

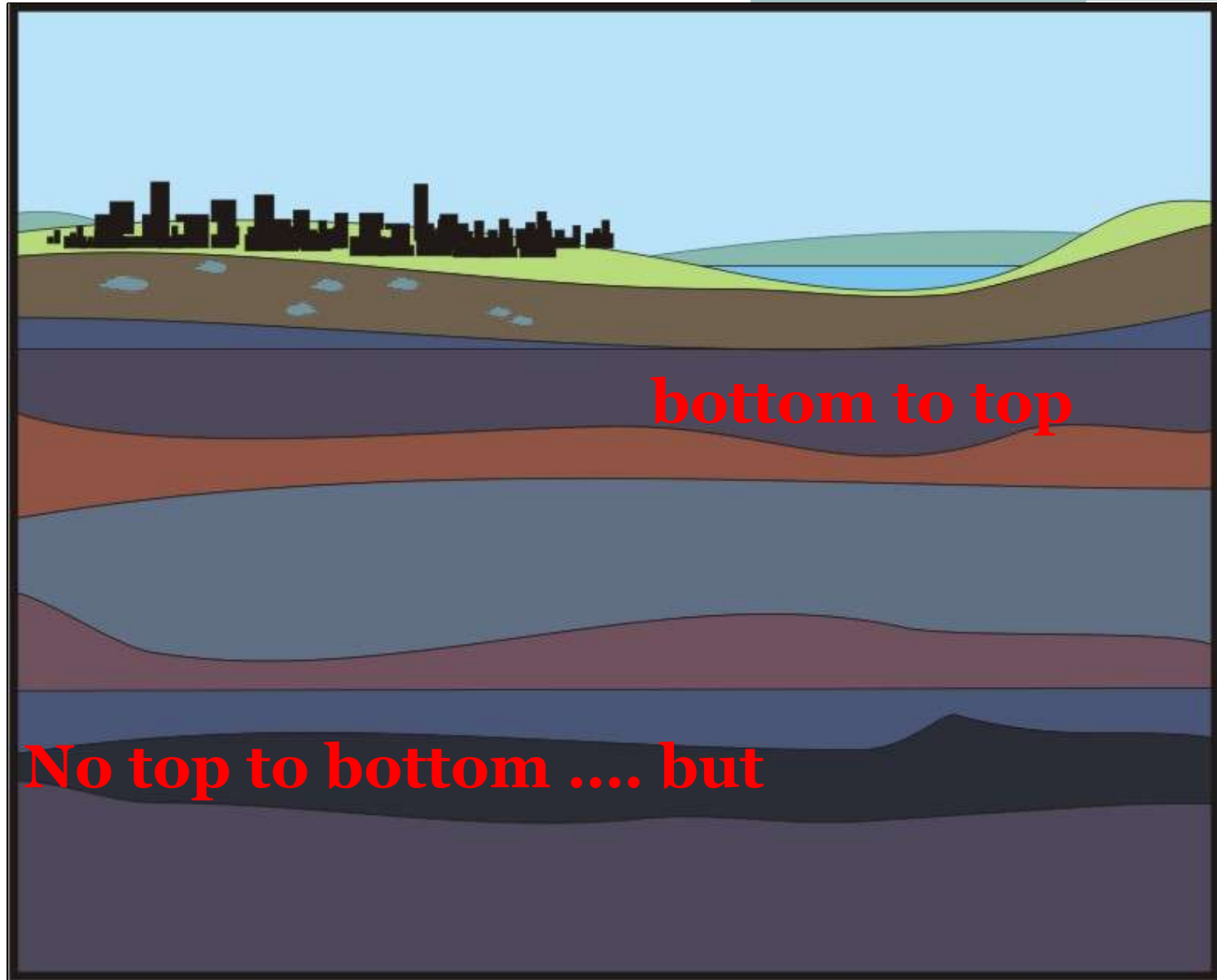
Everyone has intelligence,
those who just talk, create ism and poverty,
those who act, create prosperity,
those who use both, change the world,
those who use none, die in despair.

