitation –
Swach
Vidhyalaya

CSR

The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

S. No	Action Required by the ULBs	Time period with effect from 6.12.2013
1	Conversion of insanitary latrines	Within a period of 6 months (ULB may extend another 3 months)
2	Construction of community latrines in the areas where insanitary latrines have been found	Within a period of not exceeding 9 months
3	Construction of community latrines to eliminate open defecation	Within a period of 3 years
4	Not to engage or employ any person for hazardous cleaning of a sewer or septic tank	After one year

Coverage

Alandur Model

- Pop – 2 lakhs
- Chairperson lead initiative
- Peoples's participation
- PPP – STP (BOT)
- Services to the poor
- Cost reflective tariffs
- Successful and replicable

Community led Urban Sanitation for increasing coverage and better O & M - Maharashtra

- Community toilets in low income areas
- Capex by PMC
- O & M – community – Rs 15-20 /family /month



Toilets

- Pune
- Tiruchy
- Sangli





PPP models



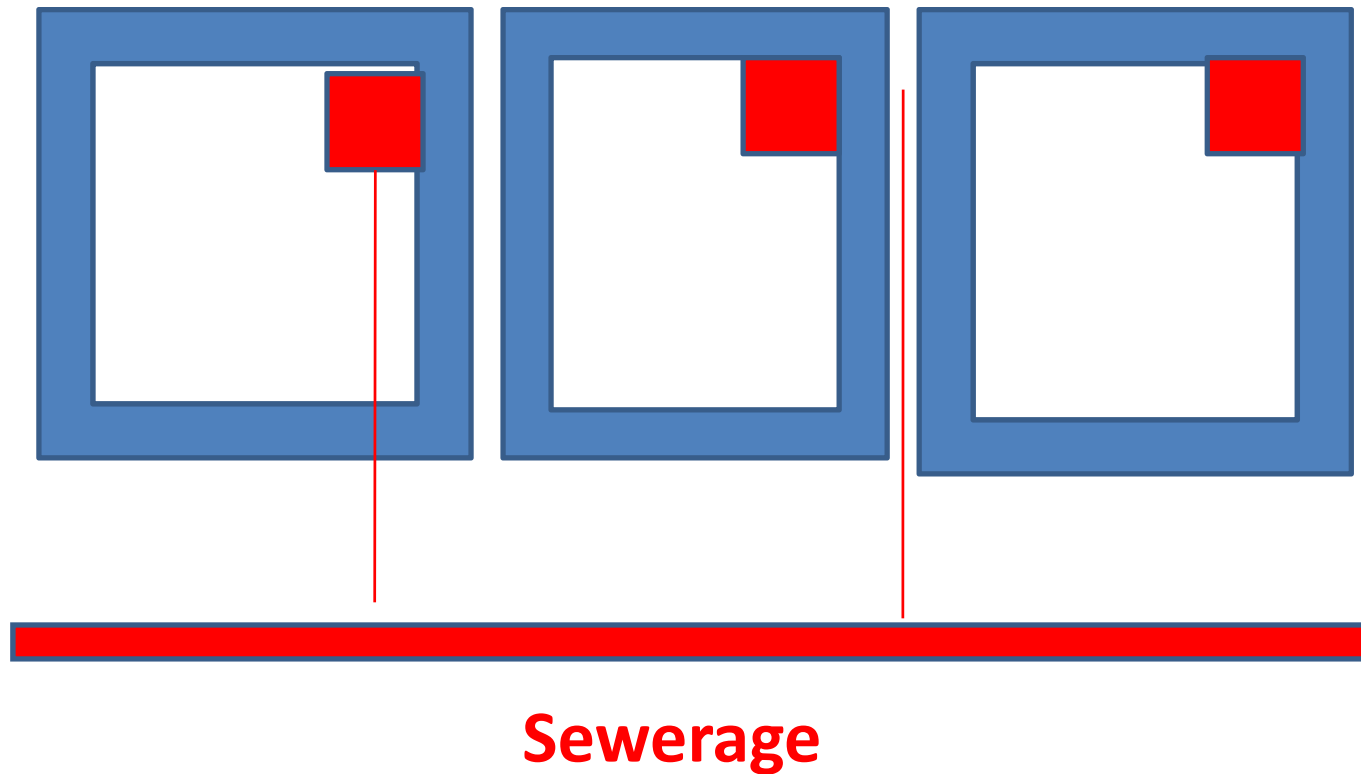
Indication Boards



Enhancing Access

Enhancing access

- Last mile connectivity – Who will pay for it? How to connect onsite toilet with UGD?



IEC, REGULATION, LOWERING THE COST OF CONNECTION, INSTALLMENT SCHEME

Access to the poor

- Removing entry barriers by lowering the cost of connection and simplification of procedures
