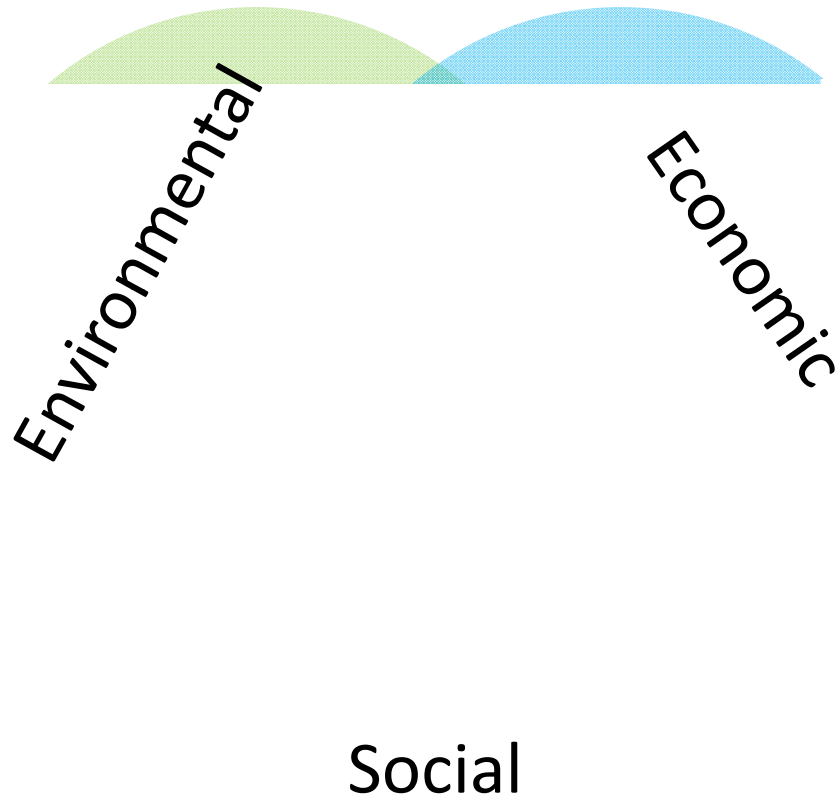


Towards Sustainable Campus Design

CES Conclave on Green Buildings
Sept.2014

Vinod Gupta
Space Design Consultants

Sustainable Development



ELEMENTS OF SUSTAINABILITY

THE CONTEXT

CLIMATE, GEOGRAPHY, NATURAL CYCLES

NATURAL RESOURCES

LAND, ENERGY, WATER, MATERIALS, WASTE DISPOSAL

HUMAN NEEDS

SHELTER, FOOD, COMFORT

SOCIAL EQUITY

UNIVERSAL AVAILABILITY

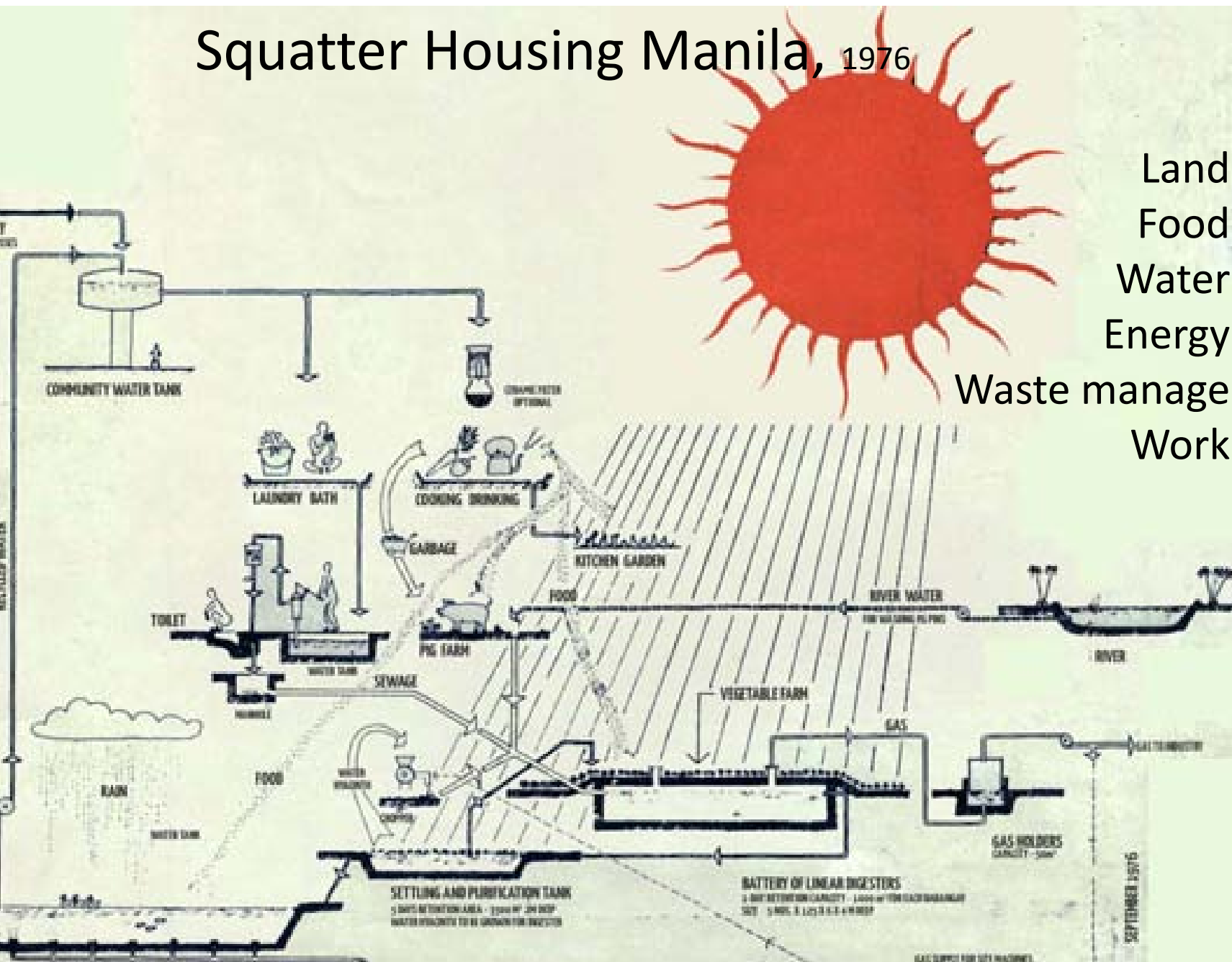
