

# Educational Campus for IIT Gandhinagar

Vinod Gupta,  
Space Design Consultants  
Green Campus Development Consortium

# The Beginning

2011

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

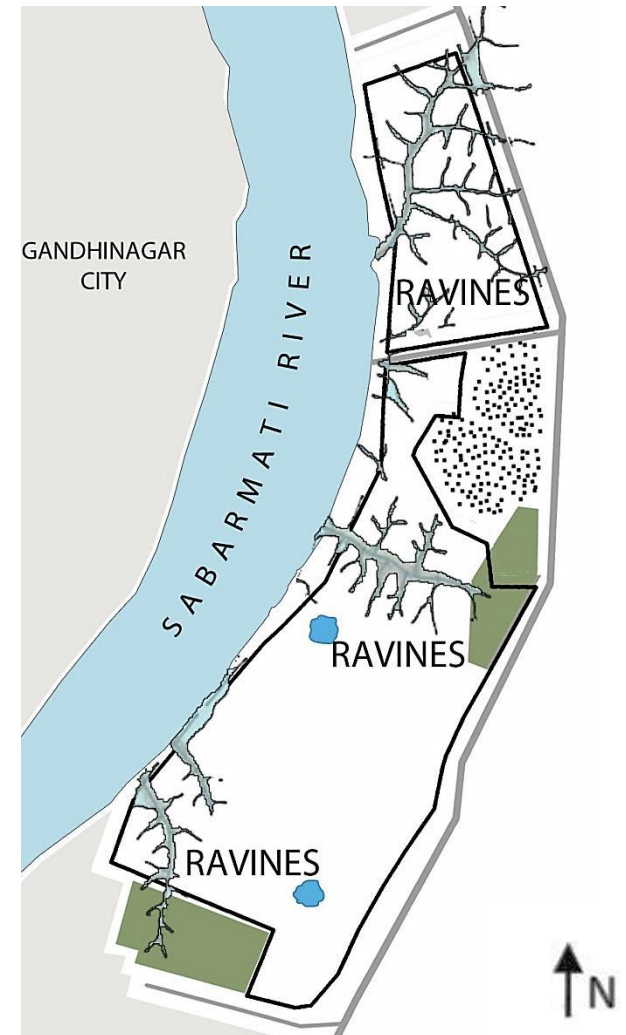
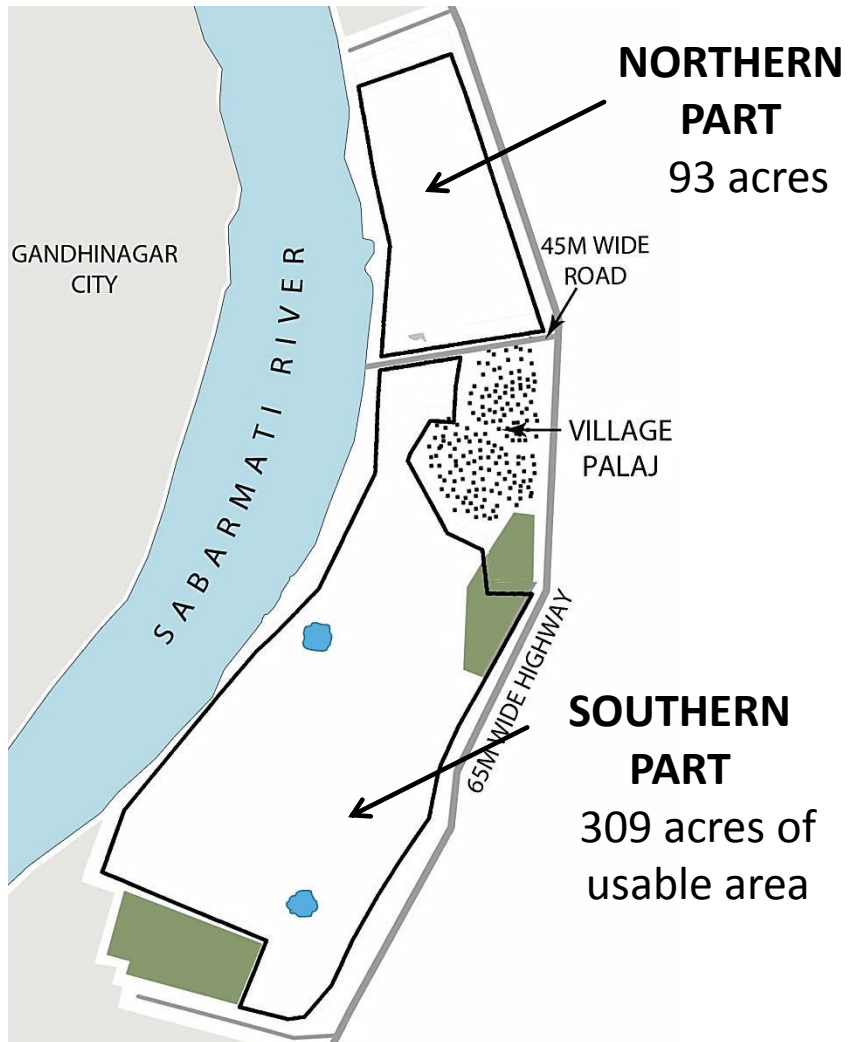
Cultivation of food onsite