 - Vijayawada, Raipur
- Sanitation Credit

Water and Sanitation Credit - Loan Products, Size & Terms

Loan Products	Urban Rs.	Rural Rs.	Interest Rate (Diminishing)	Loan Processing Fees	Insurance & Admin	Cash security (Refundable)
New Water Connection	7000.00	5000.00	18%	2%	200/100	5%
New Toilet Construction	10000.00	10000.00	18%	2%	200	5%
Renovations (Water / Toilet)	5000.00	5000.00	18%	2%	100	5%
Rain water harvesting	5000.00	5000.00	18%	2%	100	5%
Water purifier	3000.00	3000.00	18%	2%	100	5%
Bio-gas plant	10000.00	10000.00	18%	2%	200	5%

Criteria for Loan

- Be a member of SHG /JLG
- Have own house
- Age between 18 to 55
- Married women only
- Loan shall be used for the intended purpose
- Loan amount in full shall be repaid, if not utilized for intended purpose within a month

Demand Creation

- Sensitizing the community in terms of hygiene practices
- Impact of open defecation, time factors connected with water collection from public utilities, water borne diseases
- Concentrate more on income generation activities, thus for improved income (thro' time saved)

Uptake

Product	No. of Clients		Amo of Loan
	Urban	Rural	
New Water Connection	1,166	5,264	373.35
New Toilet Construction	1,900	11,134	1,148.82
Renovations (Water / Toilet)	345	1,213	76.20
Water Purifier	212	27	7.17
Rain water harvesting	-	1	0.05
UGD	73		3.71
Bio-gas plant			
	3,696	17,639	1,609.3