Green Buildings

Meet some environmental objectives

Save some carbon emissions

Effects outside & inside building not
accounted for

Squatter Housing Manila, 1976



Land
Food
Water
Energy
Waste manage
Work

Squatter Housing Manila, 1975



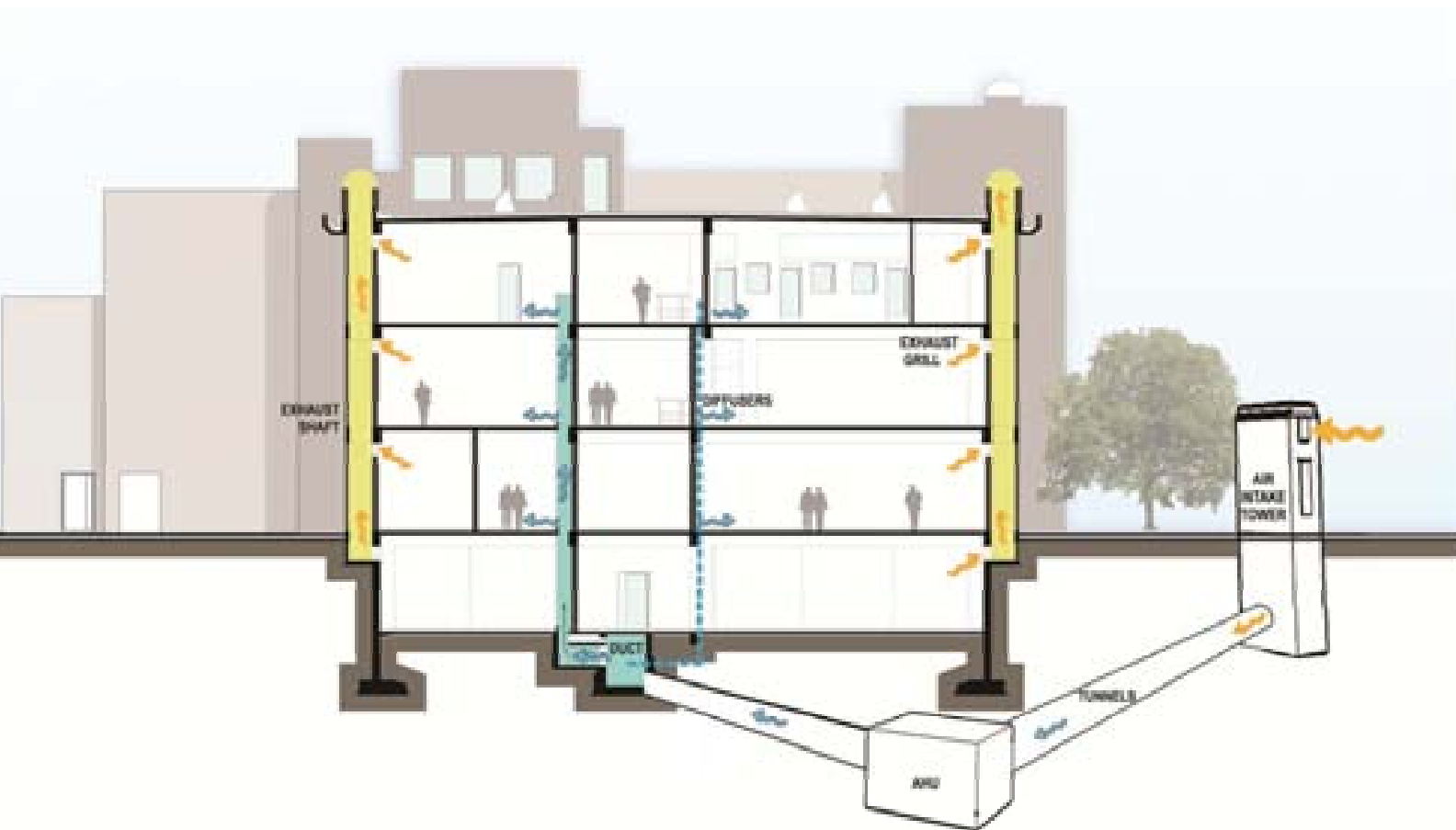


NIIT University, Neemrana, Rajasthan, 2007



Minimum cut and fill, sustainable building materials, energy conservation, car free campus, solar passive design, waste recycling