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













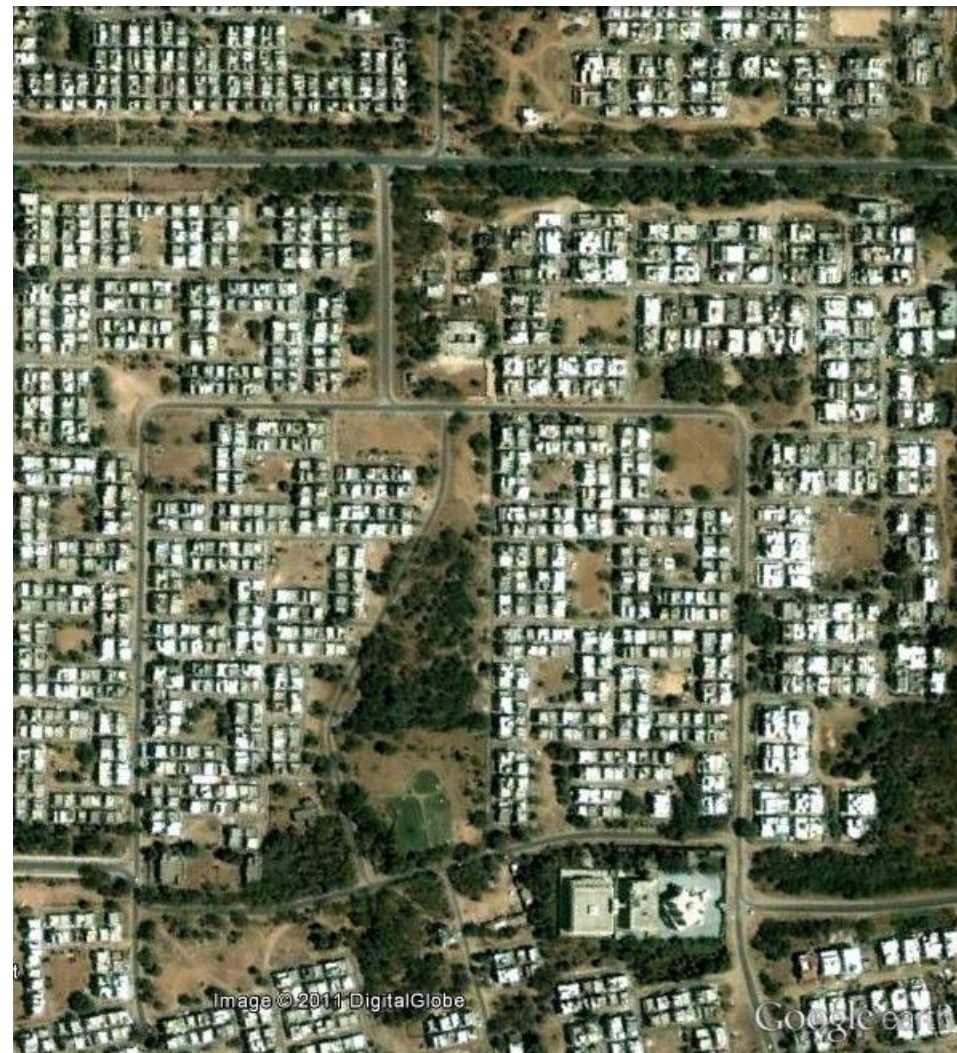




# DENSITY

## AHMEDABAD CITY

## GANDHI NAGAR



IIT GANDHINAGAR

