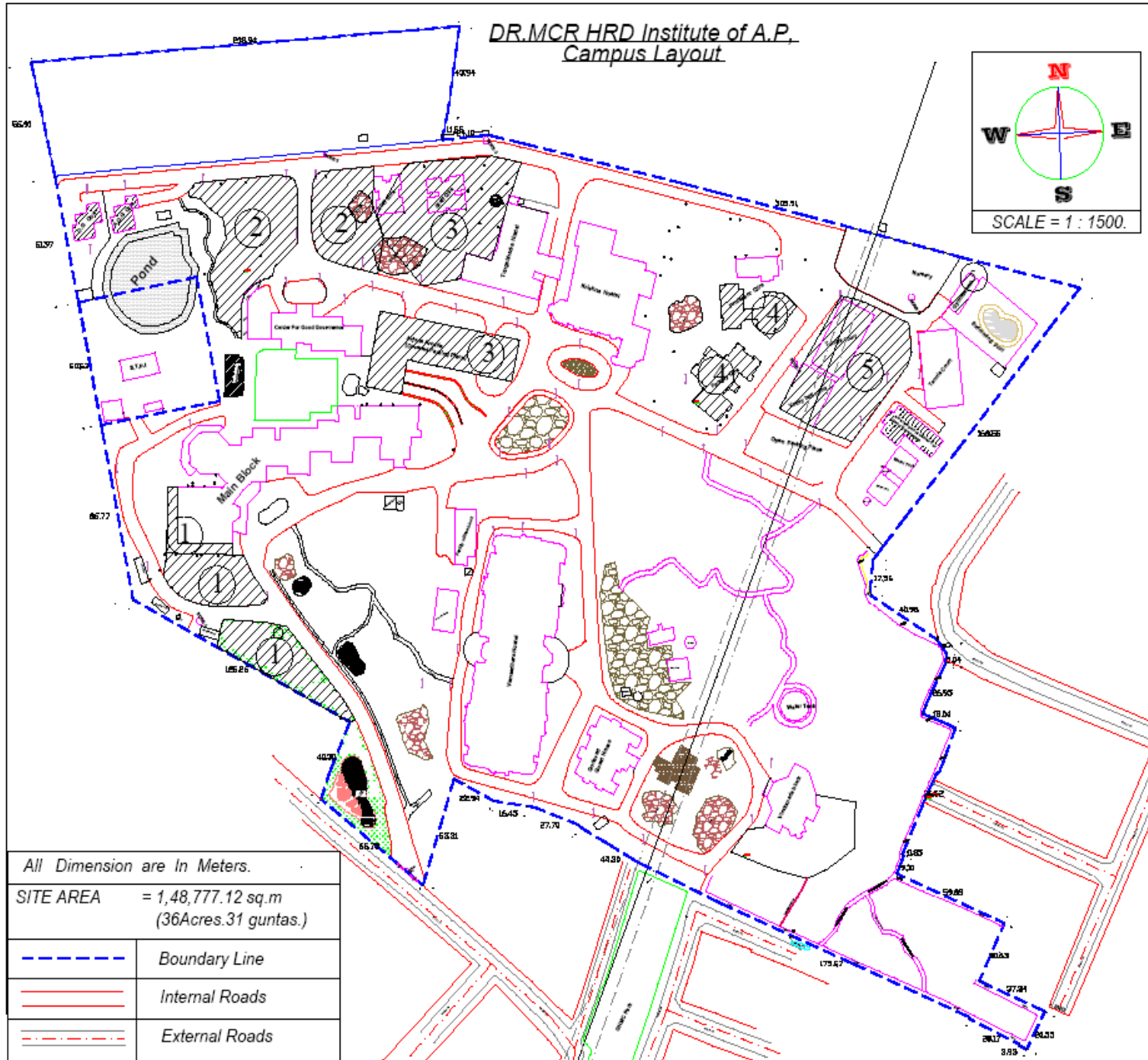
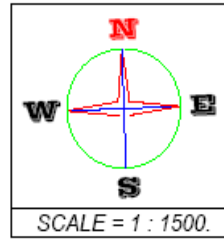