Low Energy Cooling





Mobility Without Cars

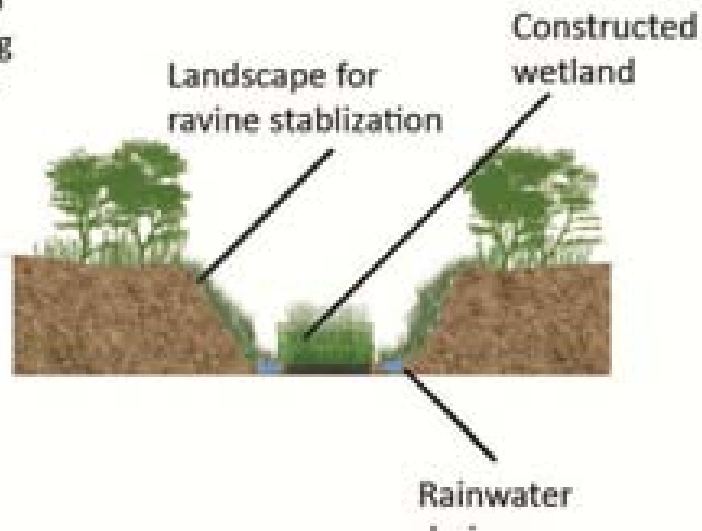
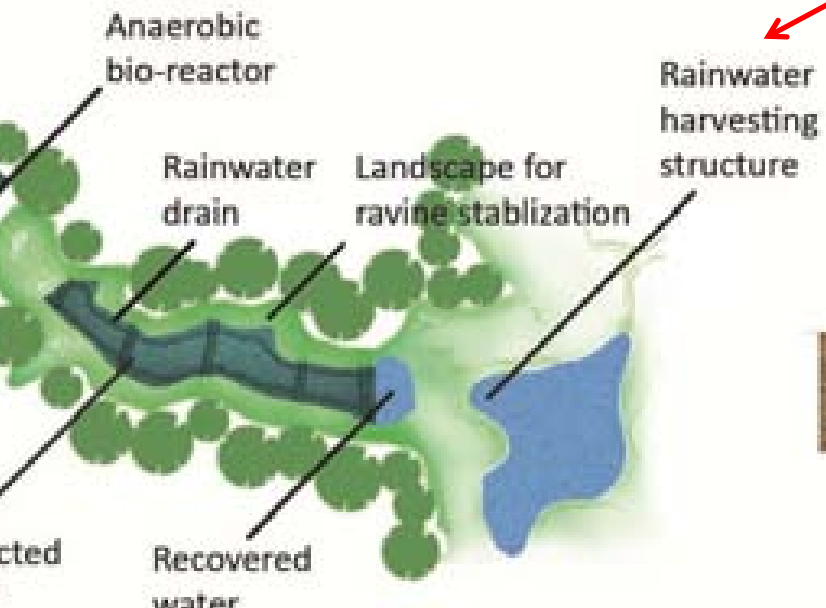
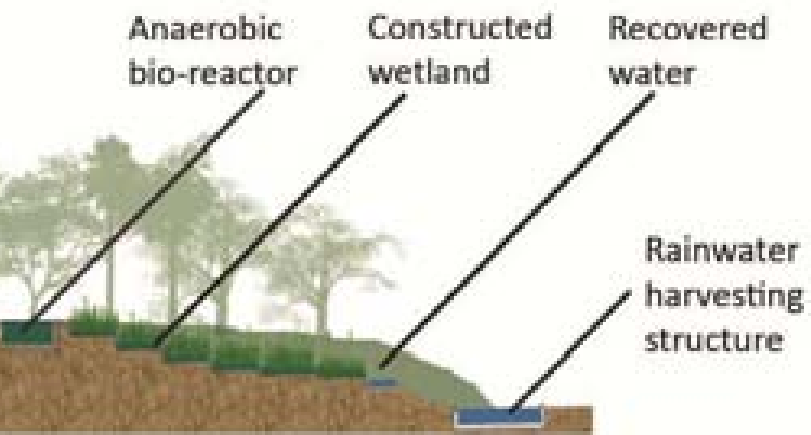


