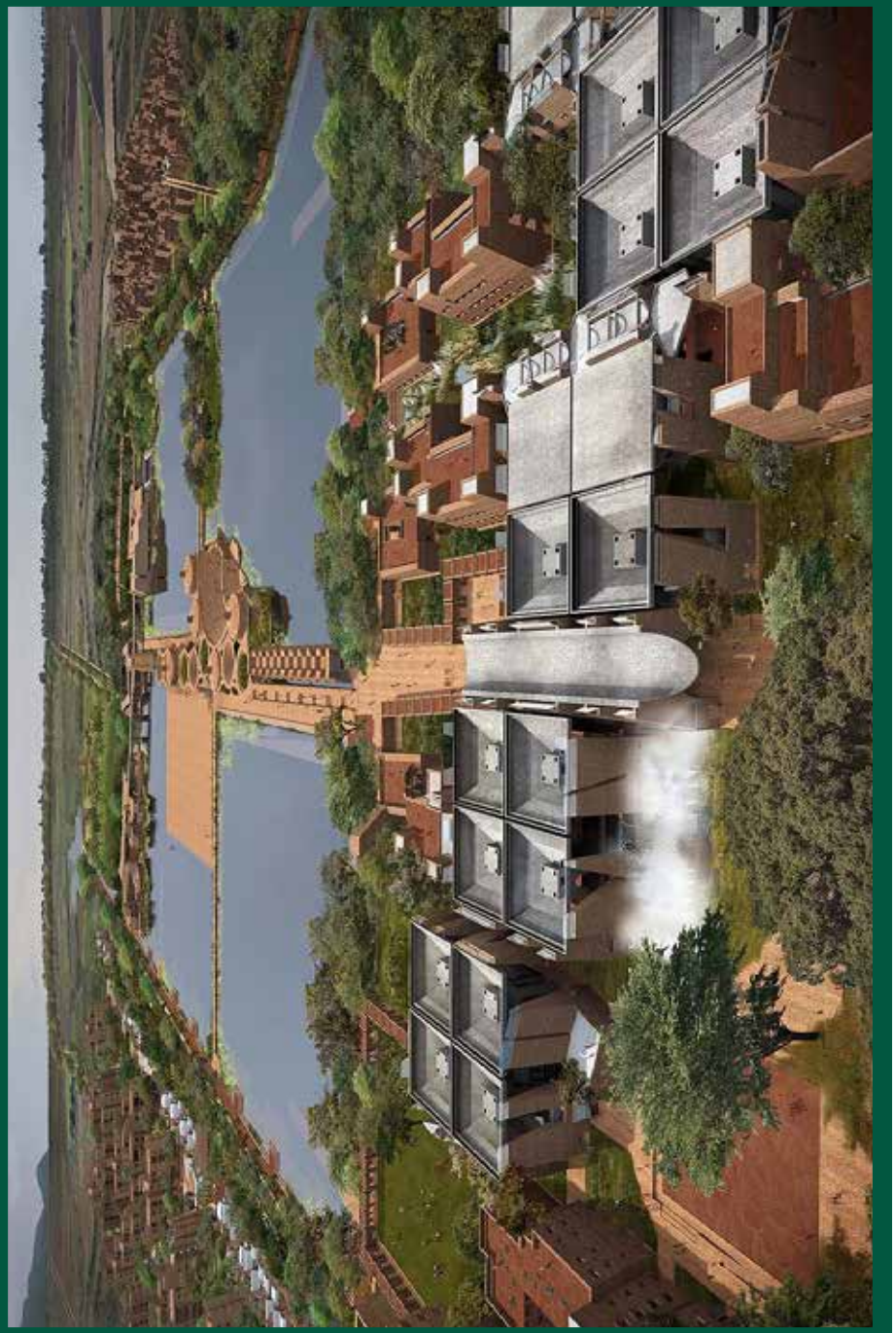

NALANDA UNIVERSITY CAMPUS

Location	:	Rajgir, Bihar
Site Area	:	18,41,320 m^2
Built-up Area	:	3,41,000 m^2
Energy Consumption Reduction	:	62.89% reduction in energy consumption compared to GRIHA LD base case.
Water Consumption Reduction	:	The project is proposed to be 100% self-sufficient.
GRIHA LD Master Plan Rating	:	5 Star Rating (Version 2015)

The following strategies were adopted to reduce the impact of the development on the natural environment:

Site Planning:
- Storm water management has been planned to reduce peak run-off quantity, and post development run-off is lesser than predevelopment stage.
- The project will retain the existing site contours & slopes, existing natural water bodies, and dense tree clusters for more than 75% of site area.
- There are 390 mature existing trees onsite that have been retained. In addition, project will plant 3,000 new trees on site.
- Hard paving has been reduced and landscape is interspersed between the building clusters to reduce the increase in outdoor ambient air temperature.
- 1,41,814.89 m^3 of fertile top soil has preserved on site and will be used for landscaping.

Energy Optimization:
- The buildings are designed to be 62.89% more energy efficient than GRIHA LD base case.
- Solar photovoltaic panels of 4.45 MWp shall be installed on site.
- Smart mini grids having integration of various energy sources with prioritization to Renewable Energy Sources (RES) and dynamic balancing of energy supply are proposed in the project.

Water Management:
- The project is not taking water from the local municipal supply, therefore achieving 100% of water self-sufficiency.
- All fixtures in the project will be low-flow.
- Waste water from domestic uses shall be treated via decentralized waste after treatment system (DEWATS) of capacity 235 kLd, meeting CPCB norms.
- Water metering and sub-metering of all water meters have been considered on BMS for continuous monitoring and data analysis/auditing.

Solid Waste Management:
- 100% of the organic waste will be treated on site. An onsite organic waste composter of capacity 700 kg/day has been proposed, which will be able to treat organic waste of 225 tonnes/annum.
- E-waste generated in the campus will have a separate collection facility and will be handles as per the provisions of e-waste (Management & Handling) Rules, 2011.
- Biodegradable waste will be used for Biogas generation and non-biodegradable waste will be sent to authorized recyclers.

Efficient Transport:
- Site planning has been done to improve walkability in the campus through continuous and universally accessible footpaths.
- All roads are proposed to have pedestrian walkways and cycle tracks.
- An electric charging facility for 90 cars and 60 bikes has been proposed within the campus.
- Battery operated buses will be provided within the site for intra-site movement and to reduce dependency on private vehicles.

Social:
- Environmental awareness signboards shall be provided at various locations within the campus.
- Campus has been designed to ensure universally accessibility.
- All construction workers will have access to clean drinking water, toilets and accommodation as per requirements of NBC-2005.
- 5.15% of the landscape area has been proposed for organic farming.
- Dedicated resting rooms and toilets for service staff shall be provided as per the GRIHA LD thresholds.

Integrated Design Team:

Client	:	Nalanda University
Principal Architect	:	Vastushilpa Consultant
Landscape Architect	:	Vastushilpa Consultant
Green Building Design and Certification	:	GreenTree building energy Pvt. Ltd