

Centre for Science and Environment, New Delhi



CSE's walking the talk



Basis of design

Function In-house scientific and environmental research and publications on issues pertaining to the environment and development of national and international significance...

CSE's **building design** and maintenance displays the organization's overall commitment towards the ideal of **sustainable development**

Designed by

Vastu Shilpa Consultants, Ahmedabad.

(CSE) Ar. B. V. Doshi, Ar. Rajinder Puri

(AAGC) Ar. Rajeev Katpalia



We shall see

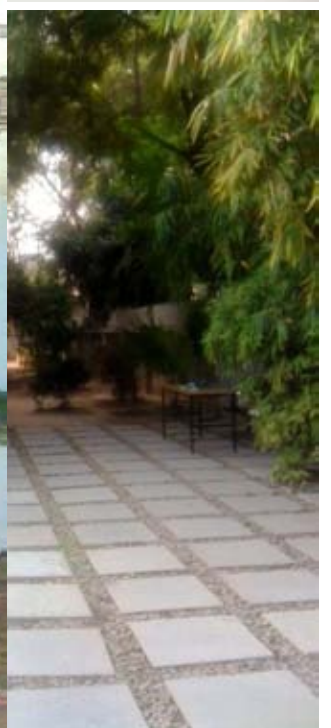
1. **Highlights** of the Green Building features of CSE Building and AAGC
2. **Best Practices** of Passive Buildings and Traditional Building concepts exhibited in the Buildings
3. Energy **Performance** of Buildings
4. Renewable Energy generation
5. Conservation Techniques of **Water**
6. **Waste Management**
7. **Wastewater Treatment**
8. Compliant with **NBC** (2005), and DDA Bye Laws