Low Energy Cooling

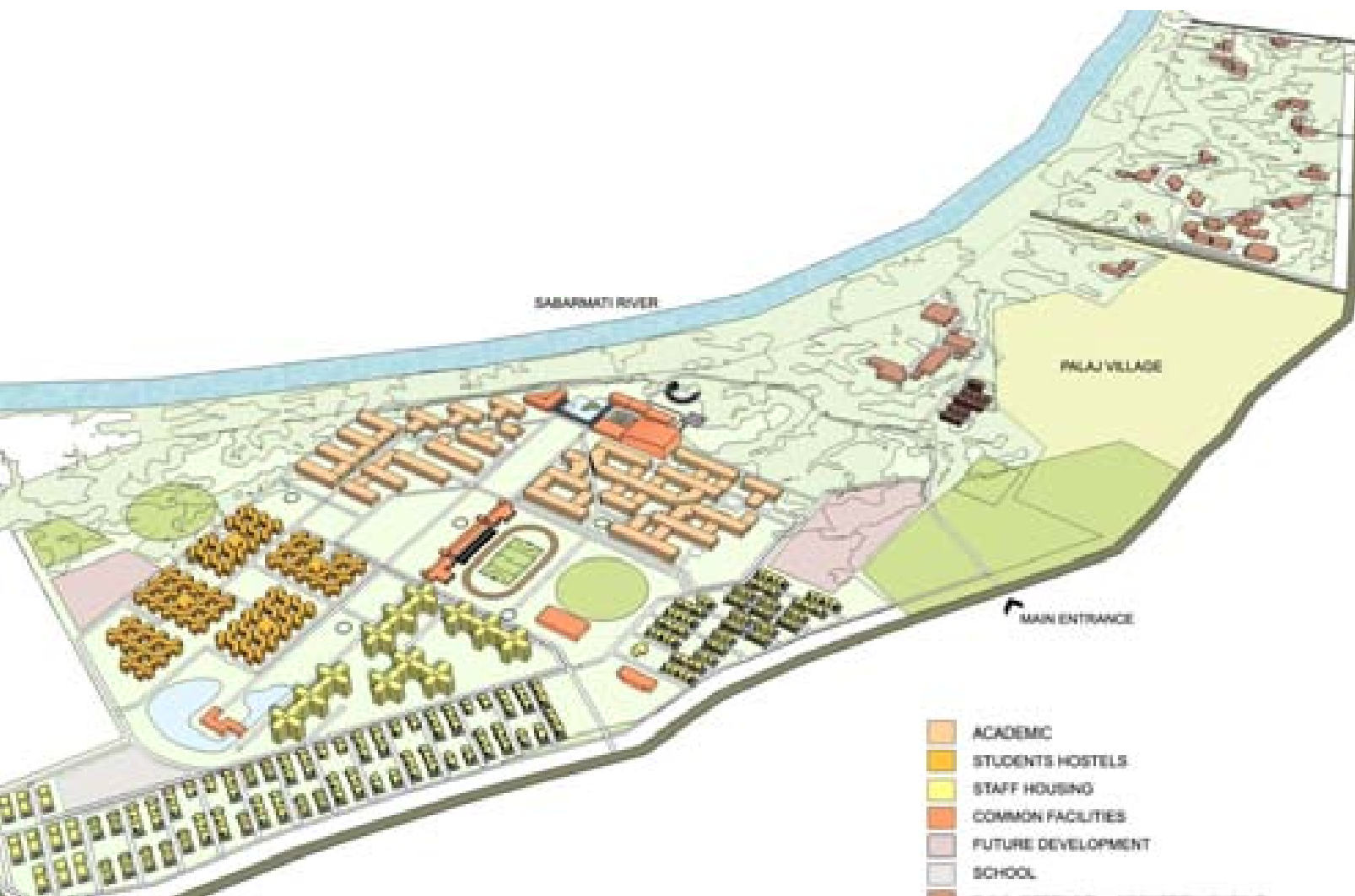
IIT Gandhinagar Campus, 2012



VINES AT SITE



IIT Gandhinagar



Social Equity

Construction Labour Housing

Outsourced workers housing

Ravine areas reserved for bio-diversity