DR MCR HRD Institute GOVERNMENT OF TELANGANA

- Towards an Eco Responsible Institute



DR.MCR HRD Institute of A.P., Campus Layout



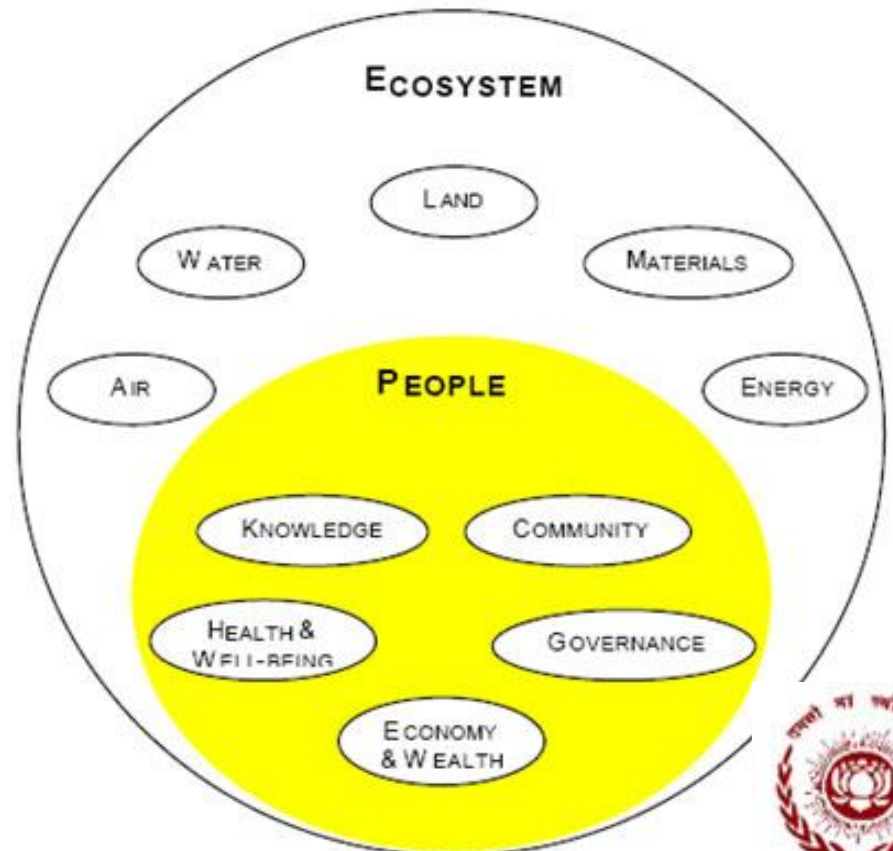
Green Campus

- MCRHRDI has more than 33% spread and 40% canopy green area

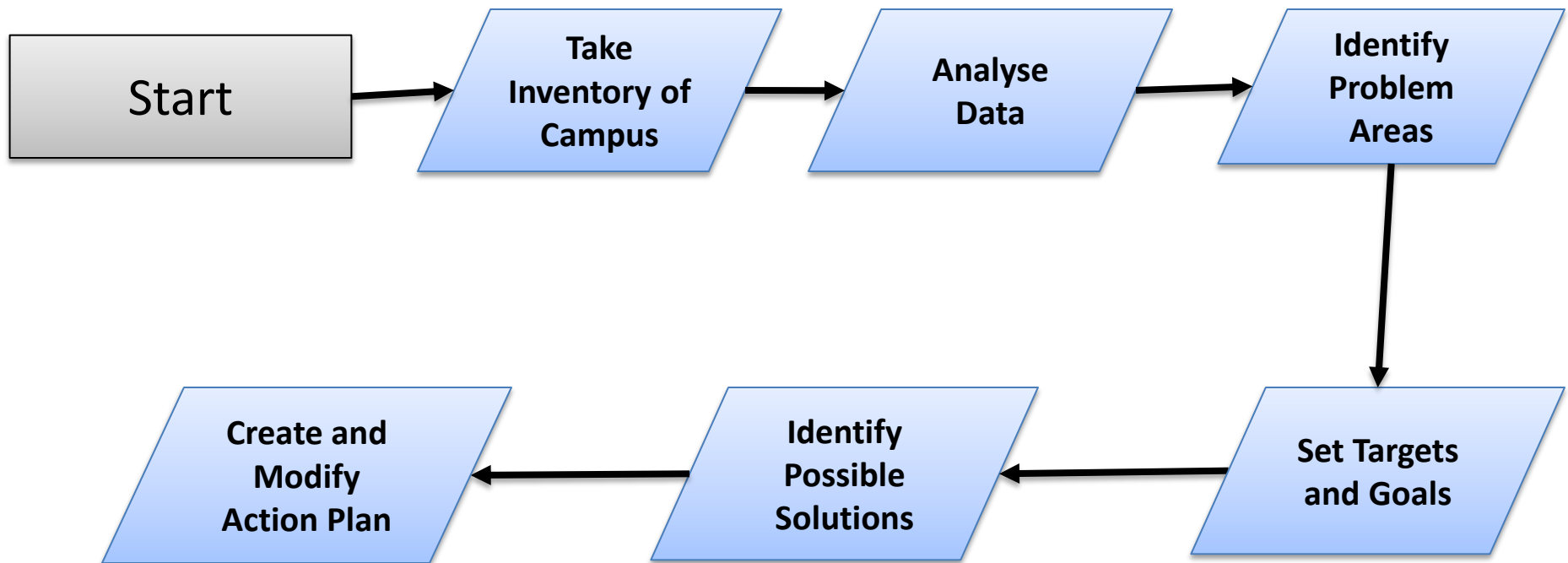


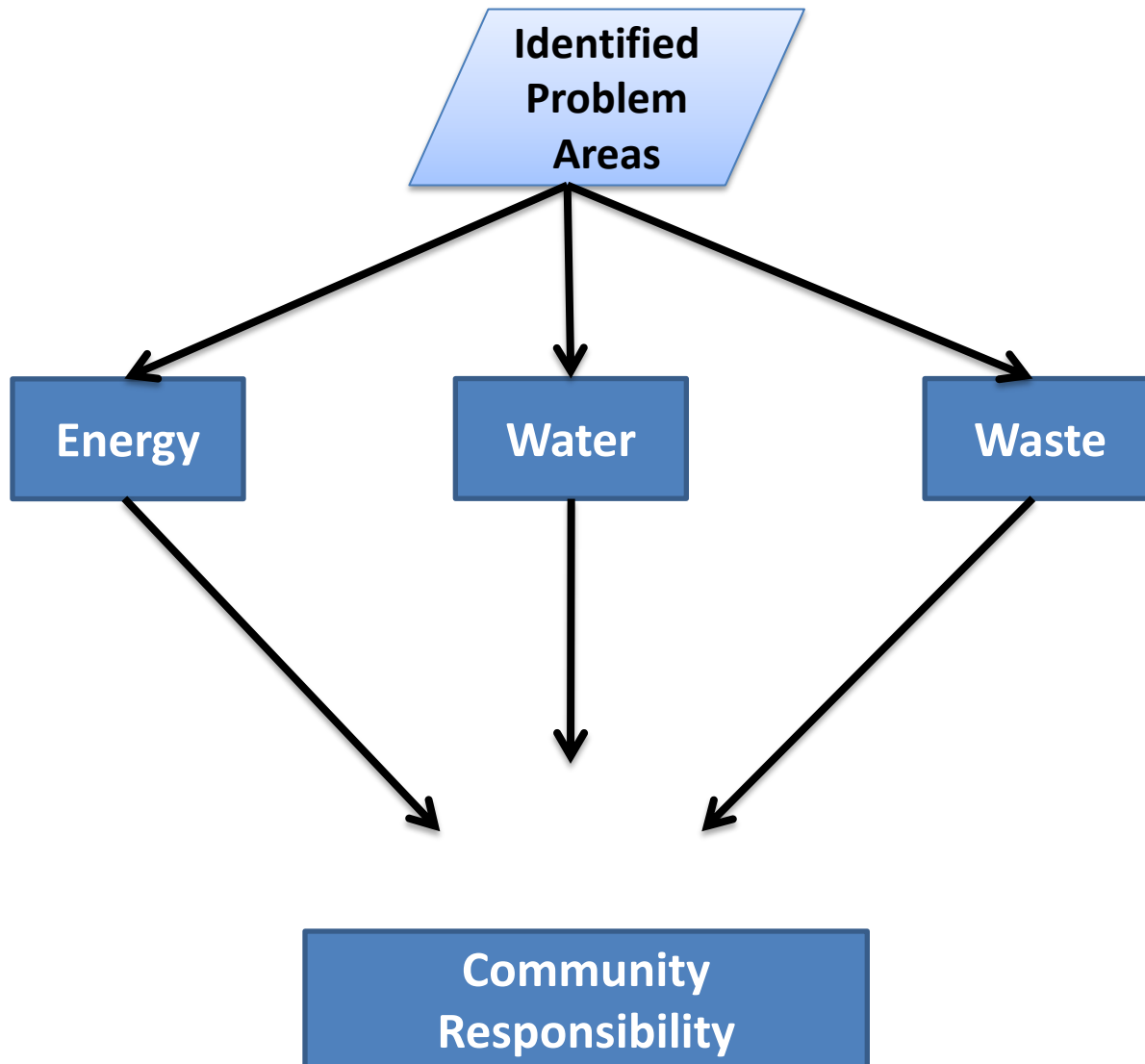
Why Eco Responsible Institute

- Set an example in cutting ecological costs
- Promote economical resource use
- Demonstrative effect
- Training value for key functionaries



Eco Responsible Institute: Process





Our Green Outdoors



Rainwater Catchment Areas plus IBW RWH method for abandoned & partially dry Bore wells					
Sl. No	Name of the Block	Area(in sq. Mtrs)	Surface/ landscape and rooftop area	Taken rainwater percolation 50% for landscape & 99% for rooftop area	Volume of Rain water @ 70 cms p/a in lakhs litres