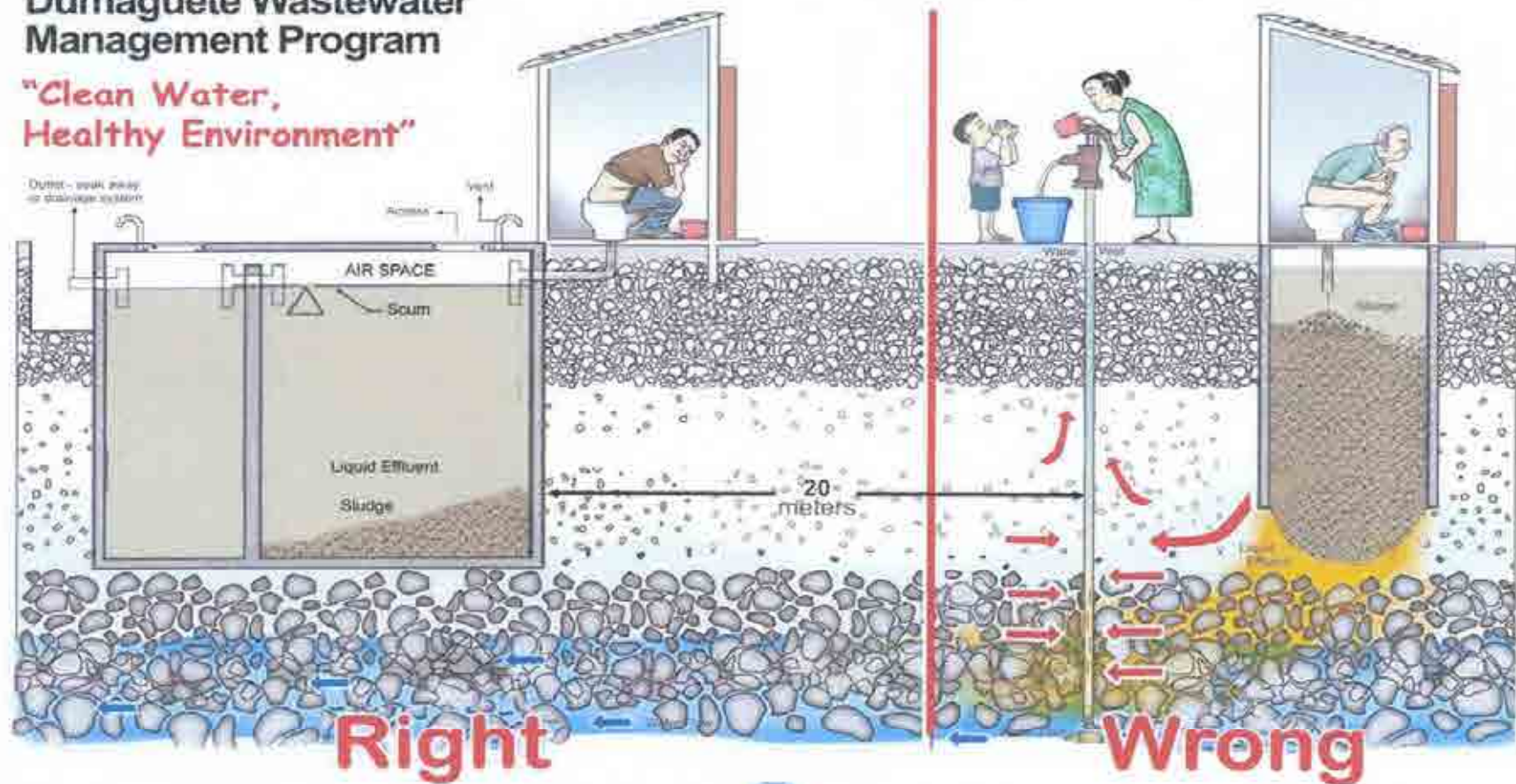
Rs. in Lakhs and as on August 2011

PPP in septage control

The Correct Septic Tank

Dumaguete Wastewater Management Program

"Clean Water, Healthy Environment"

