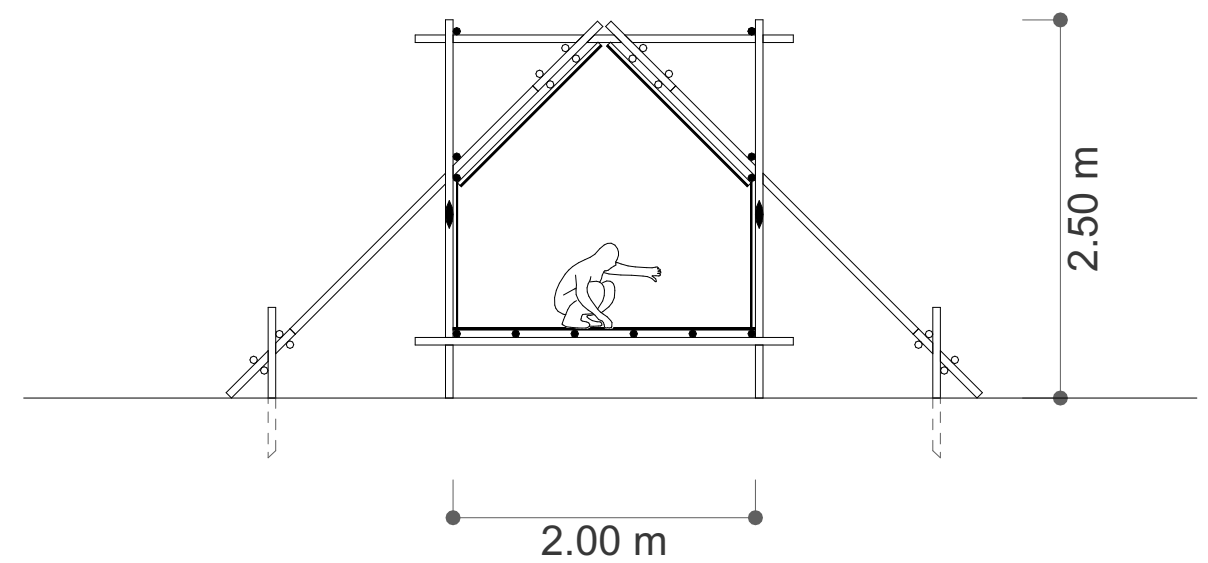
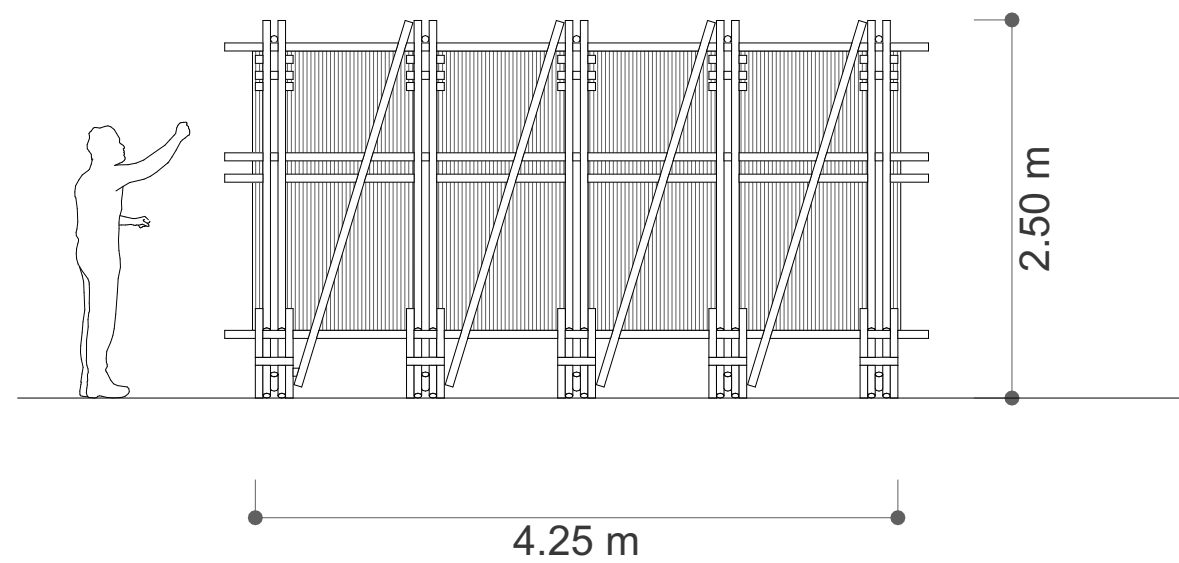
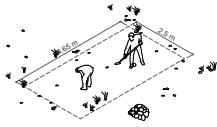