1	Bore-1 Near Parking				
a	Admin Block Opposite area	1073.00	Surface/ landsacpe area	536.5 sqmtrs	3.8 lakh
b	Pond side area from entrance left side	1314.559	Surface/ landsacpe area	657.2795 sqmtrs	4.65 lakhs
c	Administrative Building L-shape area	268.92	Rooftop area	135 sqmtrs	1 lakh
	Total	2656.48		1328 sqmtrs	9.3 lakhs
2	Bore-2 Near Helipad Gate				
a	Left side area Opposite to CGG Building	2325.59	Surface/ landscape area	1163 sqmtrs	8.15 lakhs
b	Right side area Opposite to CGG Building	1507.599	Surface/ landscape area	754 sqmtrs	5.3 lakhs
	Total			1917 sqmtrs	13.45 lakhs
3	Bore-3 Near CRPF Compound Wall				
a	Arjuna arcade	1500	Rooftop area	750 sqmtrs	5.3 lakhs
b	Btw staff Quarters and Tungabhadra hostel including both Staff Quarters	3150.72	Surface/ landscape area	1575 sqmtrs	11 lakhs
	Total	4650.72		2325.358 sqmtrs	16.3 lakhs
4	Bore-4 opposite to Faculty & Professor Quarters				
a	Faculty Quarters	648.74	Rooftop area	648.74 sqmtrs	4.5 lakhs
b	Professor Quarters	808.13	Rooftop area	808.13 sqmtrs	5.7 lakhs
	Total	3833.18		1456.87	10.2 lakhs
5	Bore-5 Near Nursery				
a	Tennis, Volley ball Court and Side open area	2782.76	Surface/ landsacpe area	1391 sqmtrs	9.75 lakhs
b	Gym & sports Building near area	127	Rooftop area	127 sqmtrs	0.9 lakhs
	Total	2909.76		1454.882 sqmtrs	10.65 lakhs
	Grand Total	59.45 lakh litres per annum			



Rain Water Harvesting



- * Inverse Borewell Rainwater

Harvesting replenishes deep aquifers

- * Feeding working bore well increases its life and yield.