GREEN CAMPUS DEVELOPMENT CONSORTIUM



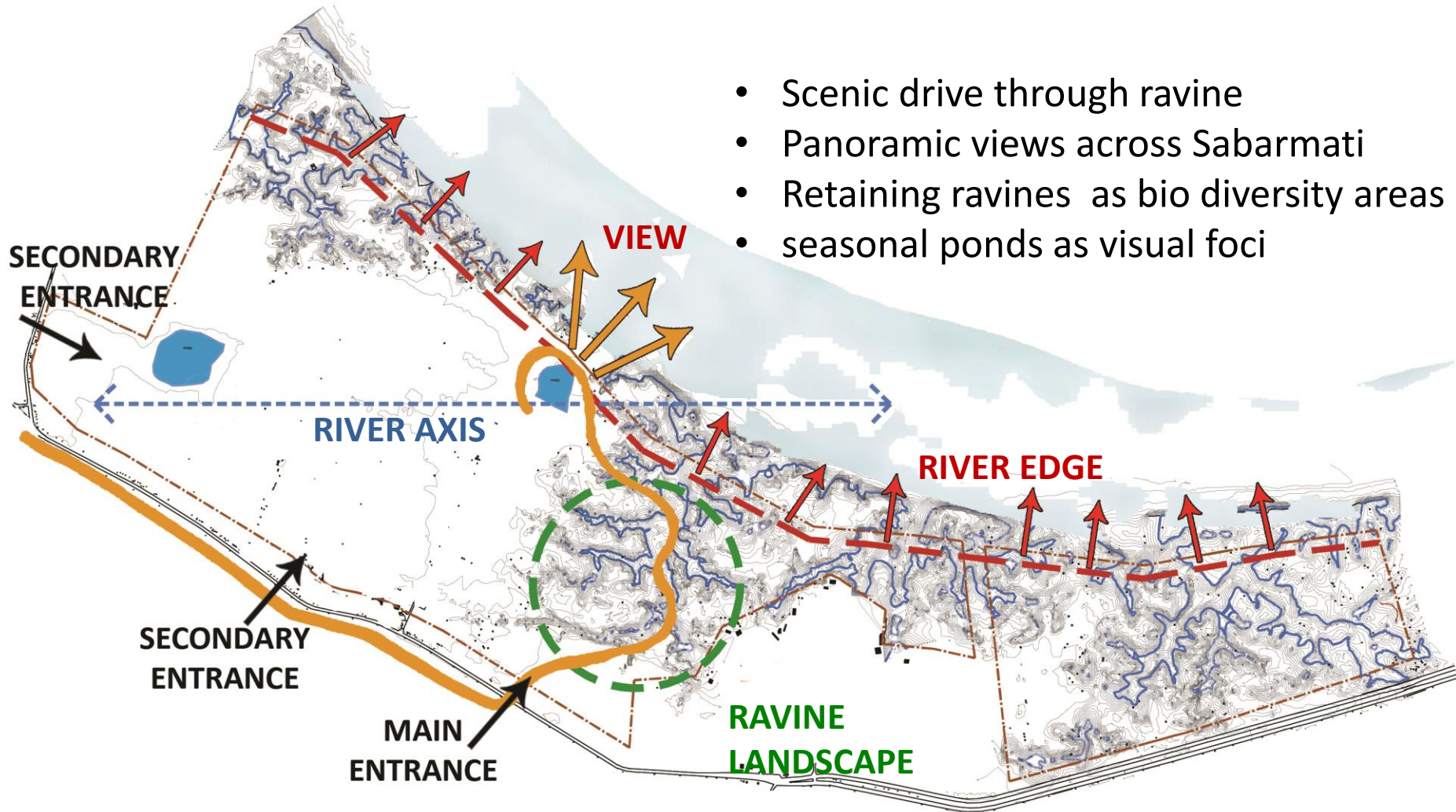


CELEBRATING  
WATER



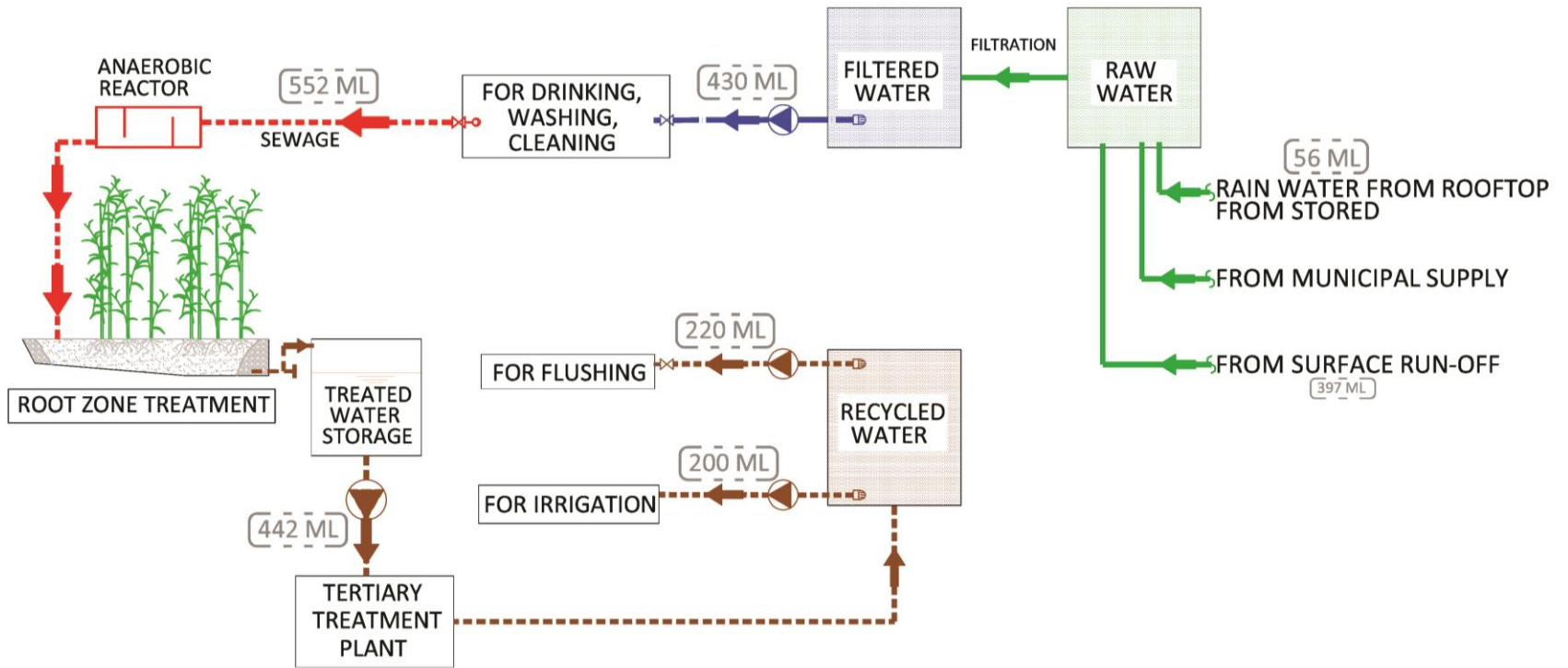
# MASTER PLAN VISION

## CAMPUS ON SABARMATI