Bamboo Shelter
by
Charles Lai & Takehiko Suzuki

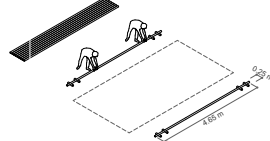


Staves



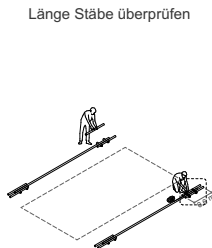
Clean out a flat area of land, remove all stones, and plants.

1



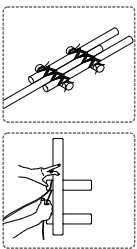
Place on each side 4x 0.25 long bamboo sticks and put the 4.65m long stick on top

2



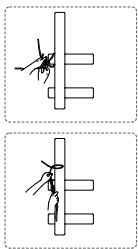
Add four of the 0.6m long sticks on each side and start with the knot

3



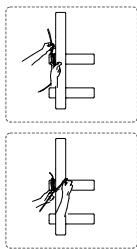
Place first bamboo stick on the left and wrap rope around the horizontal stick

4



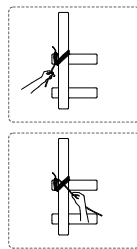
Pass both ends of the rope under the rope that we initially placed and tie a simple knot

5



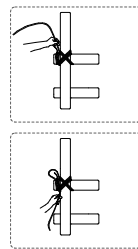
Pull the knot tight and continue by wrapping the sticks diagonally

6



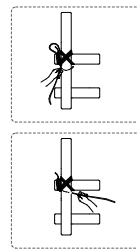
Wrap diagonally four times, then switch to the opposite diagonal direction

7



Wrap the rope around the bamboo at least four more times, then pass the rope under the initial loops

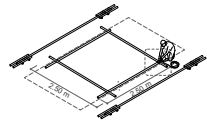
8



Pass the rope under the vertical bamboo and pull tight

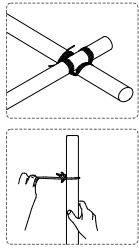
9

Framework



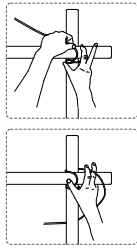
Take 4 bamboo sticks each 2.50 meters long place 2 horizontally place the other 2 vertically on top

14



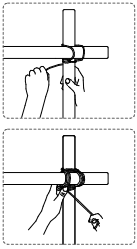
Start the knot with a simple loop

15



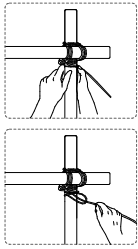
Wrap the rope around the horizontal pole, then pass it under the vertical pole

16



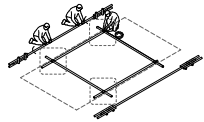
Repeat this about for times

17



Finish the it with a simple knot

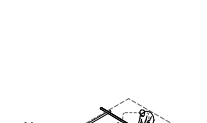
18



Repeat the same rope connection for the 3 remaining ends. Start putting the longer sticks in place

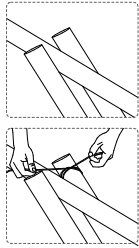
19

Join parts



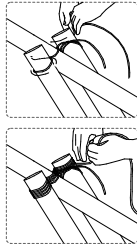
Connect the top end with the frame work

20



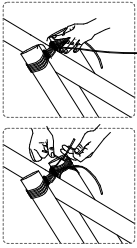
Start with a simple knot

21



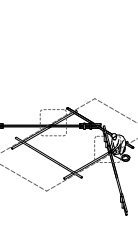
Wrap the three sticks multiple times

22



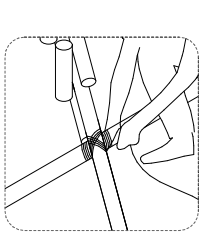
Wrap the rope around the gaps between the three sticks to make it more stable, finish with a knot