JALODAY YOJANA

A national Program for Rain Water Harvesting

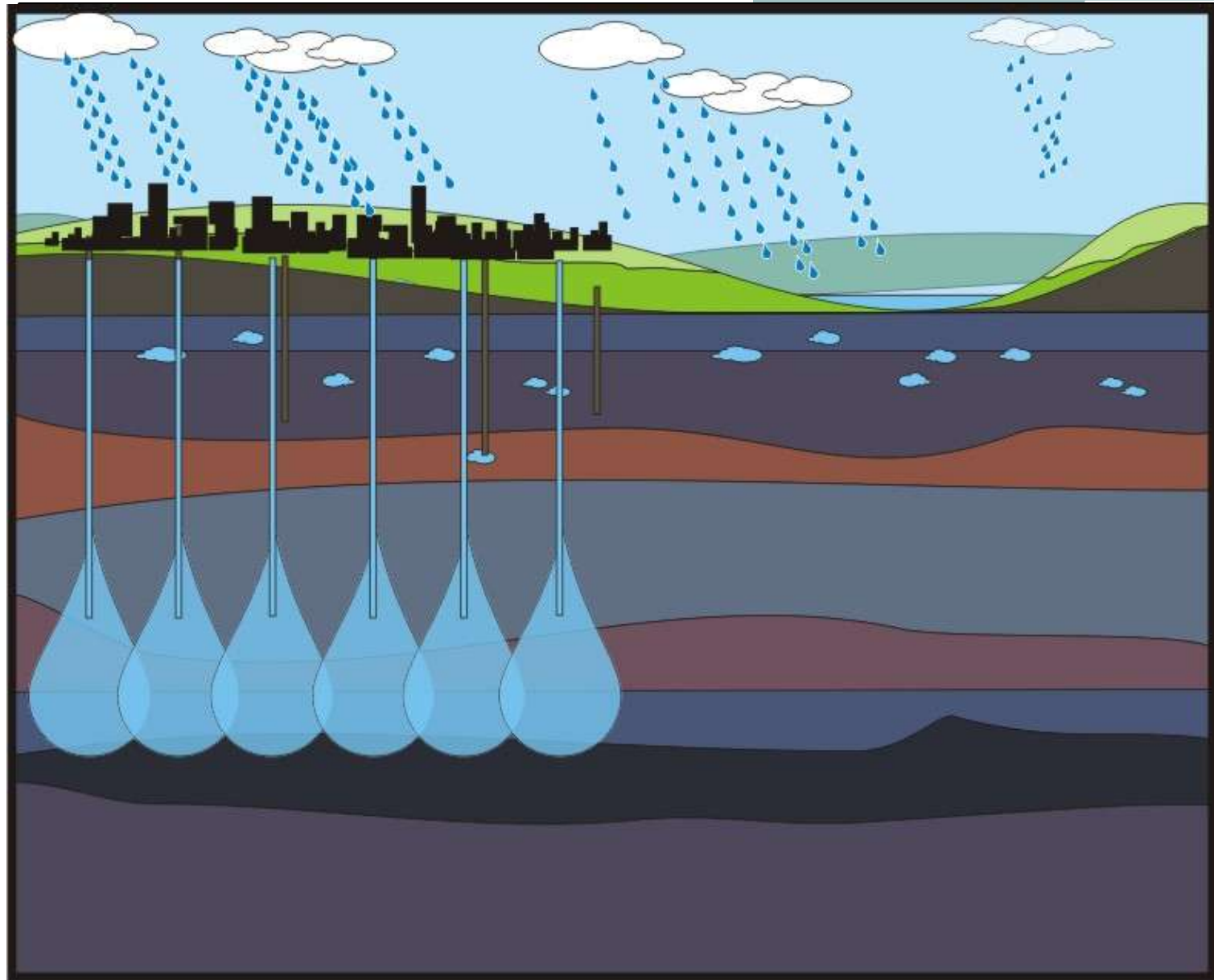
WHSC – 2009 at IIT-Kanpur on November 23-25, 2009
BY PROF. UDAY CHIPALKATTY