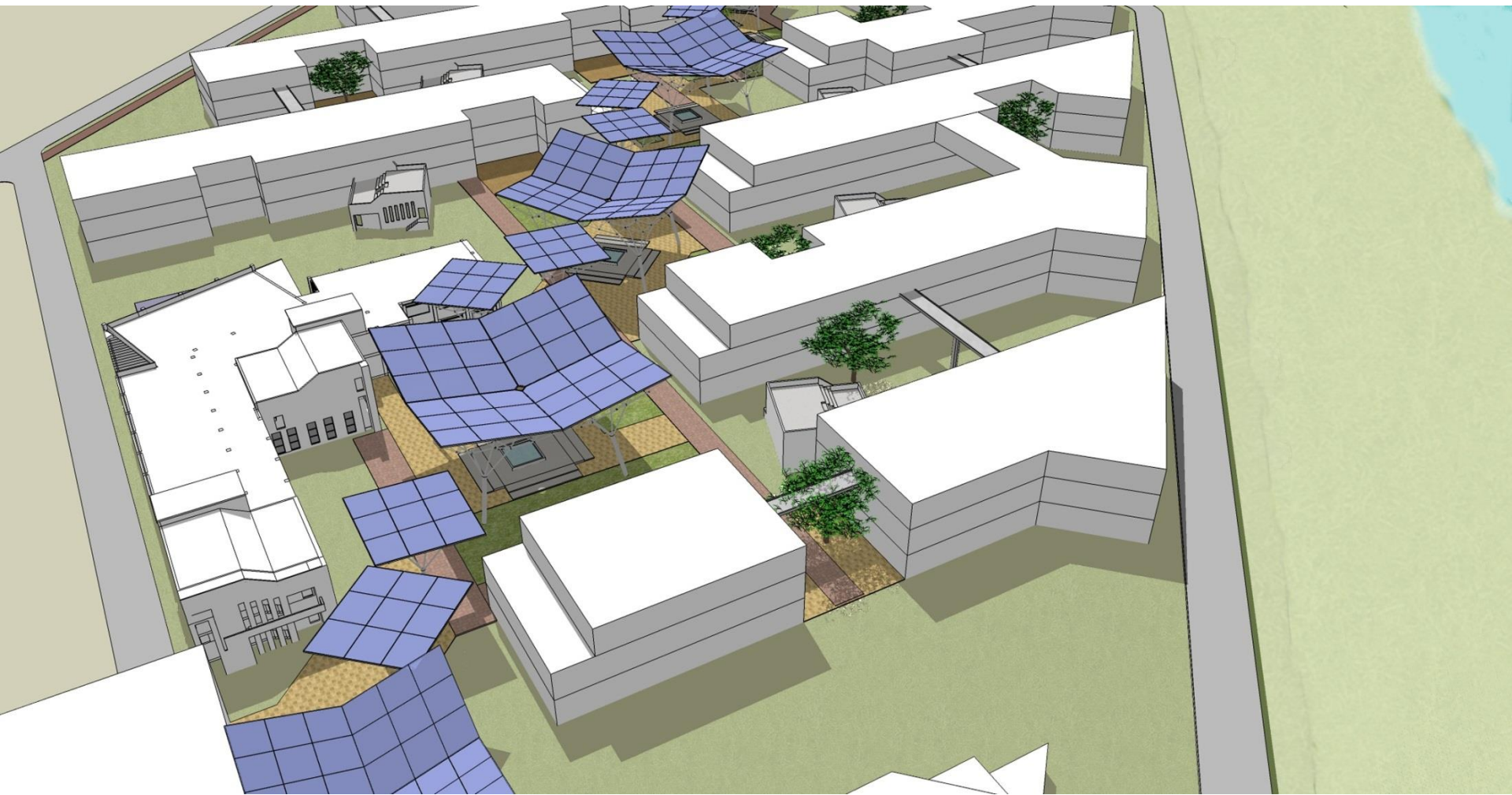
- Scenic drive through ravine
- Panoramic views across Sabarmati
- Retaining ravines as bio diversity areas
- seasonal ponds as visual foci