- * Weathered zone recharge through contour bunds in parks / open spaces

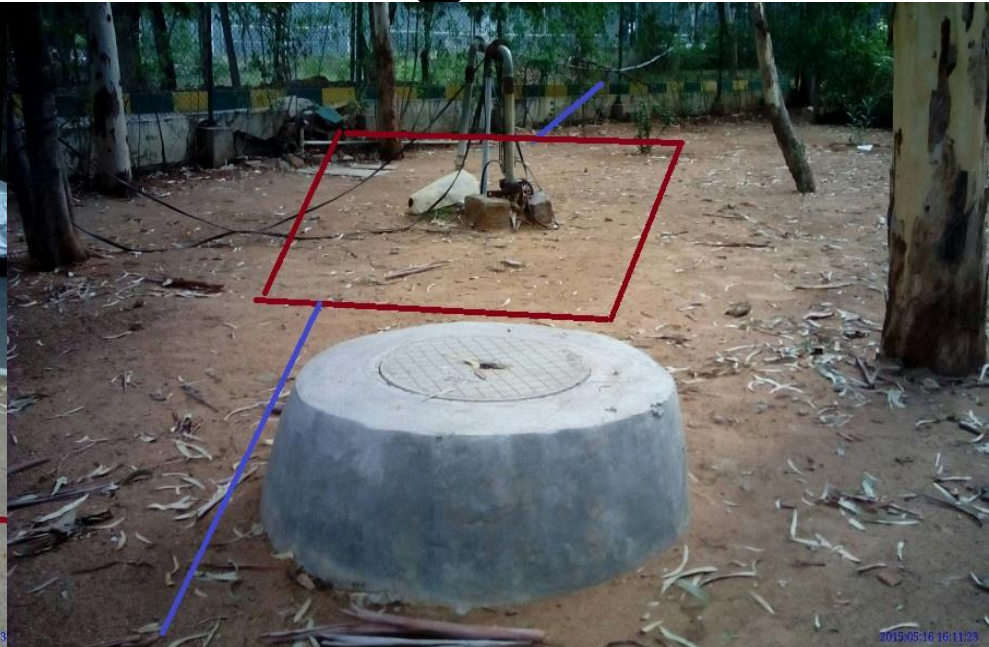
for soil & water conservation capture huge run off rain water at valley, clear soil deposits in storm water drains.

- * Utilizing existing CC sumps and unused syntex tanks for rain water storage for daily usage in huge landscape & plants.

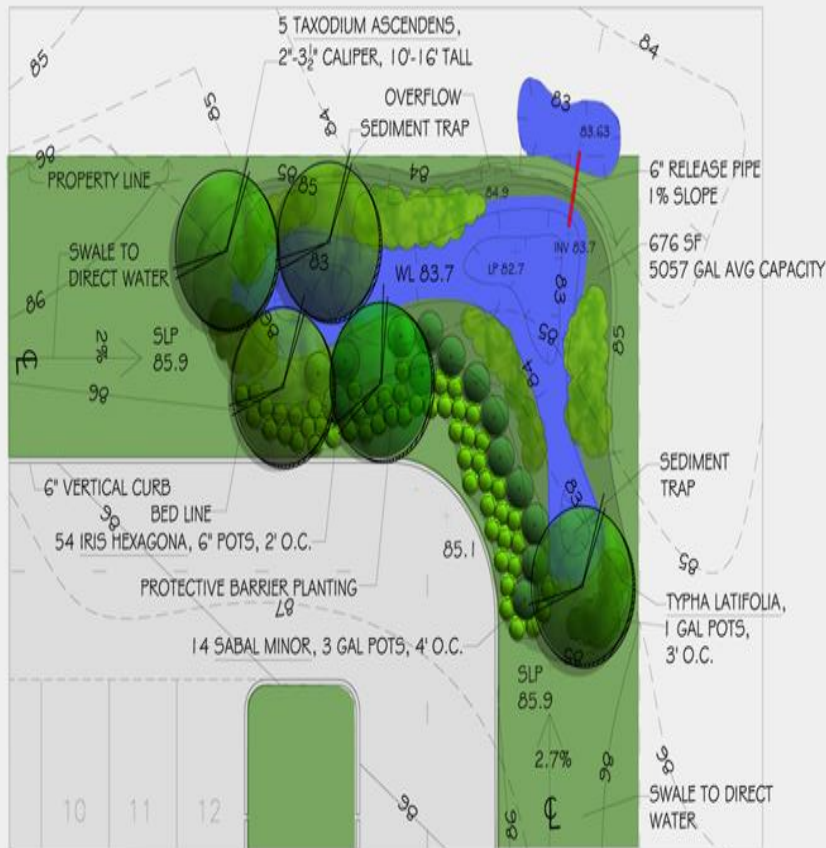
- * Site based solution saving power by avoiding distant pumping for energy efficiency.