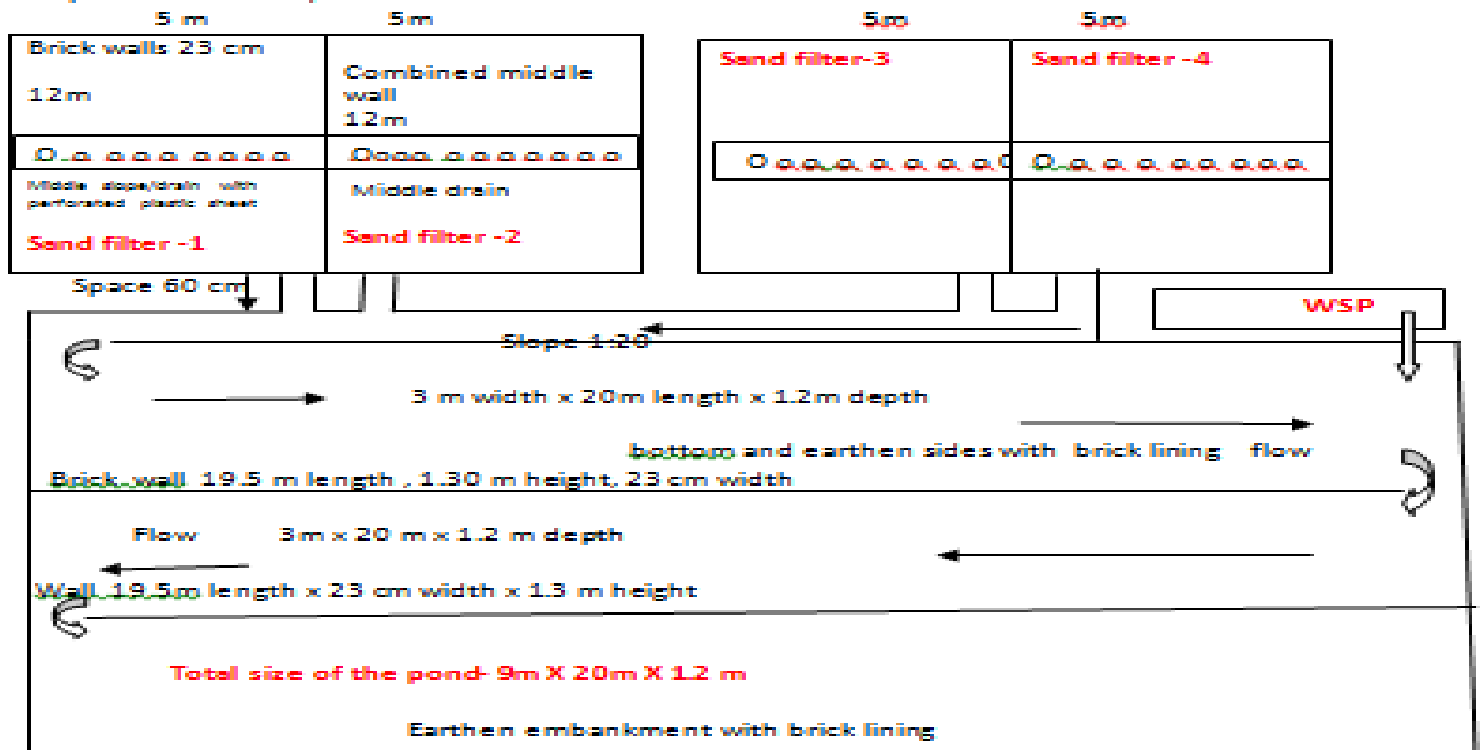


Sand Filter Beds followed by Waste Stabilization Pond (WSP) technology for the Treatment of Septage from Septic Tank – Drawings

Volume of septage per day- 20 m³

Sand Filter beds drawing

2 beds with common brick wall. In between two sets there is space of 40 cm for movement and inspection when required.