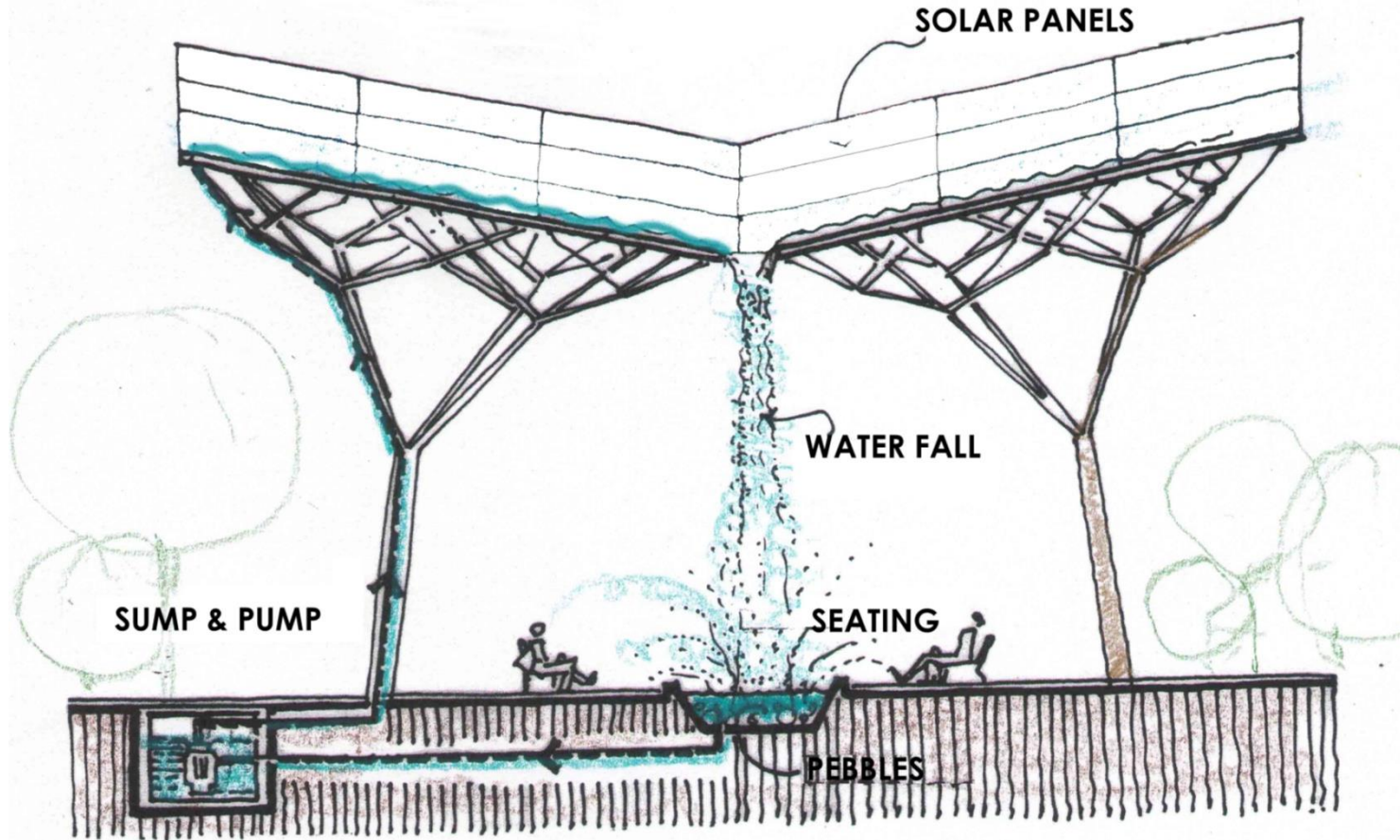
# Water Management





## Power Management

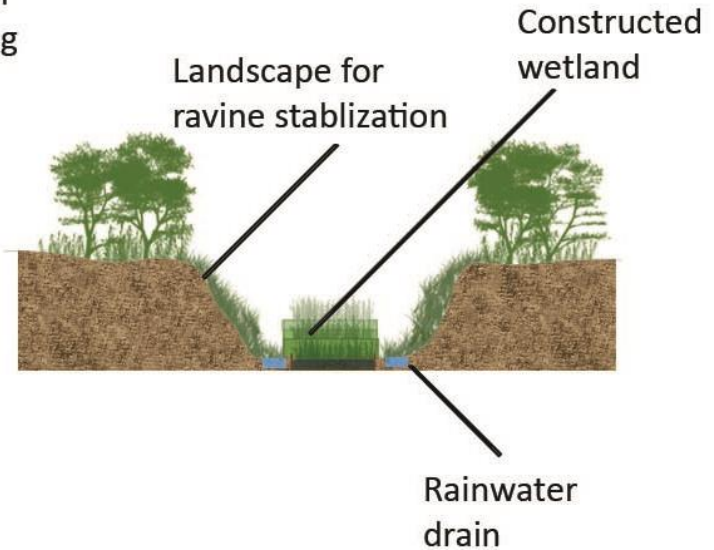
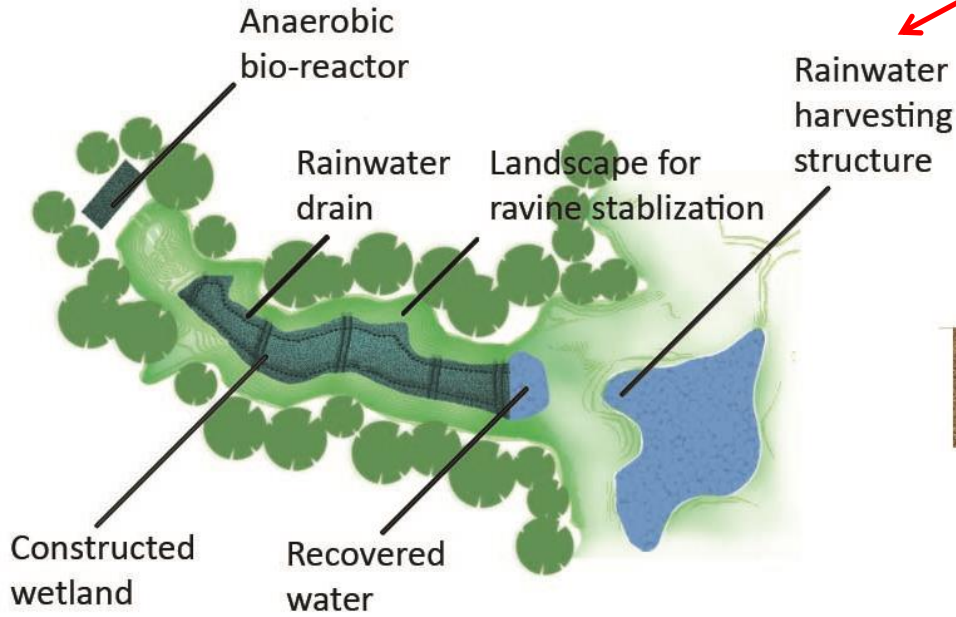