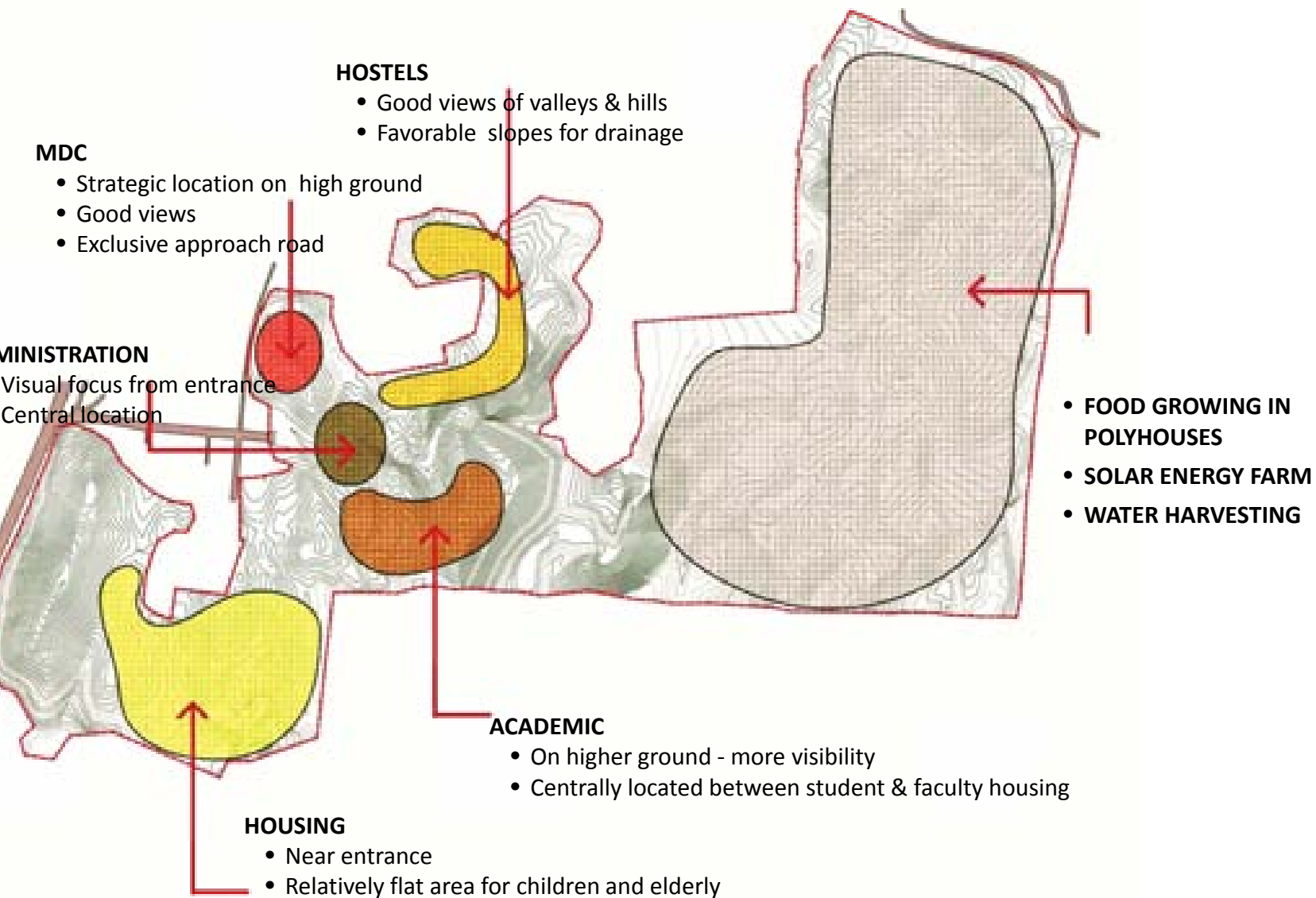
Engagement with Palaj village

Open boundary towards Sabarmati

Use of harvested rainwater for construction

Use of renewable energy on campus

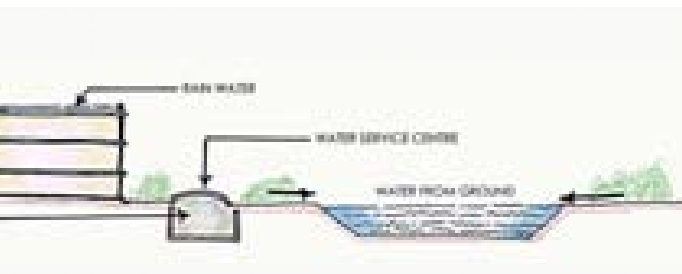
IIM UDAIPUR Campus, 2013