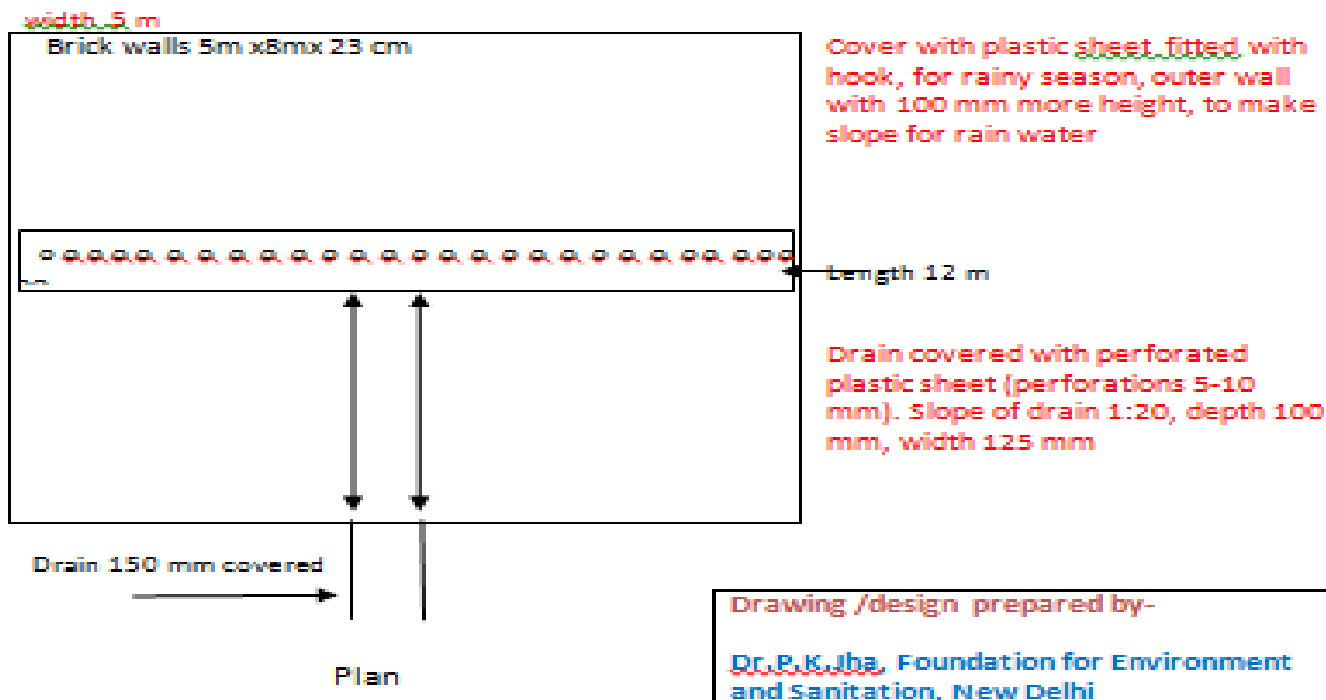
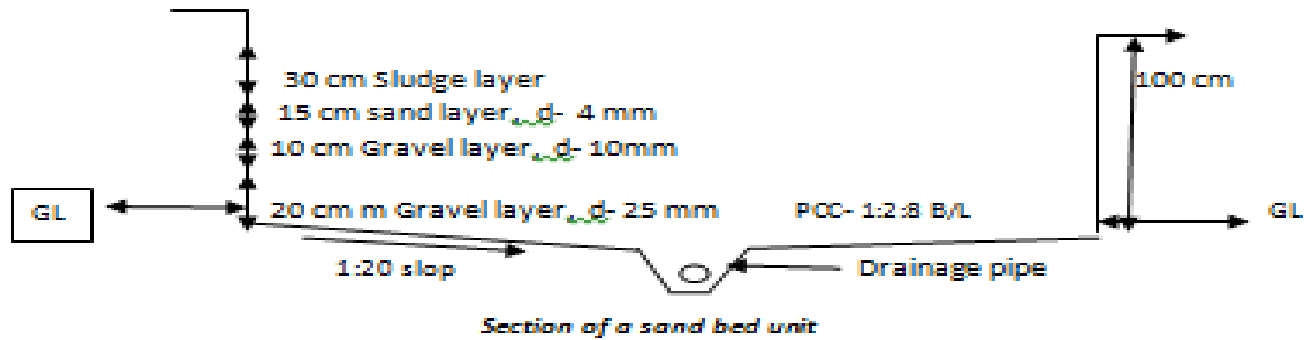


Add: One store room (4m x 4 m) for dried manure
Approx total cost of the system – Rs 20 lakh

Disposal / reuse of effluent

Design and drawing prepared by
Dr. P.K. Jha, Foundation for Environment & Sanitation,
New Delhi

Drawing of One sand filtration unit



Waste recycling

- PPP in collection and recycling
 - At a neighborhood level – Bangalore /Hyderabad
 - City level – Bangalore /Nagpur /Hyderabad/Surat /

WinS Program Highlights

Policy and influencing

- Launch of a new WASH in Schools Mission by GOI – SBSV
- Essential package of WinS defined
- HWWS institutionalized by several State Governments – new Kitchen Sheds with HWWS