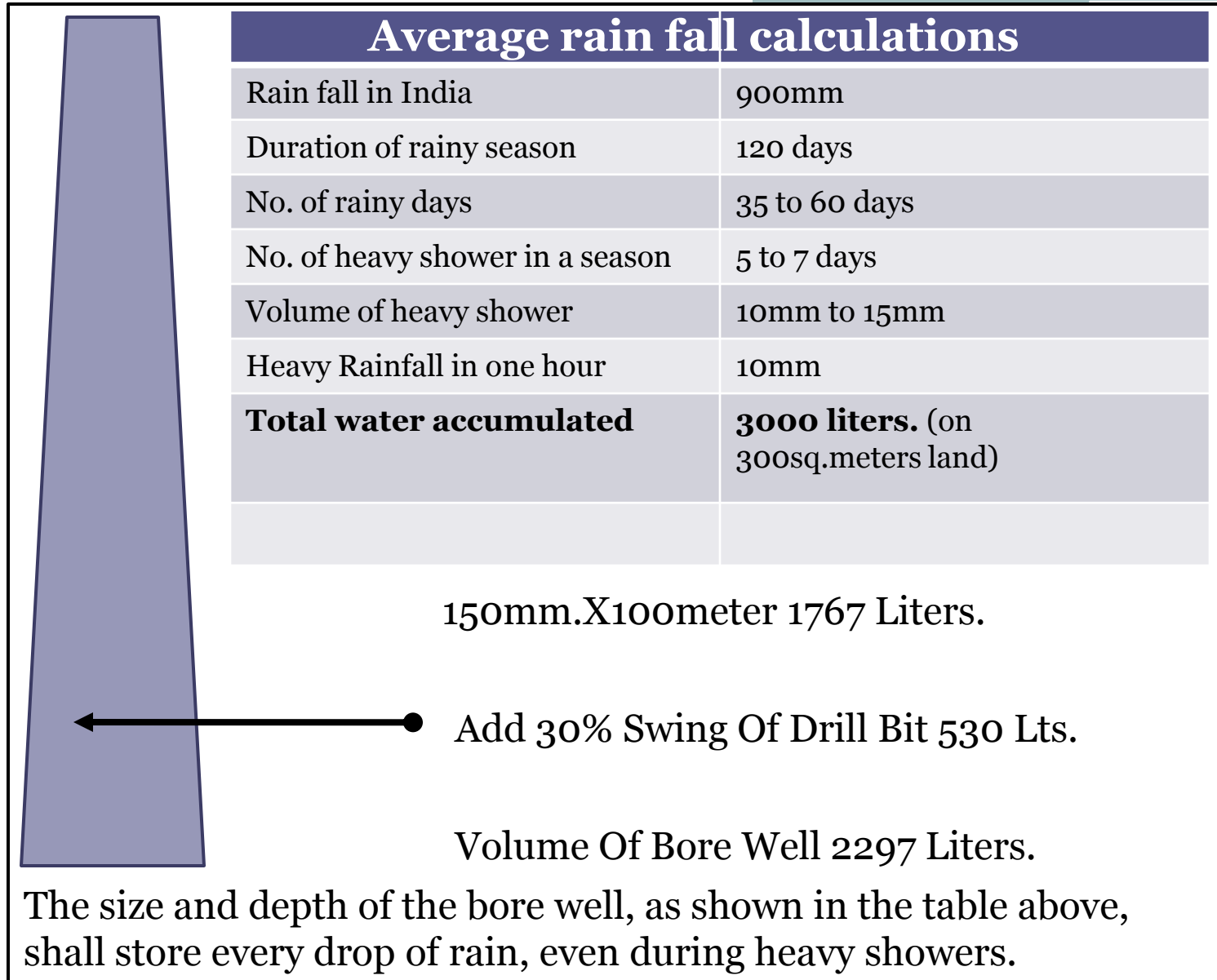




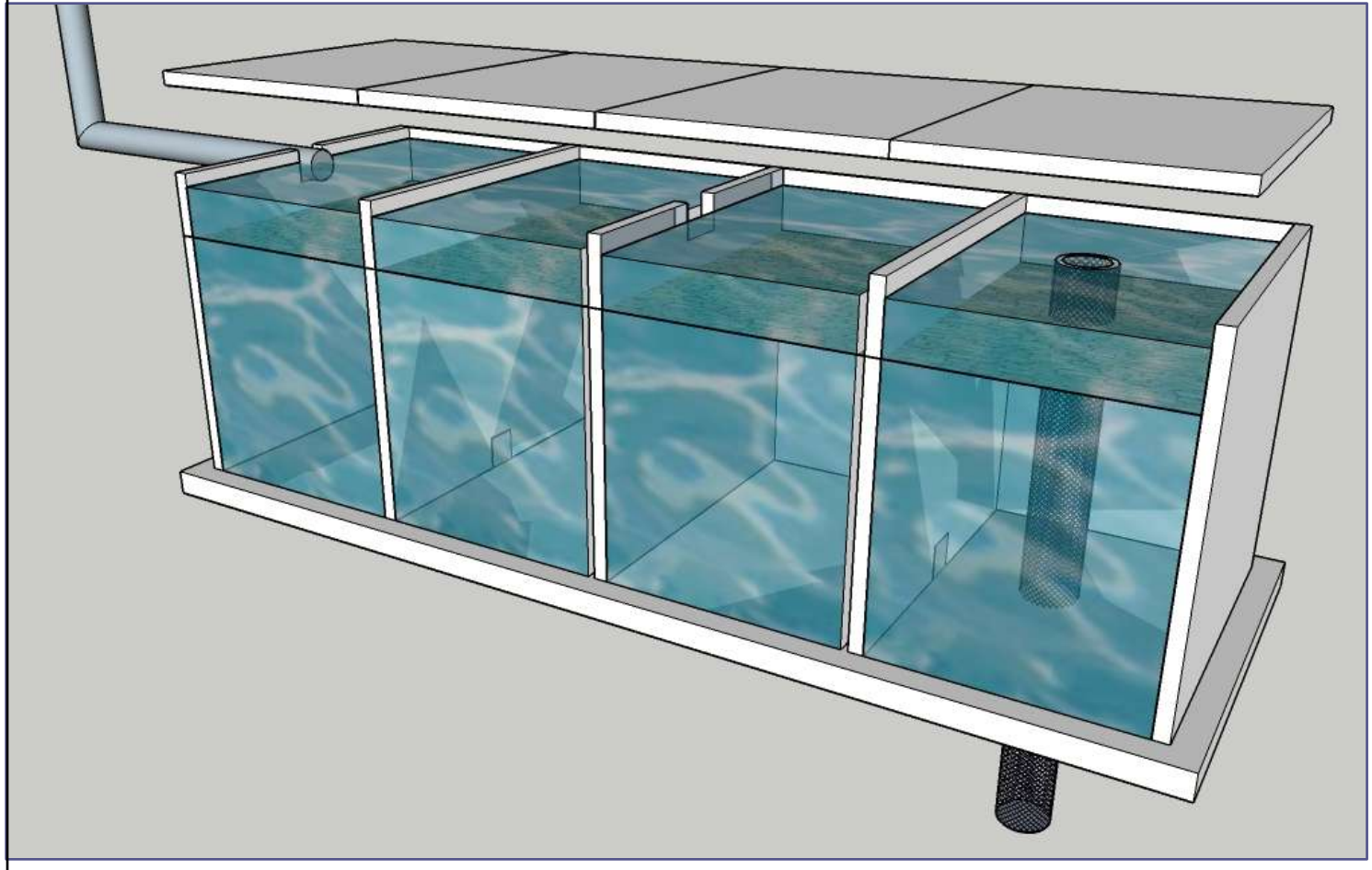
Same way Jaloday







Typical Design Of A Filtration Chamber



The 'Cost' Factor

- A family of 4 needs 30,000 ltrs in summer. Storing rainwater in tank will cost Rs. 250,000
- Presently cost of 6” dia bore is Rs.170/- RM. x 100 M shall be Rs. 17000/- .Add Rs. 5000/- for the filtration chamber.= 22,500
- Bore well shall store 270,000 ltrs of rain water
- **This proposal is far better and acceptable. There is still more!**



The 'Cost' Factor

- 300 sq. meters of land, results in construction of minimum 350 sq. meters to 450 sq. meters as per local bylaws.
- In urban areas this FSI is suitable for 8 nos. 1 BHK units or 5 nos. 2 BHK units.
- The above 8 or 5 units shall share the cost of one bore well.
- Maximum cost per unit shall be Rs. 3,000/- to 4,500/-. We know that in urban areas, people spend Rs.500,000 to 5,000,000 or even more for a residential/commercial cell.
- This is just about 0.25 % of the unit cost
- If each one is made to spend the cost of one bore well (approx. Rs.5000), the entire urban area shall be floating on water in a short time.