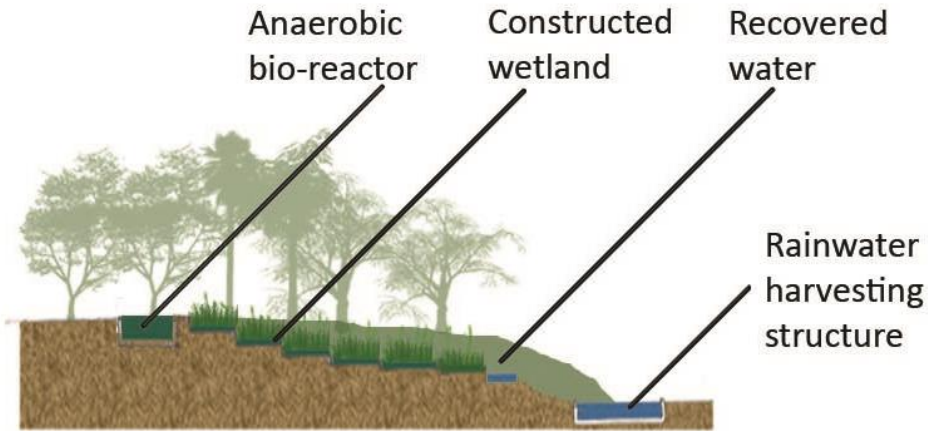
# RENEWABLE ENERGY SOLAR SHADING RAIN WATER HARVESTING

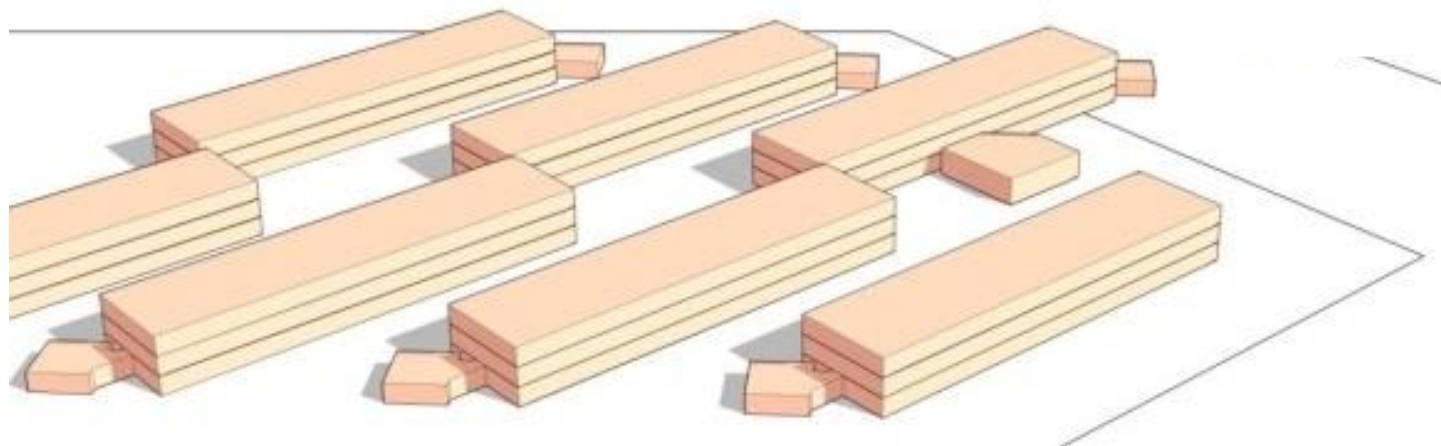
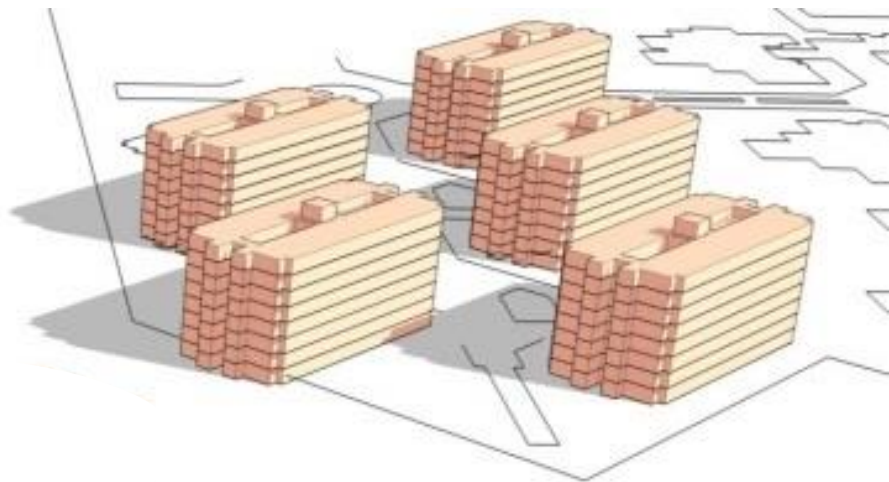