WinS facilities(Case)

1. Perforated PVC pipe attached with PVC tank. Folded galvanized sheet as drain tray over metal supports. Dual side operation and use



Cost

INR : ₹10,000

USD: 167\$

Water Consumption per
child = **1.3 Litre**

ADVANTAGES

- Can be dismantled and assembled again, under adult supervision.
- Requires moderate maintenance
- Can be fabricated locally, under technical supervision, using available parts and raw materials in the market
- Can be used by children with special needs
- Promotes face to face peer learning

WinS facilities(Case)

2

Perforated PVC pipe directly connected to hand pump. Dual side use.



****Cost inclusive of concrete base***



Cost

INR : ₹ 2,000*

USD: 33\$

**Water Consumption per
child = 3 Litre**

ADVANTAGES

- Simple in design and construction.
- Requires minimal cost of installation.
- Can be easily dismantled and assembled again.
- Requires very little maintenance.
- Can be fabricated locally.
- Promotes face to face peer learning.

WinS facilities(Case)

- 3 Portable system of perforated PVC pipe connected to PVC canisters with no under-tray. Dual side operation and use.



Cost

INR : ₹ 2,500

USD: 42\$

Water Consumption per child for 5 step hand wash
= 0.8 Litre

ADVANTAGES

- Simple in design and construction
- Can be easily dismantled and assembled again
- Requires very little maintenance & installation cost
- Modular - contains dual unit in single design. When not needed, only single unit can be used.
- Can be fabricated locally, using available parts in market
- Very efficient in water use
- Can be used by children with special needs.

WinS facilities(Case)

4

Dismountable system of perforated PVC pipe connected to PVC tank with fixed stone and concrete sink below. Dual side use.



Cost

INR : ₹ 6,800

USD: 133\$

Water Consumption per
child for = **1.1 Litre**

ADVANTAGES

- Simple in design and construction
- Requires minimal cost of installation
- Can be fabricated locally, using available parts in the market
- Can be easily dismantled and assembled again by children.
- Requires low maintenance
- Promotes face to face peer learning

WinS facilities(Case)

5

Portable multiple tap metal hand wash stand with PVC tank. Dual side operation and use.



