THE CHALLENGE OF CONNECTING BAMBOO

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Empowering communities
to build with bamboo
EXPERENTIAL LEARNING

Concrete Experience

Reflective Observation

Abstract Conceptualization

Active Experimentation

Kolb’s cycle of experiential learning
10 YEARS OF BUILDING WITH BAMBOO
10 YEARS OF BUILDING WITH BAMBOO

art

construction

design
10 YEARS OF BUILDING WITH BAMBOO

art

community empowerment

construction

design
CHALLENGES OF CONNECTING BAMBOO

+ Centrally hollow
+ Inconsistent diameter and wall thickness
+ Tapering
+ Prone to cracking and splitting
+ Requires higher tolerances
TYPES OF BAMBOO CONNECTION
LASHING AND PINNING
THE CHALLENGE OF CONNECTING BAMBOO STEEL BOLTS
THE CHALLENGE OF CONNECTING BAMBOO CLAMPS
THE CHALLENGE OF CONNECTING BAMBOO HUBS
THE CHALLENGE OF CONNECTING BAMBOO
BRACKETS AND PLATES
COMPONENTS

CLAMP

CENTRAL RING
COMPONENTS

CLAMP

CENTRAL RING

CIRCULAR DISK
COMPONENTS

CLAMP

CENTRAL RING

CIRCULAR DISK

FOOTING PLATE
DESIGN OPPORTUNITIES

Geometric forms

Space frame
DESIGN OPPORTUNITIES
SQUARE GAZEBO
DESIGN OPPORTUNITIES
PENTAGON PAVILION
KEY BENEFITS

+ Easy and quick to build without special tools
+ Accommodates the inconsistency of bamboo diameter
+ Flexible design allowing various configurations and possibilities
+ The clamp is made of steel and can be re-used or re-cycled
+ No holes required in bamboo
+ Easy to replace bamboo poles without affecting the entire structure
+ The smaller size of connection is easy to transport and promotes the use of locally sourced bamboo.
+ Allows for greater tolerances