Minimal Hard paving on site

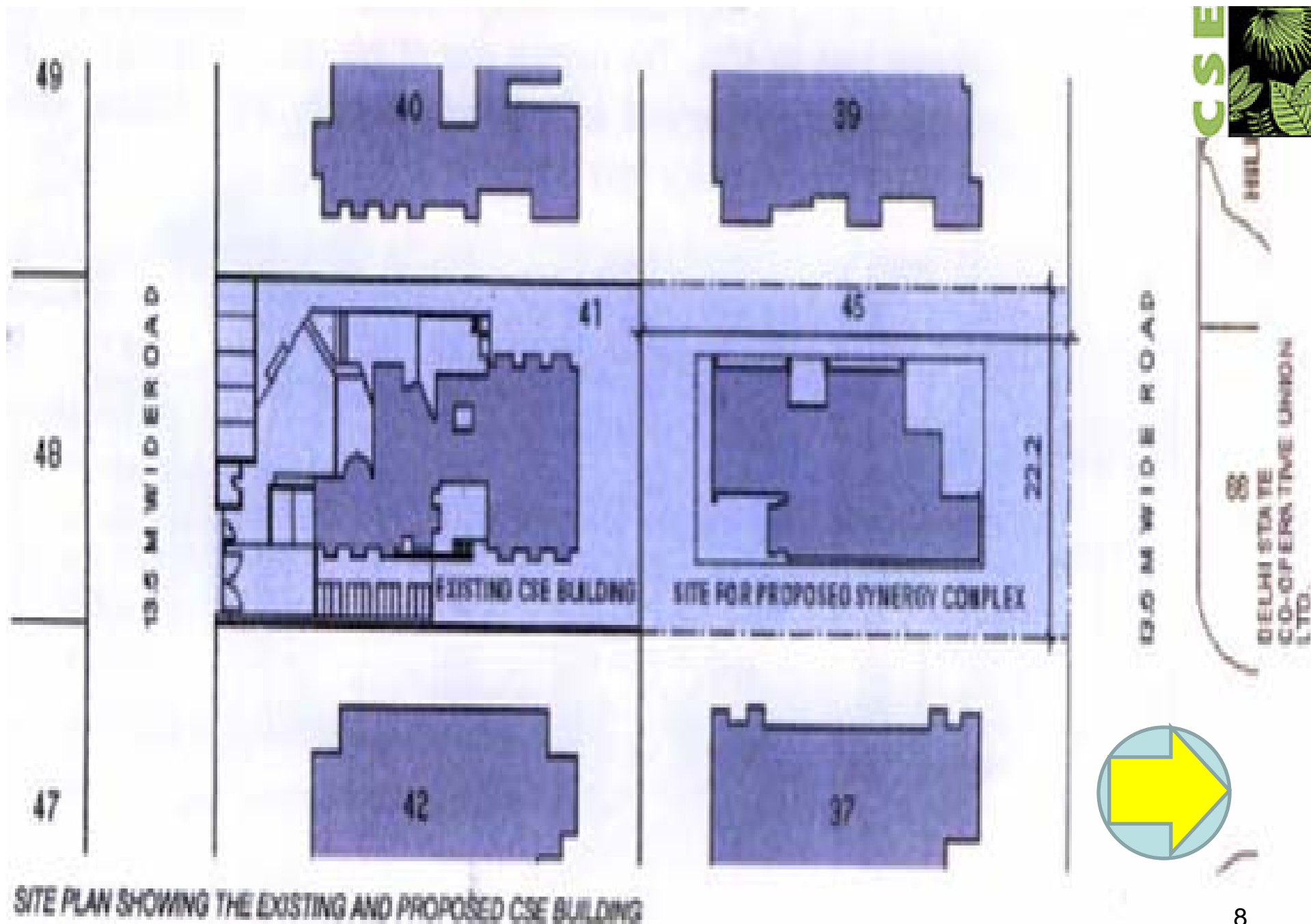
Sustainable Site Features







Building Design and Construction



SITE PLAN SHOWING THE EXISTING AND PROPOSED CSE BUILDING



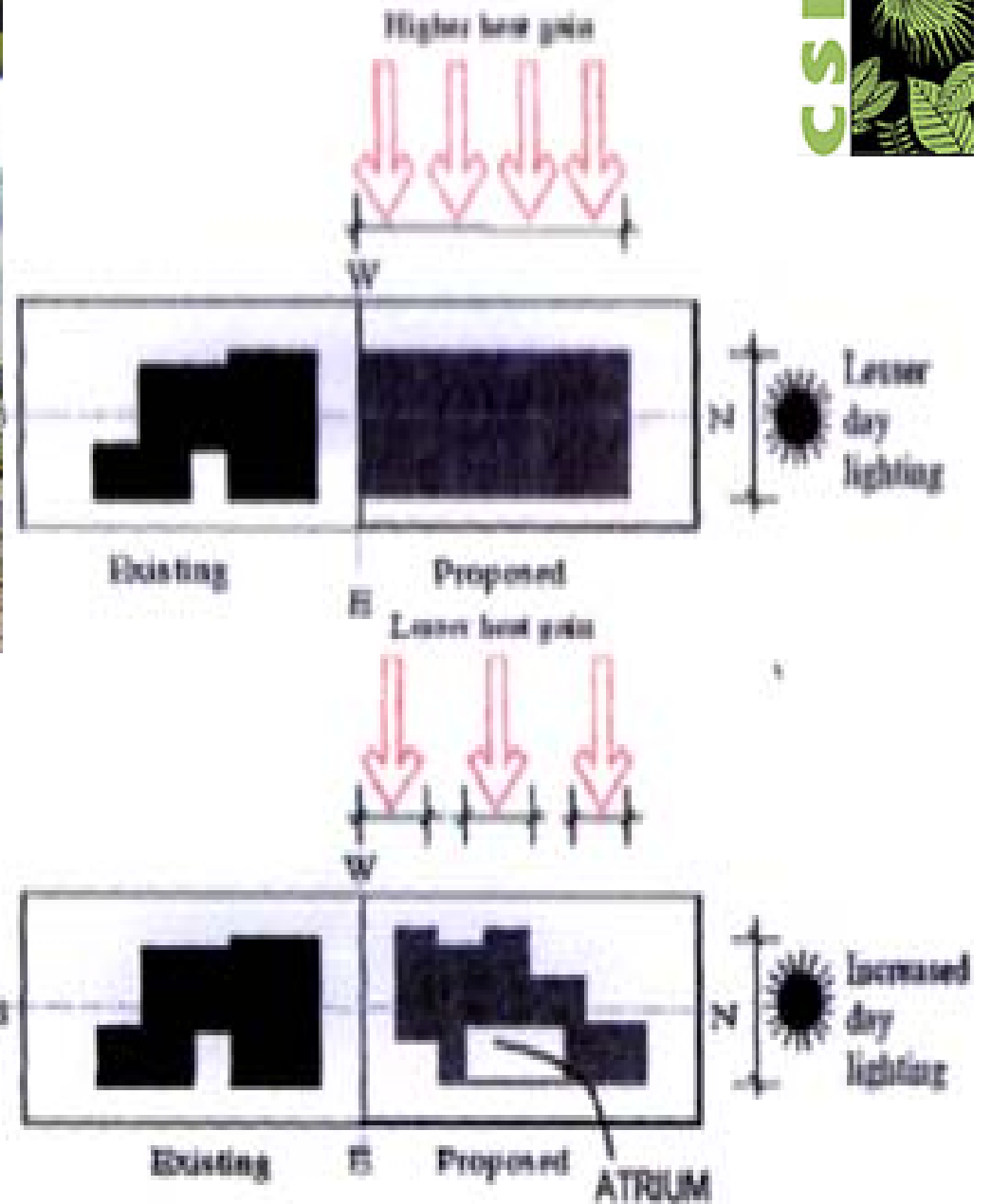
Built up Area

CSE	Total Area (sq.m)
Basement	211
G. Floor	214
First Floor	198
Second Floor	170
Third Floor	156
Fourth Floor	147
Terrace	147
Total	1243

AAGC	Total Area (m2)
Basement	333.52
Ground Floor	165.83
First Floor	131.74
Second Floor	83.79
Total Area	714.88