Cost

INR : ₹ 8,250

USD: 138\$

**Water Consumption per
child = 1.5 Litre**

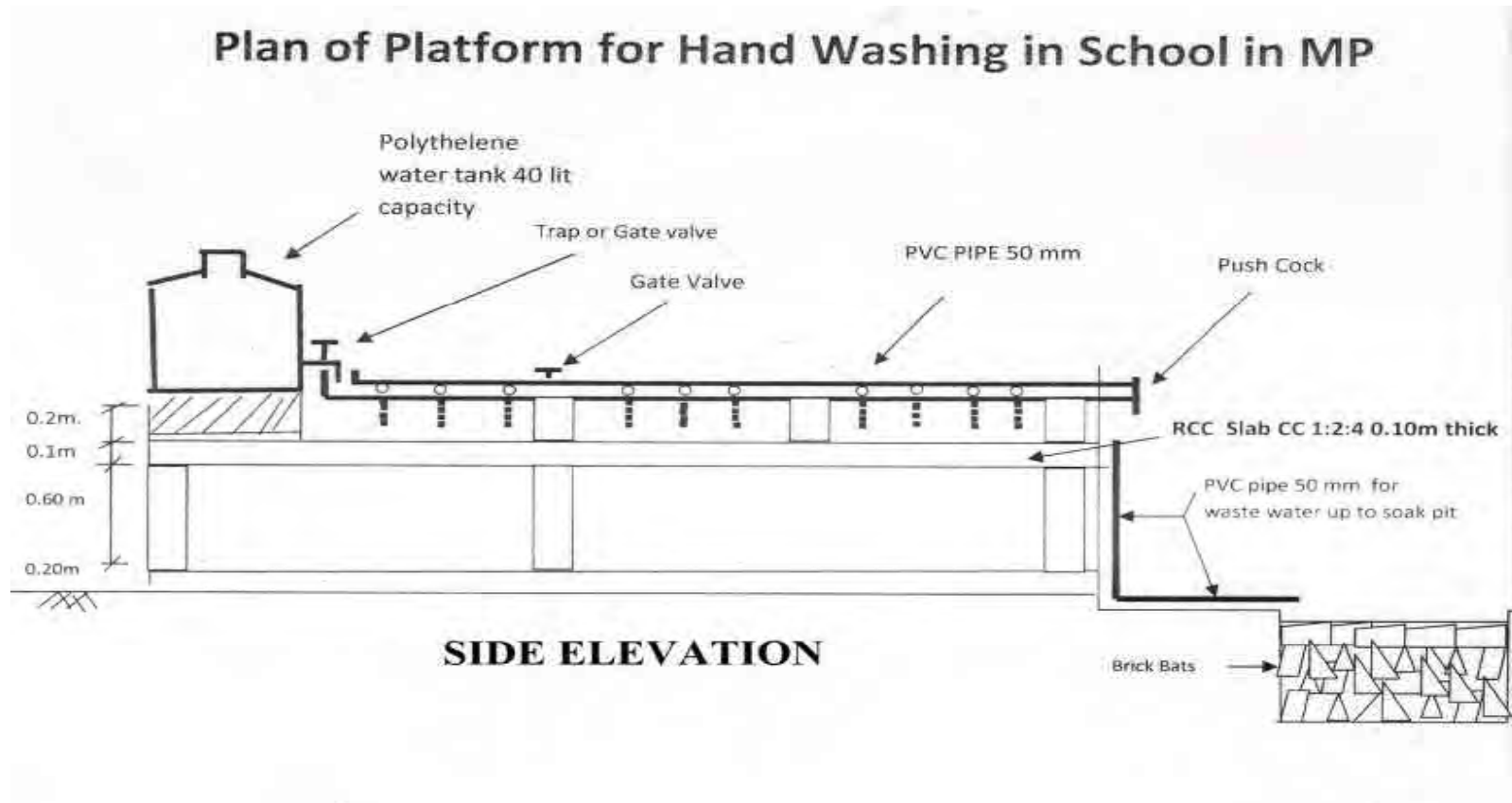
ADVANTAGES

- Can be dismantled and assembled again, under adult supervision.
- Requires moderate maintenance.
- Can be fabricated locally, under technical supervision, using available parts and raw materials in the market.
- Can be used by children with special needs.
- Promotes face to face peer learning.

WinS facilities(Case)



Group Hand washing facility costs Rs. 8000/-



Sensor based flood control system



Planning and Capacity Building

- City Sanitation Planning
- State Sanitation Strategy
- Service level benchmarking
- Capacity building for urban sanitation

Accelerating Sanitation Agenda

Lessons - 1

- Sewerage (reticulated) system is expensive; and it is not the only way to achieve public health outcomes
 - City of Brussel and Milan (Famous European cities) till recently discharged untreated effluents to water bodies.
 - Sewerage – subsidy for the rich to excrete in convenience ...Sunita Narayan, CSE.