**SOLAR PANEL / RAIN WATER HARVESTING**



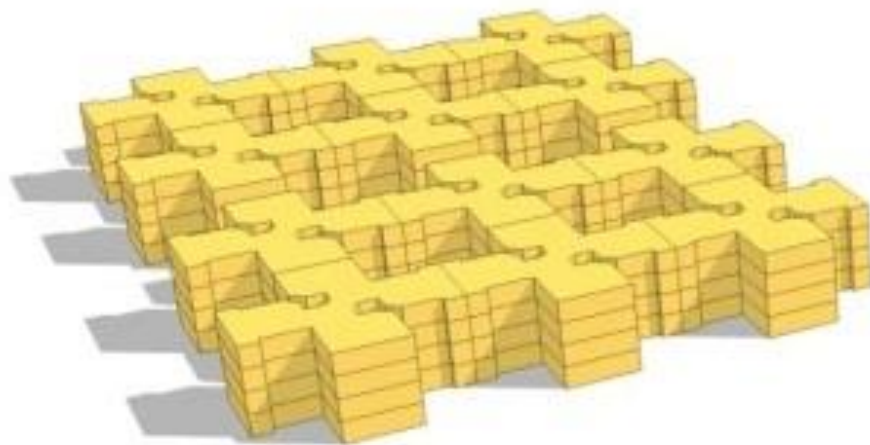
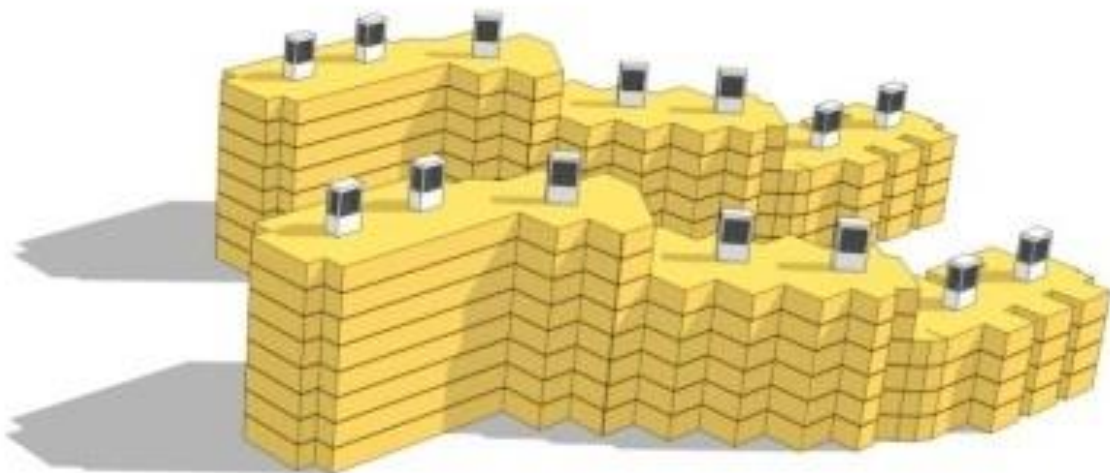
# RAVINES AT SITE