75% Site Area (750sq.mt.)
is unbuilt





OPTIMISATION OF BUILDING ENVELOPE



Building Operations

Water Consumption

Table 2: Activity wise water use composition

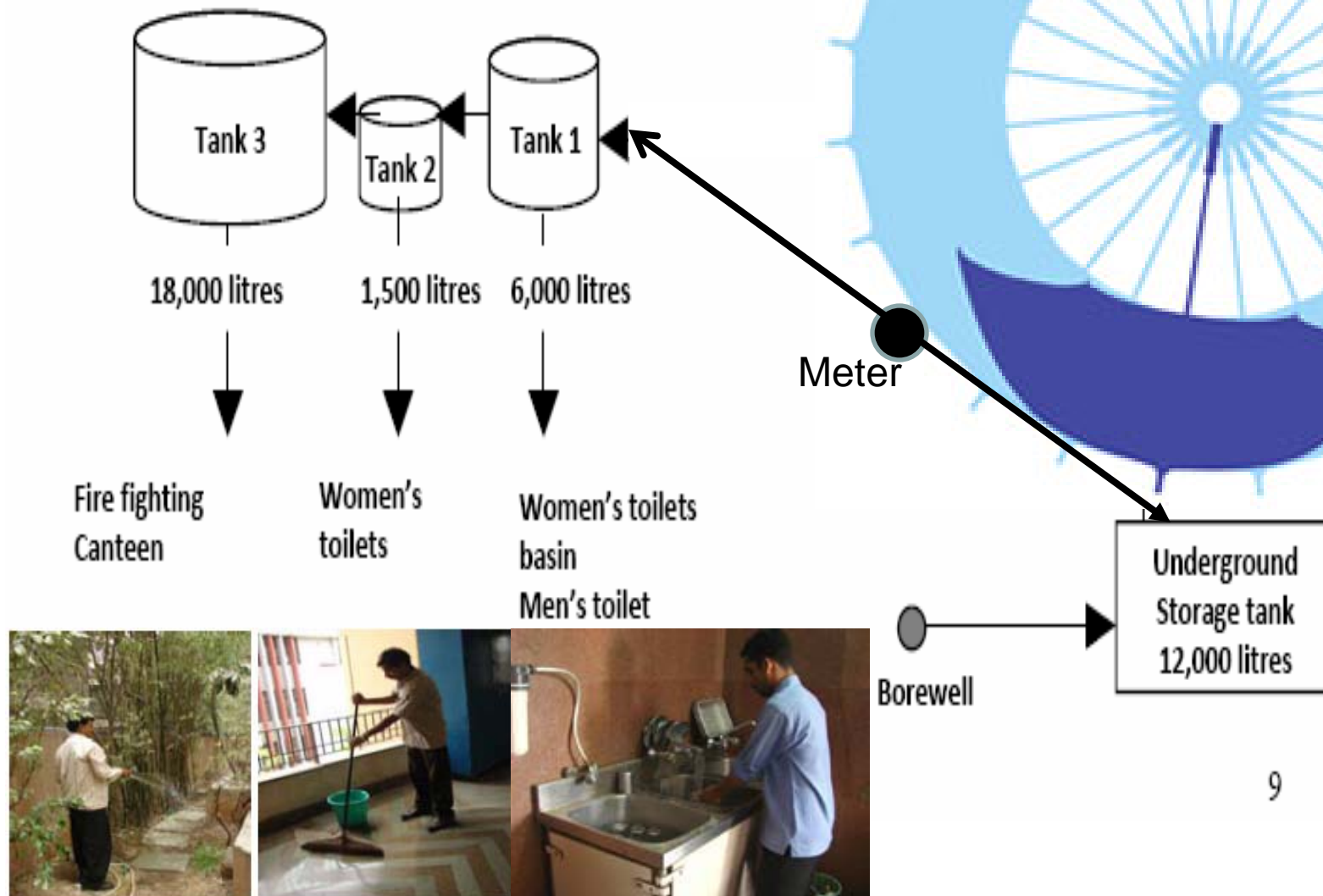
S.No	Activity	Water use in litres/ day	Percentage of total use	Litres Per Capita Per Day (lpcd)
1.	Drinking	220	3.3	2.2
2.	Cooking	250	3.8	2.5
3.	Toilet flushing	2171	32.9	21.71
4.	Hand washing	733	11.1	7.33
5.	Washing utensils	711	10.8	7.11
6.	Mopping and cleaning	280	4.2	2.8
7.	Gardening	2143	32.4	21.43
8.	Desert coolers	100	1.5	1
9.	Total	6608	100	66.08



