GREEN CONSTRUCTION: BUILDING SUSTAINABLE CITIES

Green Lotus NGO
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CONSTRUCTION SECTOR

- The buildings sector is the single largest contributor to global greenhouse gas emissions (GHG), with approximately 1/3 of global energy end use taking place within buildings.
- Buildings are responsible for 35% of CO2 emissions (energy, AC, heater...)
- Residential area disconnected from work areas and shopping areas
CLIMATE CHANGE

Increase of the natural disaster occurrences:
- Landslides
- Floods
- Drought
- Typhoons

- Many new construction are located in flooded areas or are not disaster proof

- Global sea rise level could rise by more than 20 feet with the loss of shelf ice devastating coastal areas worldwide

Costly for the society and the economy
- Nargis cyclone in 2008 (120,000 deaths)
- Floods in 2015 (up to 90 deaths)
WHAT IS GREEN BUILDING

- Environmentally responsible
- Resources efficient
- Sustainable or High performances building
- Reduce waste and pollution
- Protect occupant health

From the conception to the materials used and the construction process
CONCEPTION, DESIGN, PROCESS

- Water efficiency
- Energy efficiency
- Material and resources
- Indoor environmental quality (ventilation, humidity control, combustion venting…)
- Location (avoid environmentally sensitive area)
CONSTRUCTION PROCESS

- Minimize the impact on the environment
  - Conserve material
  - Reduce waste
  - Resources conservation
  - Recycle construction waste
  - Seal ducks
  - Air filter
  - Store products and chemicals off the ground
MATERIAL

➢ Select materials with the lowest environmental impact:
  o Renewable
  o Sustainable
  o Recyclability
  o Purchase local
  o Recycled content materials
  o Affordability over life-cycle

Bamboo flooring, cork flooring, eco-friendly materials

Traditional mud brick masonry increase thermal performance and durability (Ladhka, India)
INSTITUTIONAL REQUIREMENTS

- **Incentive**

- **Policy**: supporting more use of green materials
  - implement laws for energy/water savings

- **Money**: Studies have shown over a 20 year life period, green buildings can yielded $53 to $71 per squarefoot back on

- A long-term goal approach

- Define and quantify sustainable building practices
CERTIFICATION

- **LEED** (Leadership in Energy and Environmental Design)
- **BREEAM** (Building Research Establishment Environmental Assessment Methodology)
- **HQE** (High Quality Environmental standard)
- **SGBC** (Singapore Green Building Council)
- **Green Lotus** (Vietnam)
“Eco districts”: a local demonstrator to a national scale

Sustainable urban planning: integrating environment and social dimensions from the start

Sustainable urban planning

Why not an “Eco district” in Yangon, Mandalay and other cities...?
SMART HOUSING

- A smart house is a house that has highly advanced automatic systems for lighting, temperature control, multimedia, security, window and door operations, and many other functions.

- Computer systems monitor

- Home automation
WHAT MYANMAR HOUSING MODEL

- Develop R&D
- Create a Myanmar green building model

What law can foster this model?
(adapted to the 3 kinds of Myanmar’s climate)

Myanmar green housing model
THANK YOU!