PRESENTATION
The GRIHA Summit 2015
High Performance Habitat

Ar. Andrés Prera, LEED Fellow, MSc Urban Management
Ar. Julio Alvarado, LEED AP
Guatemala

sustainable solutions


interaction


Guatemala

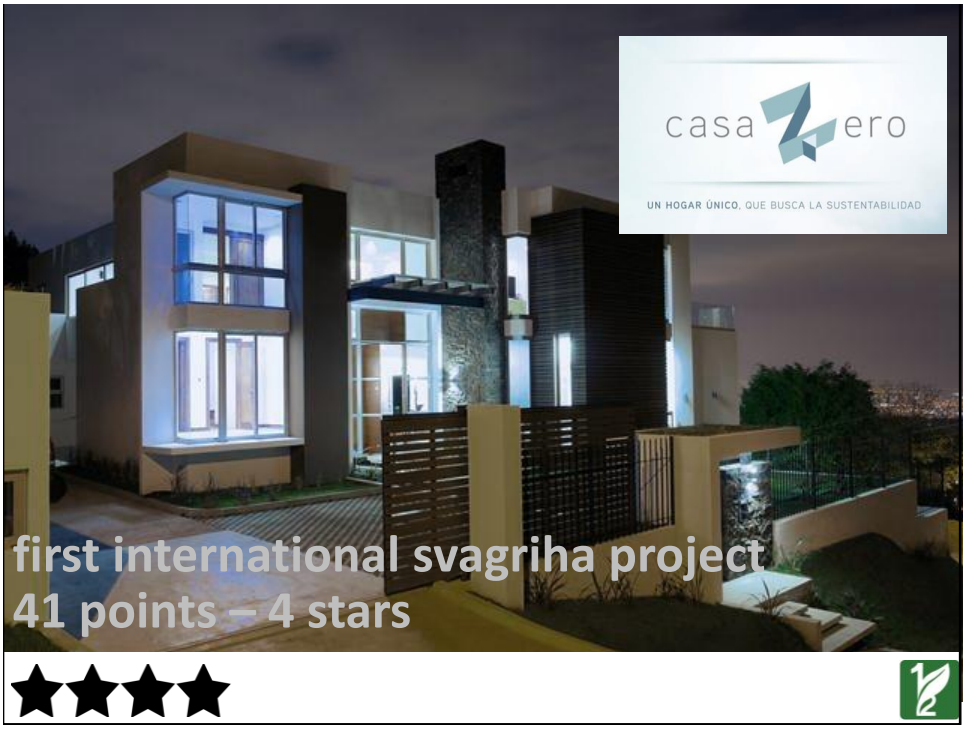
guatemala

our country

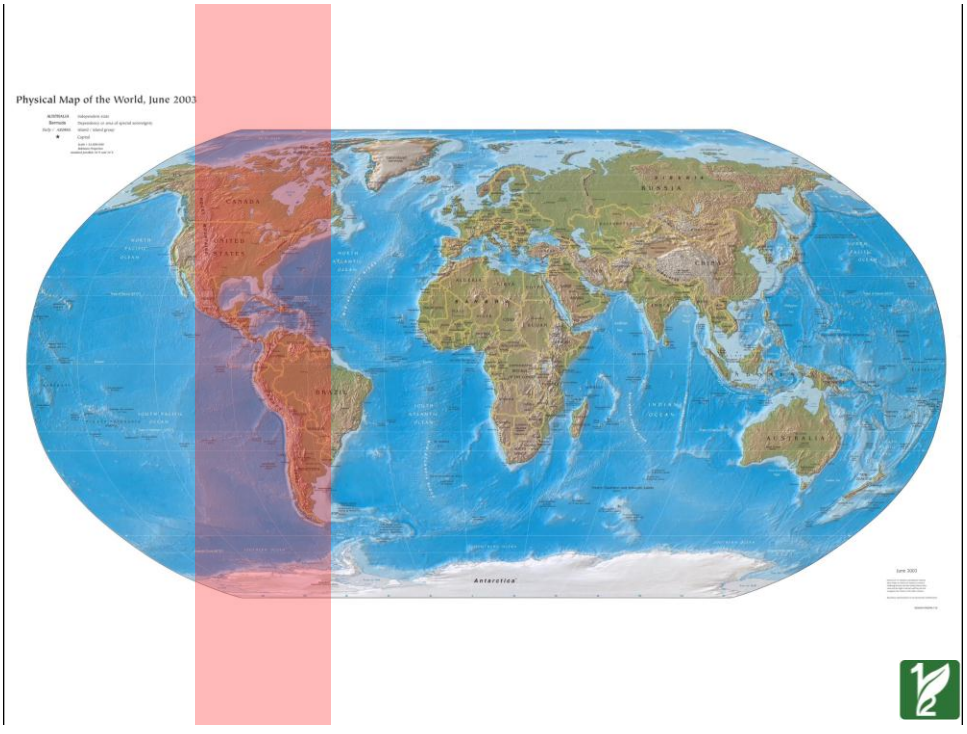

our heritage

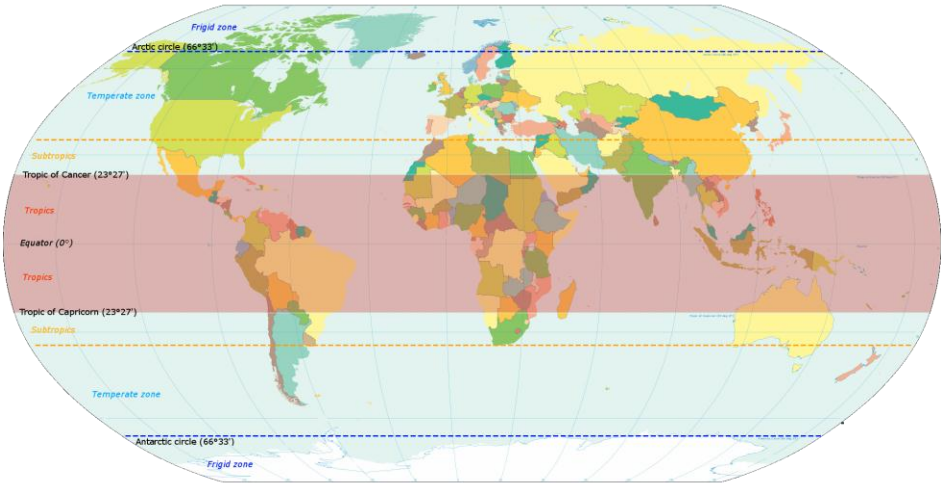

our city

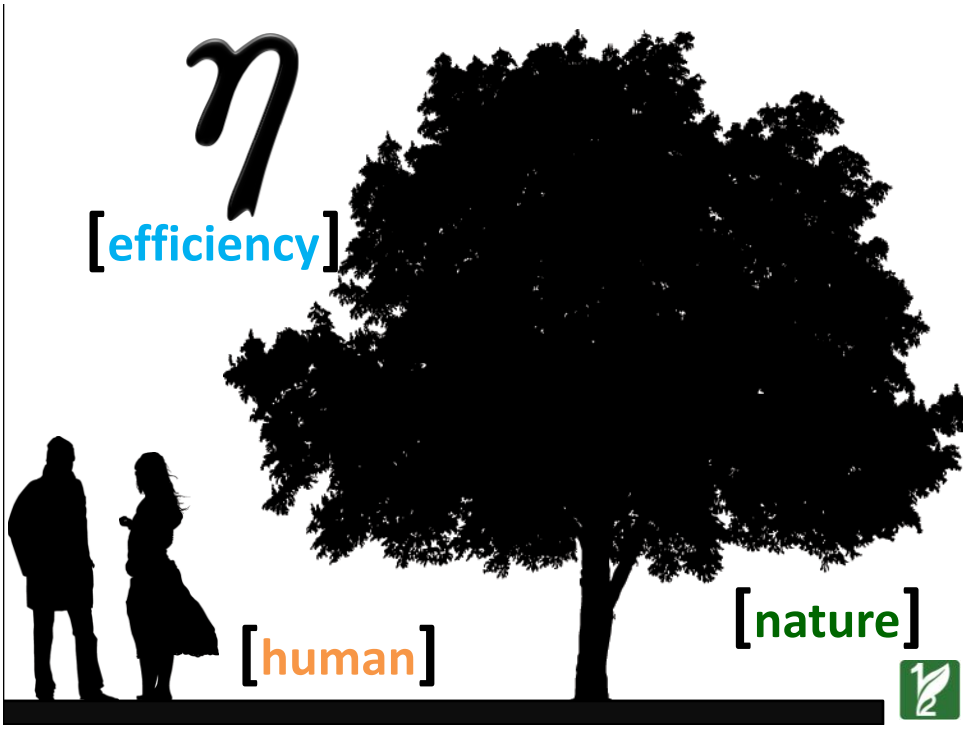

nature + people


casa Zero
UN HOGAR ÚNICO, QUE BUSCA LA SUSTENTABILIDAD
first international svagriha project
41 points – 4 stars


www.danielpanedas.com


Physical Map of the World, June 2003
CANADA
UNITED STATES
RUSSIA
CHINA
INDIA
AUSTRALIA
Antarctica


Frigid zone
Arctic circle (66°33')
Temperate zone
Subtropics
Tropic of Cancer (23°27')
Tropics
Equator (0°)
Tropics
Tropic of Capricorn (23°27')
Subtropics
Temperate zone
Antarctic circle (66°33')
Frigid zone


η
[efficiency]
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GRIHA

SVAGRIHA
A simplified design-cum-rating tool

NATIONAL GREEN BUILDING STANDARD™

BREEAM®

LEED FOR HOMES

ENERGY STAR

DGNB
Deutsche Gesellschaft für Nachhaltiges Bauen e.V.