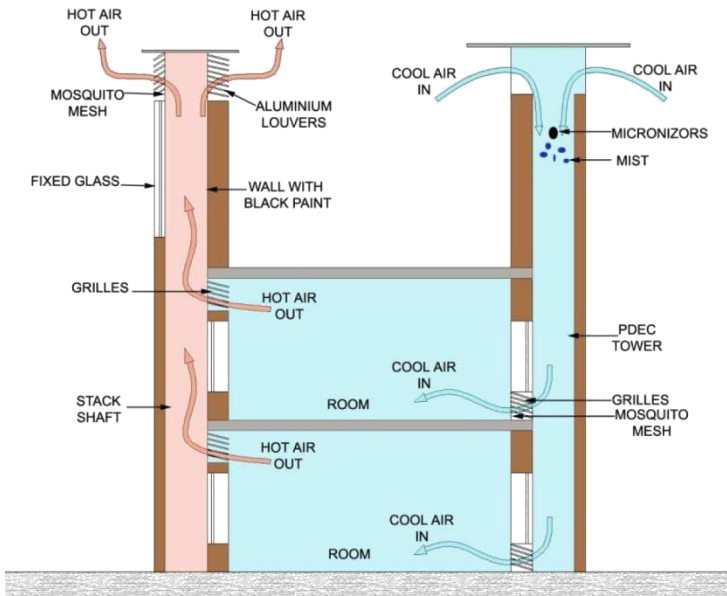


Walk up Academic Buildings





Walk up Hostel Buildings

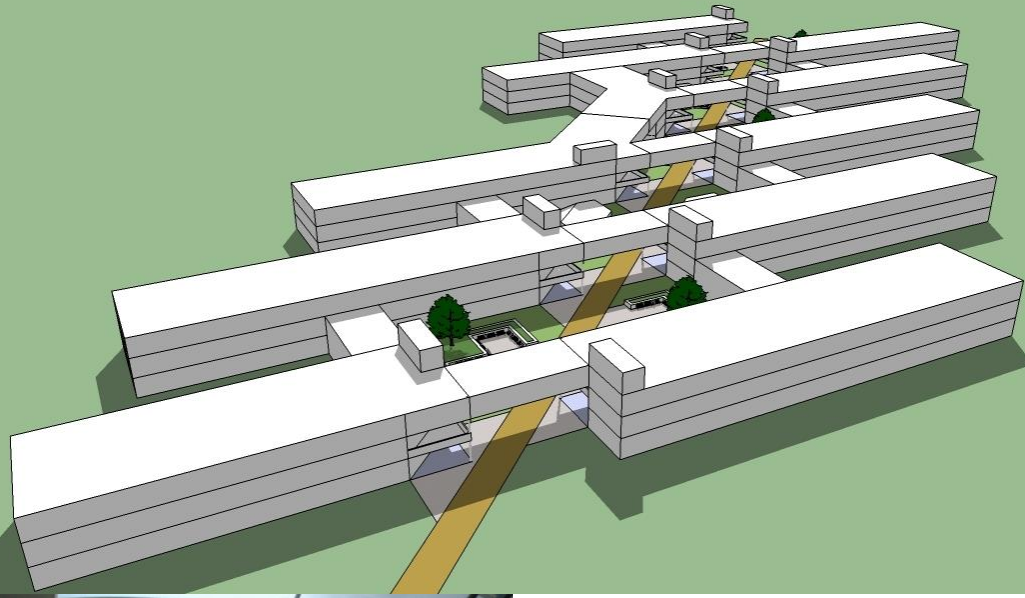


Low Energy Cooling

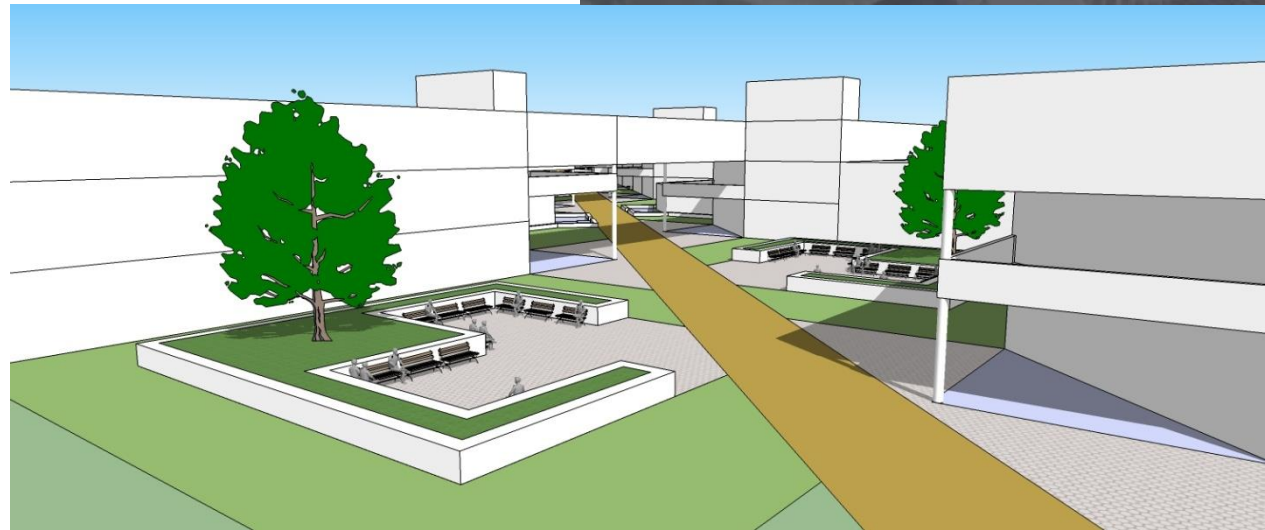


Day Lighting





## ACADEMIC SPINE



- ACADEMIC
- STUDENTS HOSTELS
- STAFF HOUSING
- COMMON FACILITIES
- FUTURE DEVELOPMENT
- SCHOOL
- R & D, RESEARCH, WORKERS' HOUSING



Site Plan IIT Gandhinagar



# 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**

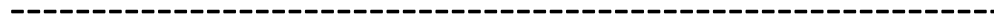
Mobility without automobiles

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





Biological Treatment of Sewage

# 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 .....