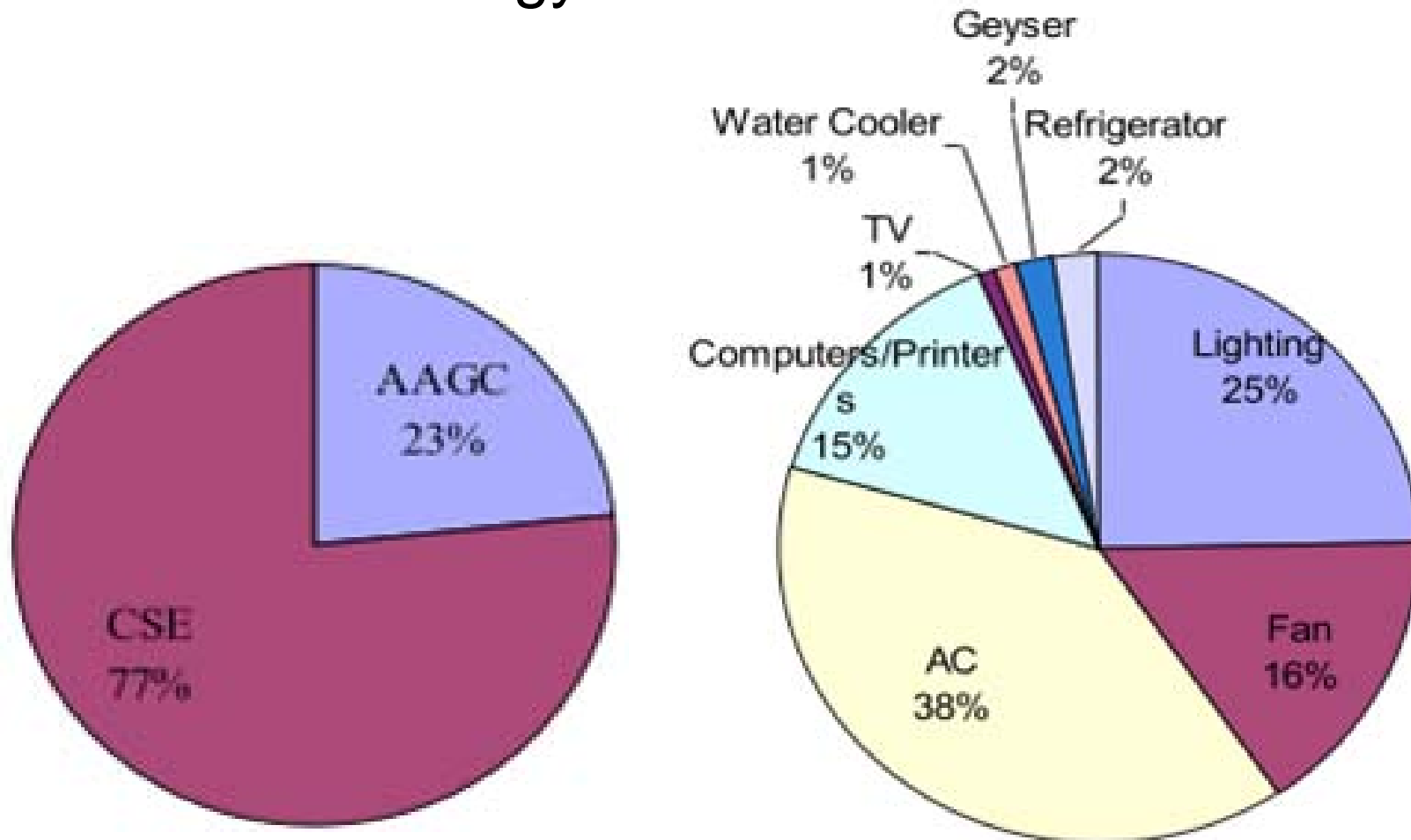
Total water consumption for CSE is 6608 litres per day and the per capita use is 66.08 lpcd