PH

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PH

Title: Panedas Residence
Location: Guatemala City
SVA GRIHA rating: 4 stars
Rating type: SVA GRIHA

Panedas Residence

Location	:	Guatemala City
Site Area	:	1907.87 sq.m.
Built up area	:	473.6 sq.m.
Typology	:	Residential
SVA GRIHA rating	:	4 star

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

Landscape
- Over 59% of the total open area on site is soft paved and/or shaded under trees.
- 5 new trees, of native species, have been planted on site.

Energy
- Over 83% of total living area falls under daylit zone.
- Lighting power density is 2.19 W/sq.m which is lower than the ASHRAE 90.1 specified LPD limit of 7.8 W/sq.m.
- Solar photovoltaic panels of size 2 kWp and solar water heater of 600 lpd capacity have been installed on the roof of the residence.
- As the local climatic conditions provide good indoor thermal comfort, therefore the house has no air-conditioning or fans installed.

Water and waste
- Use of low-flow fixtures reduces the building water demand by almost 56% compared to SVAGRIHA base case.
- Rainwater storage tank of 12000 litre capacity has been installed on site to capture and utilize rainwater.
- The project has planned to compost the organic waste on site.

Materials
- Use of low-VOC paints have been used to maintain good indoor air quality.

Lifestyle
- A dedicated bedroom and toilet facility has been provided for the service staff.
- The built up area per capita is 47.36 sq.m. which lies within the prescribed limits.
- A book on the green measures of the project is being published to create more awareness on green buildings.
- Waste water generated from the project is being recycled and reused.

Integrated Design Team:

Client	:	Mr. Daniel Panedas, Guatemala
Architect	:	Mr. Geoffrey Hess, Guatemala
Green Building Design and Certification	:	Ambiente arquitectura sostenible, Guatemala

Reduce exposed hard paved surface on site 59% of site area

Rainwater harvesting for 82% 1200lt

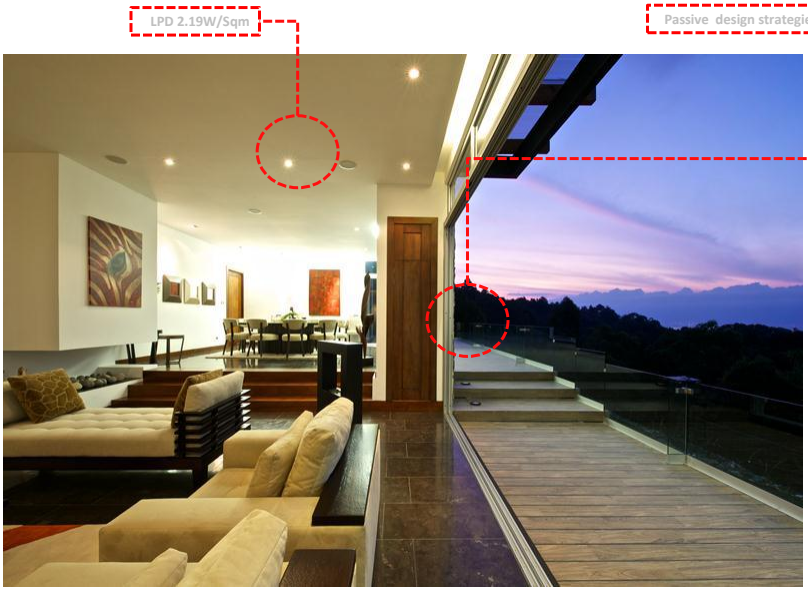
Passive architectural design strategies

Low VOC finishes


Local materials
Purity of materials


Daylighting 83% daylit zone


Solar Heating for swimming pool
Solar heating for water fixtures
2 kwpPV System for Energy Generation


LPD 2.19W/Sqm
Passive design strategies


Reduction of water demanD by 56.8%


No HVAC or fans are needed to achieve thermal confort


come in

THE BEGINNING

medioambiente
arquitectura sostenible

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