

Potential of Bamboo in Green Building in Africa

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GREEN BUILDING RATING IN AFRICA

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 **UN HABITAT**
FOR A BETTER URBAN FUTURE

Why bamboo for green building?

- Grows very fast and matures in about 3-4 years
- Can be harvested for up to 80-120 years with very little capital investments
- **Growth rate is three times faster than eucalyptus and it conserves water**
- **High annual yields of about 17 tons per acre in a well managed plantation**
- There are about 150,000 hectares of mature bamboo forests in Kenya alone
- Due to its lightweight, high elasticity and great resistance to rapture, bamboo is ideal for numerous construction uses
- It is cheaper than steel and concrete
- When well treated, it is durable upto 50 years
- Bamboo has over 2,000 uses recorded!!





Trial Farm (Day 1)-Kenya

Bamboo Culms after 12 months



Bamboo Culms after 24 months



Bamboo Culms after 36-48 months



Bamboo From the Forest



Bamboo House Under Construction-Kisumu, Kenya



Bamboo roof construction-Kisumu



Bamboo Housing Demo in Kisumu, Kenya



Bamboo roof construction-Ethiopia



Bamboo/ Concrete House- Reduces cost



One Storey Bamboo House





**Ethiopia Bamboo
Traditional House**

Traditional Housing use

- It is considered to be the oldest house building material used in Ethiopia's highland rural areas and villages.



Traditional Houses in Kenya which can be build by bamboo



Bamboo Bridge construction-Thika, Nairobi



Strong Bamboo Ladder for Construction Sites



Bamboo House under construction-Ethiopia



Bamboo Restaurant, Kakamega town, Kenya



Christian Church Bamboo Building in Kuria, Kenya- done with poor workmanship!