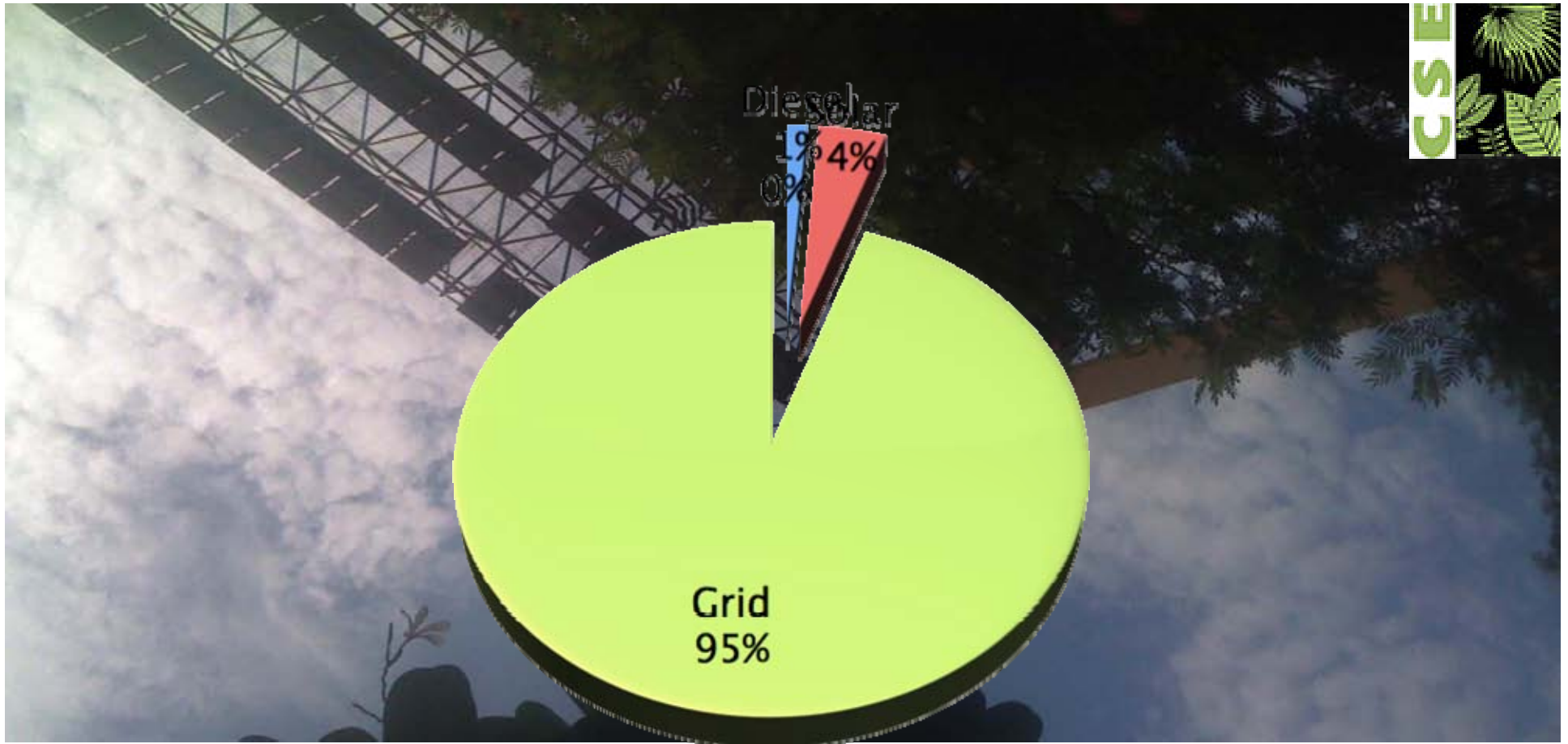


Figure 2: Schematic diagram of CSE's water supply system



Energy Consumption

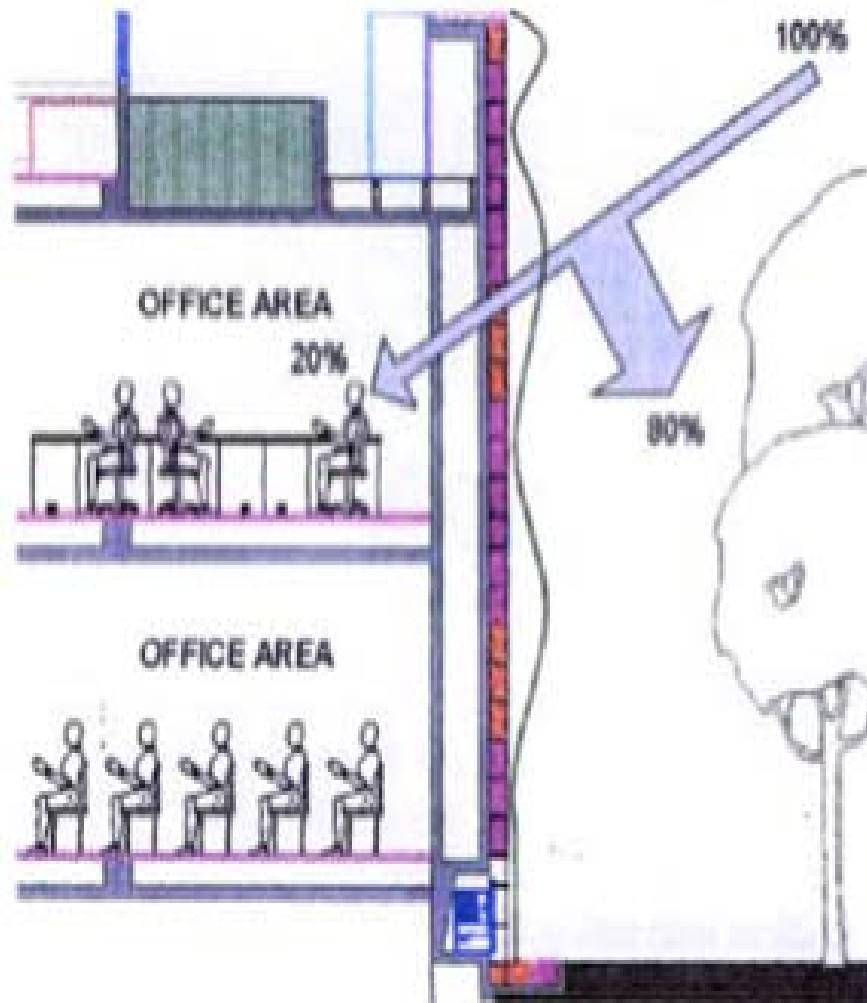




Building	Energy Supply (kWh)			
	Grid	Diesel	Solar	Total
AAGC	42300	920	1530	44750
CSE	138632	3080	5121	146833
Total	180932	4000	6651	191583

Heating and Cooling

Building has its own convective mechanism and cross ventilation



EXTERNAL WALL WITH CREEPER CONSTITUTES ECOLOGY WALL





Building Envelope

Building	Window to Wall Ratio (WWR)	Building Envelope				
		Frame Type	Glazing Type	Wall U-factor (w/m ² .K)	SHGC	VLT
CSE (North wall)	<40%	MS Window, Rubber Gasket	Single Glazing	4.0	0.20	0.72