Water Harvesting



Waste Water Treatment



CONSTRUCTED WETLAND

- Installation of treatment ponds.
- Installation of suitable, local gravel of different dimensions
- Installation of suitable hydrology techniques including pumps, piping and fixtures.
- Plantation of suitable plant species which can treat the waste water that is generated.
- Integration/ inoculation of Microbes.

Present Drinking Water Consumption

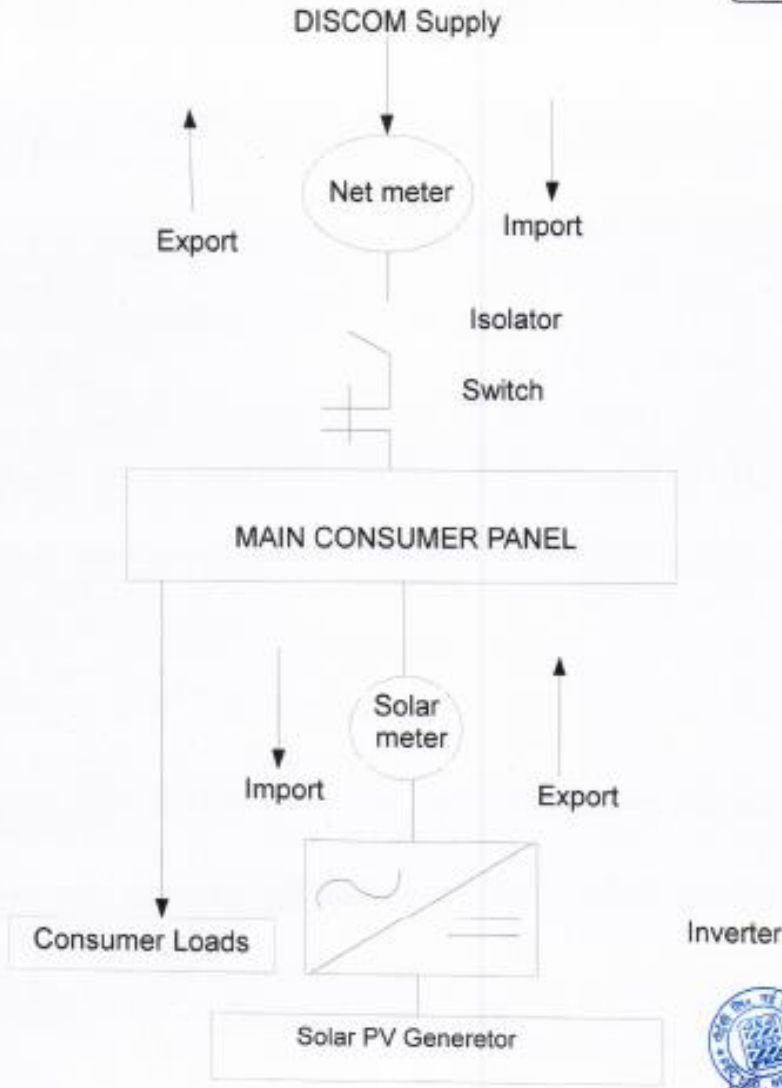


- 100 bubble tops x 20 liters = 2000 liters capacity bubble tops
- Bill Rs 40 to 50 thousands per month.
- **100 x 23 x 30 = Rs 69000 peak**
- **We need an RO plant of 500 liters per hour**
- Capital cost = Machinery Rs 4 lakhs + New cans Rs 30,000(Rs 150 x 200 cans)
- Operational = Rs 5000(power) + 9000(manpower)