Africa Bamboo Centre in Kisumu, Kenya



Fairly Improved Workmanship- Kabaranet town, Kenya

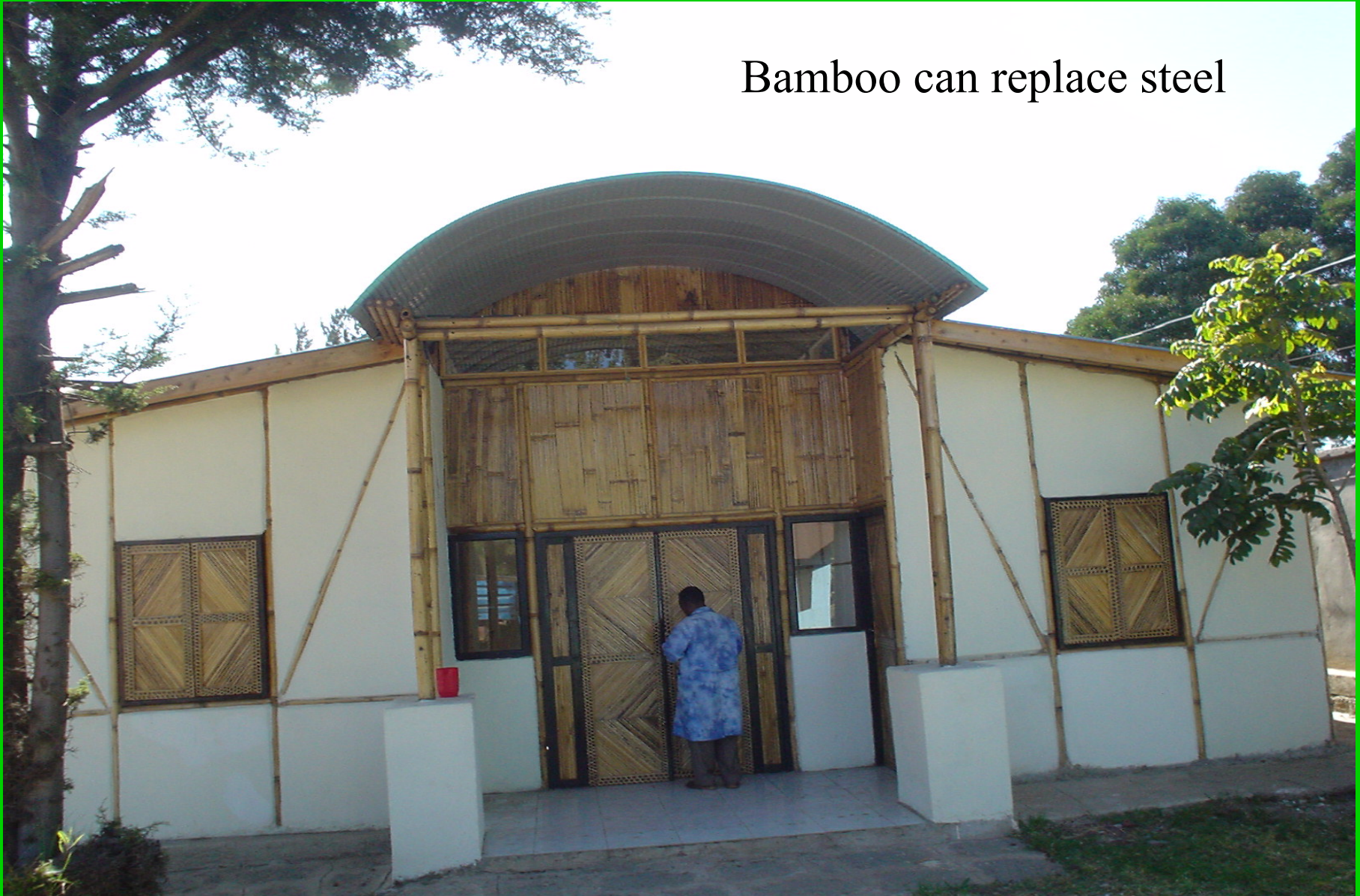


Use of different bamboo designs- Kakamega town, Kenya



Bamboo House in Ethiopia

Bamboo can replace steel



Residential and Farm Fencing – Thika, Nairobi



Other Potential Green Building Uses: Scaffolding





Wood scaffolding In Addis Ababa

Bamboo curtains



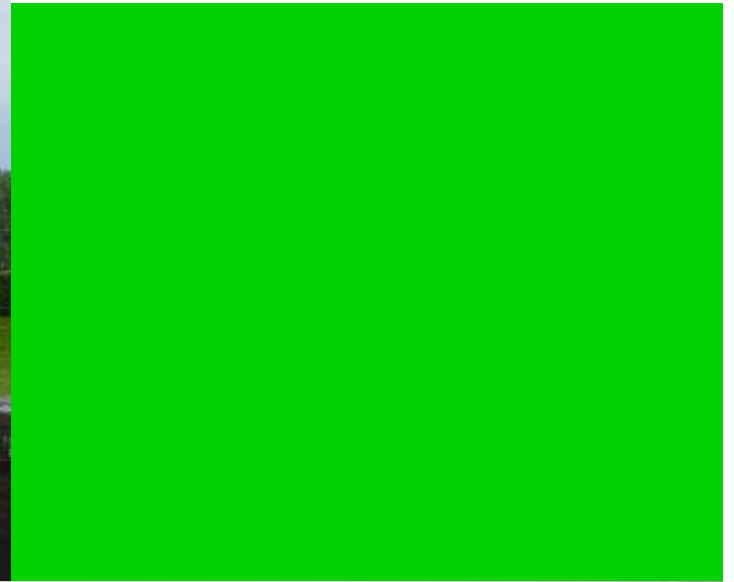
Bamboo floor tiles- from Ethiopia and China





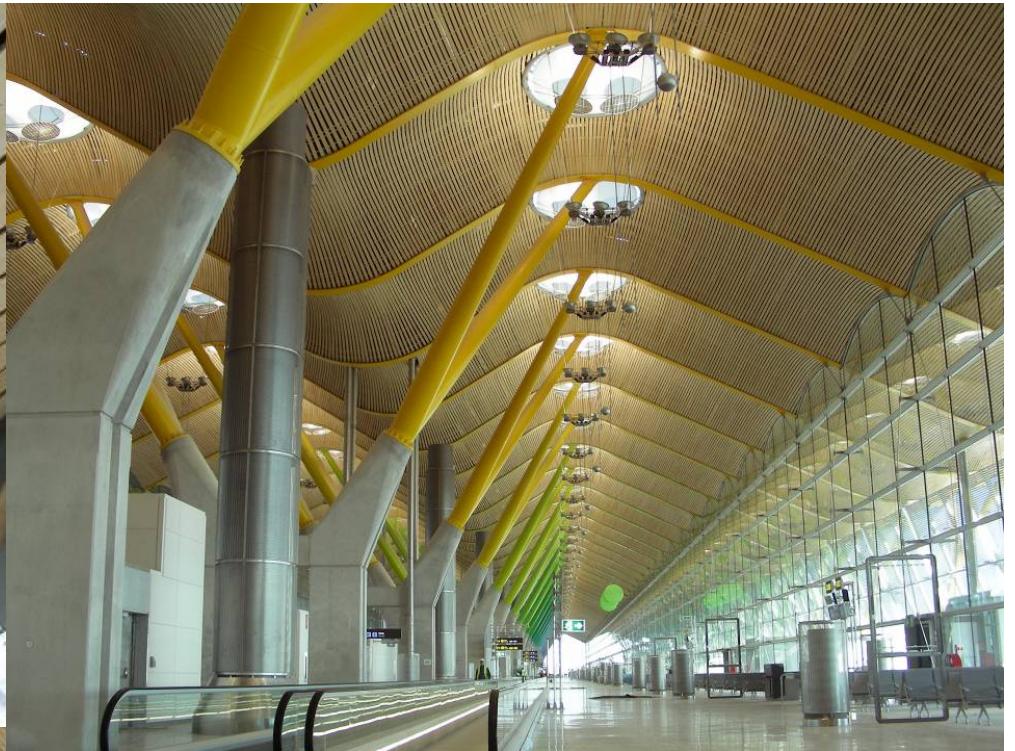
Clinton's library is covered by 15,000 m² bamboo flooring.





Laminated bamboo board
for boat indoor decoration





**Bamboo fire-proof
ceiling**

**Madrid International
Airport, 230,000 m²**

Conclusions/ Challenges

- **There is need for establishment of bamboo plantations in Africa especially in deforested areas**
- **Awareness creation at international, regional and local levels on the potential of bamboo in green building**
- **Transfer of building technologies from Asian countries to Africa**

Thank You

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Karibu Kenya!!!!

