Building with bamboo

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Brussels, Belgium - 24th October, 2017
Building with bamboo?

40 story
Building with bamboo!

Pedestrian Bridge, Bogotá, Colombia by Simón Velez

~ 90 ft ~30 m
Building with bamboo!

200,000 m²

Barajas airport, Madrid by Antonio Lamela and Richard Rogers

Photo by Hector Archila
Engineered bahareque housing

500 Typhon and earthquake-proof

A case-study in urban housing: Basebahay in The Philippines
Building with bamboo!

2,000 m²

Warehouse Bogotá D.C., Colombia by Hector Archila
Photo by Hector Archila
Building with bamboo & SDGs: Goals 8, 9, 11, 12, 15
✓ A bit about bamboo
✓ SDGs: the role bamboo construction plays
✓ INBAR Task Force: what we are doing
A bit about bamboo

...a grass not a tree.

- Rapid growth and biomass production.
- Rapidly renewable resource.

Guadua angustifolia Kunth

< 6 months, 3 years to mature

http://peakbamboo.com/gallery/
https://www.pinerest/cross-section

25 m
Extraordinary CO₂ sequestration and strong material:

*Compared to Oak it sequesters 6x more CO₂ and is as strong.*
✓ Carbon sink.
✓ Little energy consumption
✓ Low-carbon and inexpensive.
“Goal 11: Make cities inclusive, safe, resilient and sustainable”
✓ According to FAO over 1 billion people live in bamboo housing.

Slum upgrading?

• (... significantly reduce the number of deaths and the number of people affected (...) by disasters, (...)}
Engineered bahareque housing

(...) building sustainable and resilient buildings utilizing local materials

A case-study in urban housing: Basebahay in The Philippines
Engineered bahareque housing

✓ Engineered
✓ Decent
✓ Earthquake & Typhon-proof
✓ Affordable

(...) adequate, safe and affordable housing (...)

A case-study in urban housing: Basebahay in The Philippines

learn more: bit.ly/BaseBahay
✓ Engineered bahareque has satisfactory durability and offers good thermal comfort.
Engineered bahareque costs less and has less than half the environmental foot-print than a masonry house.

“Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all”
✓ Bamboo housing employs numerous workers in the countryside, towns and cities.
✓ It requires unskilled and skilled labour.
“Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation”
✓ Intermediate manufacturing technologies.
✓ Sustainable industrialisation.
✓ Systems innovation.

Promote inclusive and sustainable industrialization (…)

Engineered bamboo products

High Value Added products

Structural building solutions
Even lower carbon footprint when converted into engineered bamboo products
 ✓ Engineered bahareque has satisfactory fire resistance.
Engineered bamboo buildings have excellent seismic and hurricane resistance.
“Goal 12: Ensure sustainable consumption and production patterns”
Engineered bahareque housing

Design Guide for Engineered Bahareque Housing

INBAR design guide

Bahareque-bamboo house in Colombia
“Goal 15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss”
SDGs: Goal 15

✓ Why quarry for materials, when we can grow them?
✓ Experts from across the globe to support the scientific and technological capacity of those interested in building with bamboo.
✓ We do this by publishing expert guidance, and
✓ By developing international standards (in partnership with ISO) for best practice in bamboo construction.
Thanks

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