Solar Power

SIMPLIFIED SKETCH OF NETMETERING



- Solar street lamps
- Solar initiative is Grid Connection based
- 490 kw capacity
- 8 locations on the campus
- Rs 3.87 crores(- 30% subsidy)



Solid Waste Management



- Kitchen Waste & left over food waste
- Household Waste
- Green Waste
- Total Garbage generated: 100 -500 Kgs
- Kitchen / food waste depends on the training programmes.
- 500 gms per capita per day



Wastes: Source Segregation



- **WET WASTE (ORGANIC WASTE)**
 - **Bin 1 :** Food Waste (Cooked food)
 - **Bin 2:** Kitchen Waste (All waste vegetable, fruits, wet waste)
 - **Bin3:** Coconut waste
 - **Bin 4 :** Garden Waste.
-
- **DRY WASTE (INORGANIC WASTE)**
 - **Bag 1:** Paper
 - **Bag 2:** Plastic
 - **Bag 3:** Metal
 - **Bag 4:** Glass.



Composting of Garden Waste



- One part “brown” material (dead leaves, small twigs, tea filters, shredded paper, cardboard or newspaper, straw, old and dried flowers).
- One part “green” (fruit and vegetable scraps, grass clippings, tea and coffee grounds).
- One part soil (including some finished compost to get the process going).
- Watered enough to dampen the mixture and tied to tree.
- Two Months the compost is ready



Reduced Water Use



- Water metering of all facilities consuming high quantity of water: Kitchen, hostels, cloths washing, gardening & quarters increasing accountability in water consumption
- Conventional taps being replaced with push type taps with foam output regulating output of water
- Timers/ball cocks to all overhead tanks to arrest overflow and wastage of water
- Installing male urinals to consume less water
- Survey of leakages for periodical repair and replacement arresting significant water wastage
- Two level/two button water use flush tanks and use of the smaller button/flush is encouraged.
- Reduction in capacity of existing flush tanks by dropping 1 litre water bottle in each tank.



Reduced Water Use



- Changing of bed linen and towels once in 5 days is encouraged, unless specifically requested by the occupant.
- Washing contract and catering contract have conditions on quantity of water provided to them. Extra Consumption charged.
- Water consumption in kitchen inspected. Extra Consumption charged.
- Sprinklers for garden/lawns and drip for line plantation
- Scheduled watering of the plants and garden/lawns as per requirement only and not on daily basis



Reduced Waste Generation



- Non-vegetarian food which has high ecological footprint is restricted to 3 days in a week



Reduced use of Disposables



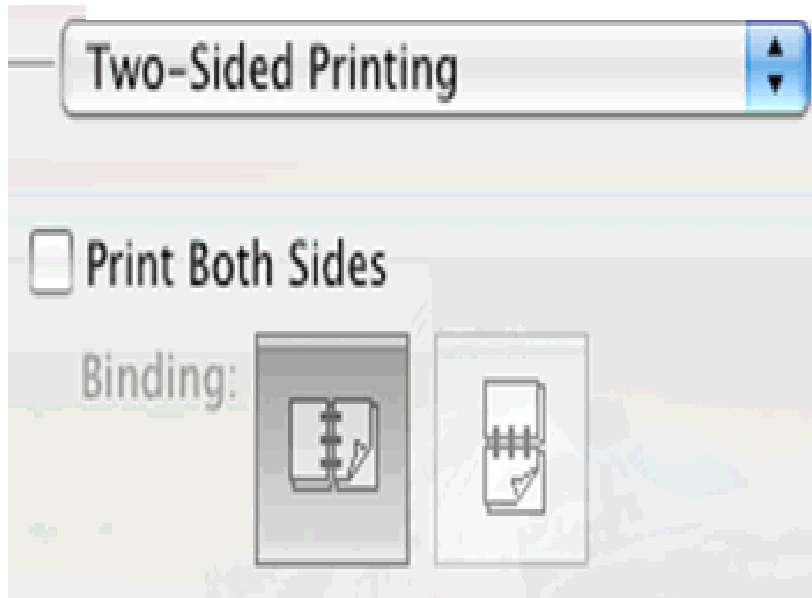
- Use of disposable water glasses, tea/coffee cups and water bottles is banned