AAGC (North wall)	<40%		Single Glazing	4.0	0.20	0.68
AAGC stair-case	>60%		Double Glazing	4.0	0.20	0.92





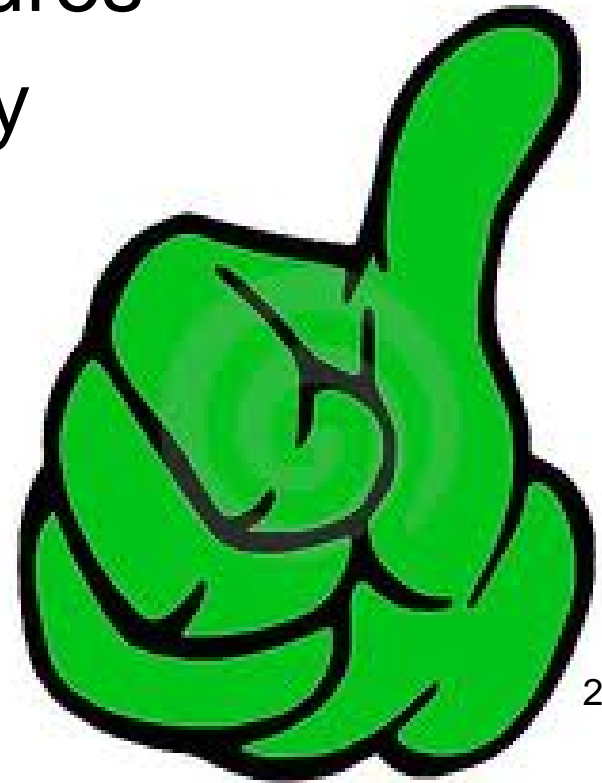
Lighting

CSE	Lighting Power Density (W/m²)
Basement (Admin)	12.31
G. Floor	10.32
First Floor	10.45
Second Floor	11
Third Floor	9.7
Fourth Floor	10.00
Canteen	3.82

AAGC	Lighting Power Density (Wh/m²)
Basement (Library)	17.98
Ground Floor	8.20
First Floor	10.31
Second Floor	7.26

Green CSE

- Saving 4% of Grid Supply Units (= 7237.28 kWh) Annually
- Water Conservation Measures
- Improved Indoor Air Quality
- Passive Design



Tap renewable energy, Tap rainwater
Leap on to a sustainable future!!