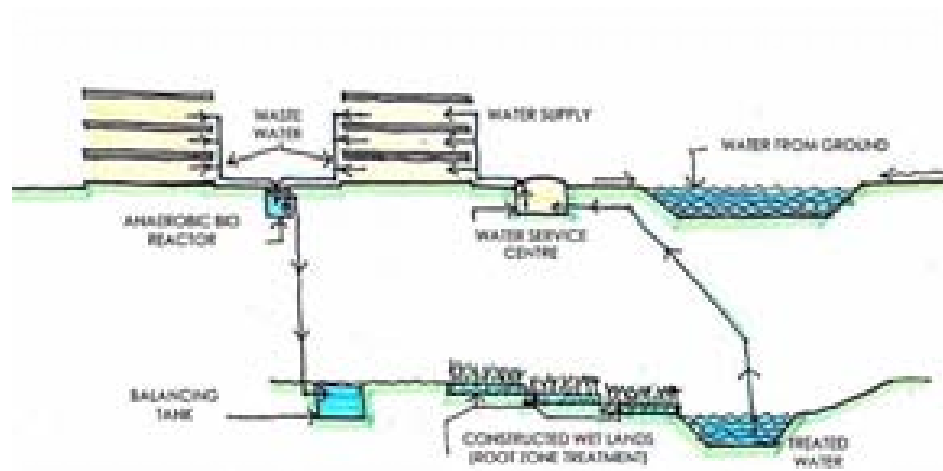
IIM UDAIPUR Campus, 2013



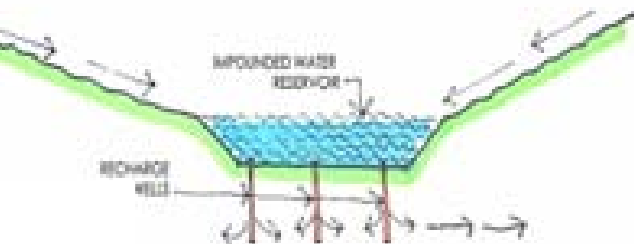
IIM UDAIPUR Campus, 2013



RAIN WATER HARVESTING FOR BUILDINGS



WASTE WATER RECYCLING

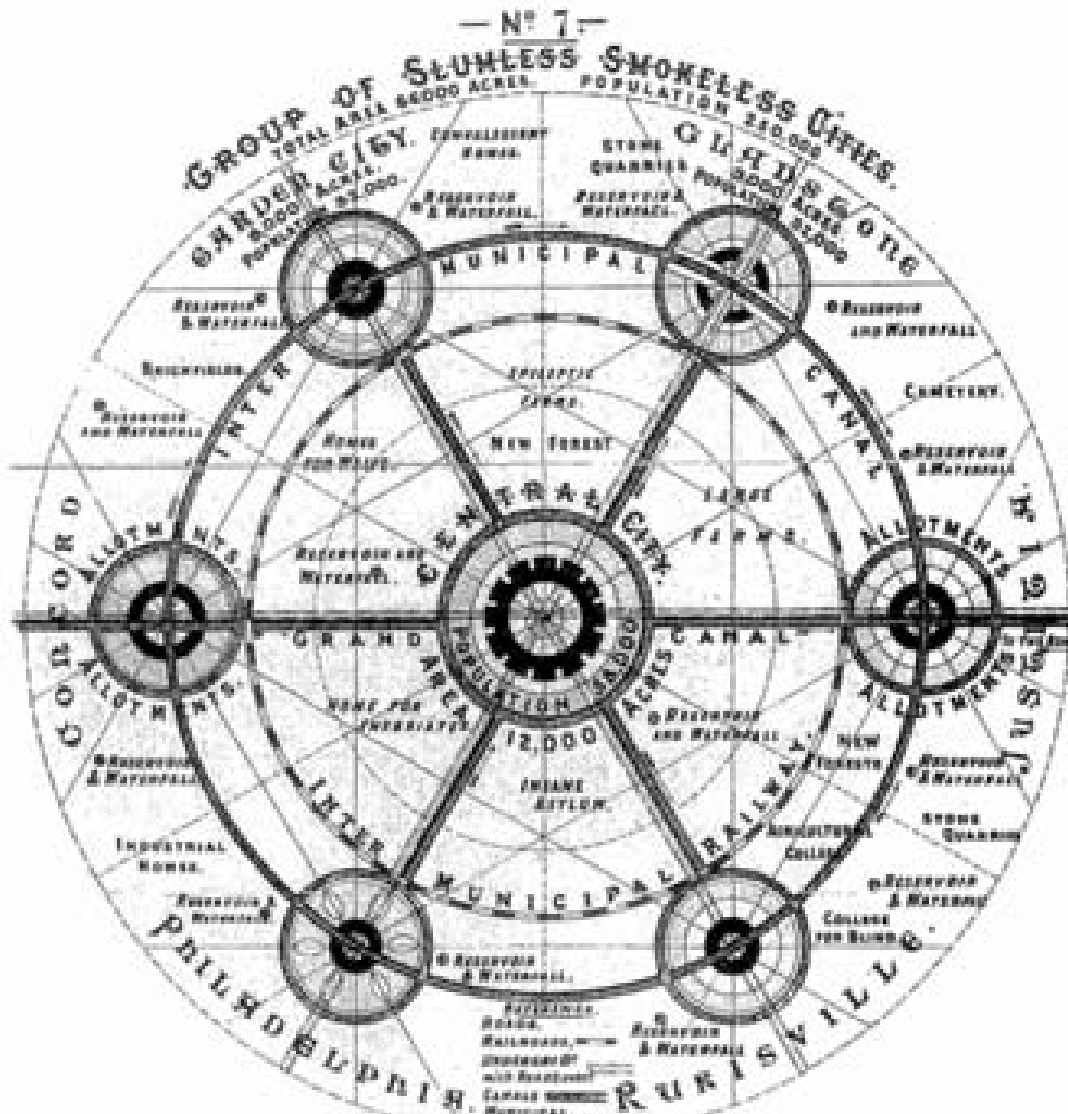


RAIN WATER HARVESTING FOR GROUND WATER RECHARGE FROM LAKE



FOOD GROWING IN POLYHOUSES USE AVAILABLE NUTRIENTS

Garden City by Ebenezer Howard, 1898



Surya Garh, 2011



Nalanda University



Nalanda University Campus, 2013



Thank you