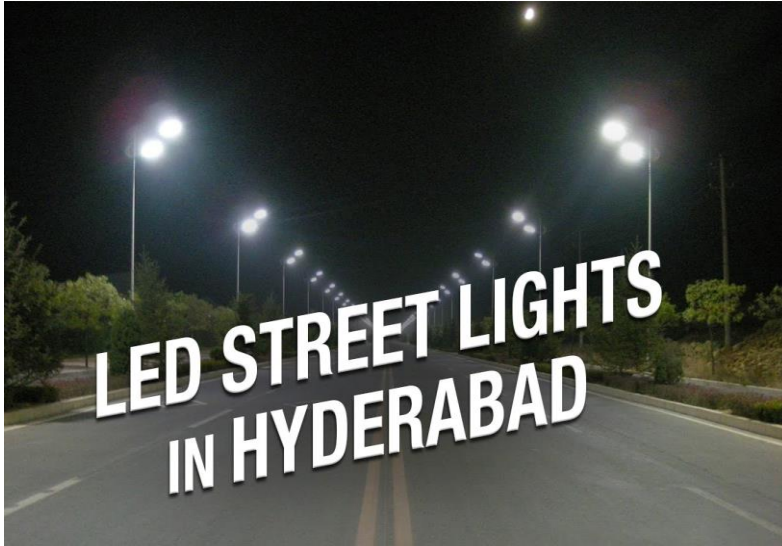
Paper and Printing



- Printers which print both sides of a page in one go introduced
- Use of one side printed paper for drafts, internal circulars is encouraged



Reduced Electricity Consumption



- All buildings, quarters and independent units are metered
- Cost Centre Approach with focus on high energy consuming units/blocks and monitored consumption closely.
- Inefficient sodium vapour high mast lamps on the internal roads in Campus are replaced with low height (garden type) LED lighting
- Energy audit of the campus and its independent units for necessary inputs and recommendations.
- In the academic / administrative block, study is taken up on whether a centralised AC or replacement of old ACs with energy efficient ACs would be economical/efficient
- Provide remotes to each AC and fix it on the wall right under the AC for operational convenience



Reduced Electricity Consumption p



- MCBs for arresting use of high power consuming appliances in all hostels
- Access card(key insert type) based entry to rooms so that when out of use power gets switched off
- ACs Temperature fixed at 23 C
- Old high energy consuming fans replaced
- CFL lamps being replaced with LED lamps in a phased manner
- Auto door closers with no stoppers in all class rooms
- Air filters of all ACs cleaned every 3 months



Reuse of Containers



- Reusable steel water tumblers/glasses in two trays (one for keeping used and ones and the second for unused ones) near every water dispenser at class rooms
- Refillable water bottles for meetings and conferences





Water your yard and outdoor plants early or late in the day to reduce evaporation.

Use a shut-off nozzle on your hose.



Use plants that require less water.



Mulch around plants to hold water in the soil.

Get an Energy Star labeled washing machine.



Wash only full loads.

Use a low flow showerhead.



Take shorter showers — five minutes or less is best.

Turn off the water while soaping hands and brushing teeth.



Turn off sink faucet while scrubbing dishes and pots.



Install new toilets that use less than 1.6 gallons per flush.



Put faucet aerators on sink faucets.

Use a broom, not a hose, to clean driveways and walkways.