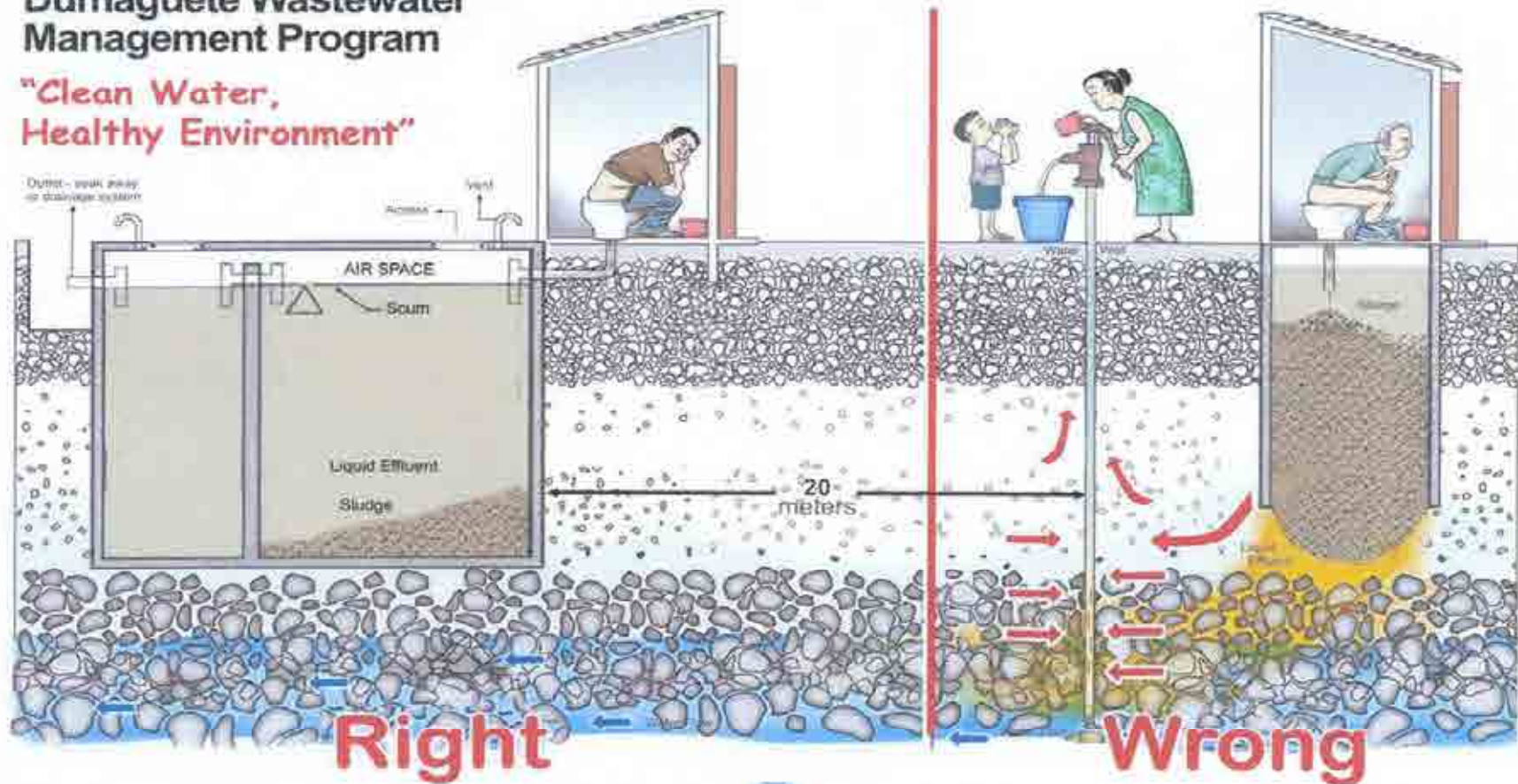
Lesson 2

- Development controls /regulations are essential
 - Septic tank management
 - Septage disposal

The Correct Septic Tank

Dumaguete Wastewater Management Program

"Clean Water, Healthy Environment"



Lesson 3

- Community Partnership models work better

Lesson 4

- Creating demand for improved sanitation takes time..
 - Communicating benefits of ORS took more than 50 years..
 - Need for a good communication Campaign
 - Strong political leadership (two good practices)

Lesson 5

- PPP in Urban Sanitation is feasible and viable
 - Alandur, Pune, Bangalore

Lesson 6

- Sanitation improvement program requires Capacity building among municipal officials, NGOs, CSO etc.

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Jn MISSION WITH
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