Educational Campus for IIT Gandhinagar

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Green Campus Development Consortium
IITGN had to be less unsustainable than any other campus

Efficient use of land
Efficient use of built space
Minimum water and energy imports
Zero waste discharge
Mobility without cars
Preservation of bio-diversity
Social Equity
Cultivation of food onsite
Harvesting of energy onsite
Site Area = 400 acres

- Approx. 45% of area is not suitable for development
- Northern portion severely affected by eroded ravines
- Low potential in central part for extensive development
CELEBRATING WATER
MASTER PLAN VISION
CAMPUS ON SABARMATI

- Scenic drive through ravine
- Panoramic views across Sabarmati
- Retaining ravines as bio diversity areas
- Seasonal ponds as visual foci
Water Management
RENEWABLE ENERGY
SOLAR SHADING
RAIN WATER HARVESTING
RAVINES AT SITE

- Anaerobic bio-reactor
- Constructed wetland
- Recovered water
- Rainwater harvesting structure

IIT GANDHINAGAR
GREEN CAMPUS DEVELOPMENT CONSORTIUM
Walk up Academic Buildings
Walk up Hostel Buildings
ACADEMIC SPINE
BUILT FORM

- Low rise, walk up buildings
- Human scale courtyards and open space system
- Few high rise housing blocks for skyline variation
Entrance Court to Central Vista
Entrance Courts
Student Hostel Courts
Staff Housing Courts
Site Plan Optimised for

Mobility without automobiles
Walking and cycling
Internal public transport system
Providing land for growing energy and food
Biological treatment of waste water

Buildings Optimised for

Cooling without Air conditioning
Passive downdraft evaporative cooling without fans
Day lighting
Jal Mandap - celebrating Rainwater Harvesting
The END

• Not all the objectives were met
• Positive aspects are that
  – The campus is car-free and an alternative system of transport has been implemented on site.
  – Energy efficient buildings are being built
  – Renewable energy is being harvested on site
  – The ravines are being used for sewage treatment.
• The Negatives are
  – Food is not being grown though vacant land is being used for cultivation of Morenga
  – Not all the energy used will be harvested onsite
  – Buildings are not built as tightly as originally planned
  – Rainwater could not be harvested in time for construction use
  – Permanent housing for construction labour was not built
  – The built area will be more than the minimum possible
Thank you ..................