Advantages

- Government need not spend any money. It should issue only a G.R.
- Local bodies to monitor only the issue of certificate, before checking depth no of bore wells.
- Presence of water in upper crust of earth will result in greener top.
- It will reduce– global warming.
- This has no effect on earthquake as EQ center is few kilometers below.
- This will reduce growth of rodent and creature.
- This costs only 1% or less per unit as any flat or shop or office costs 5 lakhs or more.
- Income to Govt. Through service charges, taxes, excise, sales tax.
- Creates employment to thousands.
- More water shall be available for farming.(55% urban rwh)
- Peoples are directly benefited by participating in this national program.
- Accidents and loss of life due to heavy rain, such as – collapse of wall, land slide, water logging, and devastation of low laying areas can be controlled.
- Improved habits regarding hygiene are crucial for Rain Water Harvesting, people will learn them

Why Me ?

Traditional

- Natural – Top to Bottom
- Soaking through layers
- Time required for seepage 1 yr. to 10 yrs.
- Dig for water
- Dig on water
- March to May
- Success rate max. 50%
- Availability of water uncertain

Jaloday Method

- Jaloday – Bottom to Top
- Filter Chamber
- Time required for seepage 10 Seconds.
- Dig to store
- Dig anywhere
- Throughout the year
- Success rate 100%
- Availability of water 100% certain

RAIN TO DRAIN

PART II

CONSERVATION

Recycle and reuse

Cost And Value

Rain Water Harvesting

- Land 1 hector(800 people)
- Rain Fall @900mm/year
9,000,000 liters
- Daily requirement of fresh water
28000 liters
- (35 ltr/headX 800 people=28,000 liters)
- Rain water harvesting for 320 days.

Cost And Value

Sewage Treatment Plant

FSI 10,000 sqm B/Up 14000 sqm

No. of Units – 200 of 1+2 bhk.

800 people x 125 lpd = 1,00,000 lpd

STP cost Rs.20,000,00

Per unit Rs.10,000

Cost of 1,00,000 liter water

Rs.5,000 (1 Rs.for 20 ltr)

STP Operating Cost (Rs.800 / day)

1 Rs. for 125 liters

SBR Report (2 MLD Plant)

KARNATAKA POWER CORPORATION LTD RAICHUR THERMAL POWER STATION

Analysis Report

Source of sample : STP out let
Date of sampling : 04-07-2008
Analyzed by : M/S KSPCB, Raichur

Sl No	Parameters	Limits	Results
1	ROD mg/l	10	7.50
2	Suspended solids mg/l	20	28
3	Turbidity NTU	02	2.0
4	PH	6 to 9	7.85
5	Residual chlorine mg/l	>/-	Nil

ENVIRONMENTAL MONITORING COMPANY
RAICHUR THERMAL POWER STATION

Results

Work completed at Site	Rain Water Harvesting Results in the year							
	2002	2003	2004	2005	2006	2007	2008	2009
Bhugaon	30%	50%	50%	70%	Not known			
Hyderabad- 1	-	70%	80%	80%	90%	90%	90%	90%
Hyderabad- 2	50%	50%	60%	70%	80%	90%	90%	90%
Mumbai	-	-	-	60%	70%	90%	90%	90%
Yelhanka	-	-	-	-	-	90%	90%	90%
Bangaluru	-	-	-	-	-	90%	90%	90%
Chakan	-	-	-	-	-	-	-	95%
Mann, Hinjewadi	-	-	-	-	-	100%	100%	100%
Nirvi, Pune	-	-	-	-	-	-	-	100%
Satara-1	-	-	-	-	-	-	-	Results still expected
Satara-2	-	-	-	-	-	-	-	
Satara-3	-	-	-	-	-	-	-	
Pune	-	-	-	-	-	-	-	

My Sincere Thanks To

IIT Kanpur
And

All The Members Of Organizing
Committee