23



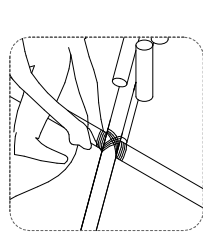
Add two more connections to make the frame more stable

24



One on the right

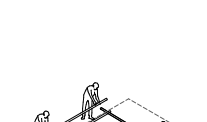
25



And one on the left

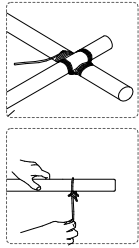
26

Root Structure



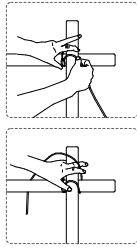
Place 2 more vertical sticks on top

27



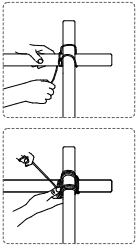
Start the knot with a simple loop

28



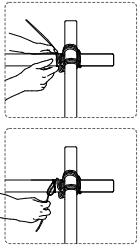
Wrap the rope around the horizontal pole, then pass it under the vertical pole

29



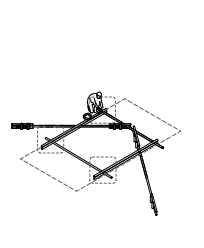
Repeat this about for times

30



Finish the it with a simple knot

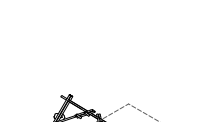
31



Repeat the same rope connection for the 3 remaining ends

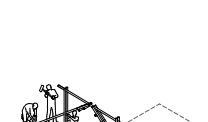
32

Water Proofing



After the first bamboo frame is completed, the entire structure is erected

33



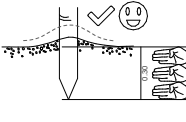
Next, the 1.00 meter long wooden stakes need to be driven into the ground

34



The easiest way is for two people to drive the stakes into the ground

35



Make sure to drive them at least 0.30m in the ground

36



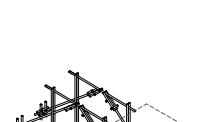
Proceed with the next bamboo frame and construct it following the previous steps

37



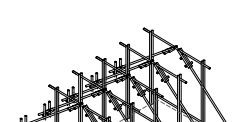
Make sure the distance between the frames is around 0.85m

38



The spacing between the stakes should be around 0.15m

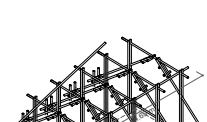
39



Construct the remaining bamboo frames until all 5 of them are correctly placed

40

Bracing



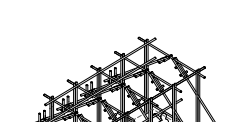
Begin bracing by laying the 4.65m horizontal bars on the frames

41



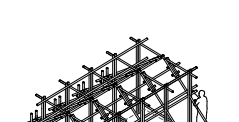
Add the second bamboo bar on the top and connect frame and rope with a knot

42



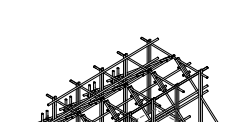
Continue with placing additional horizontal bracing on top of the diagonal elements

43



Put additional horizontal stakes below the diagonal elements

44



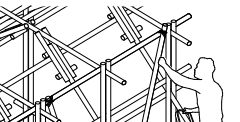
Add 4 stakes to place the floor on top later

45



To finish the bracing add the diagonal elements

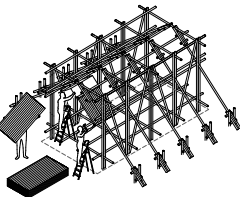
46



Connect them with a rope with the structure

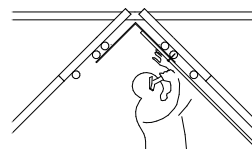
47

Roof



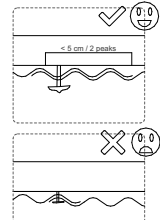
Start installing the roof panels on the structure. Put a metal sheet below the ridge

48



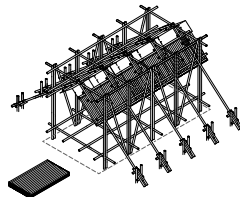
Make sure to connect the nails with the middle bamboo stick

49



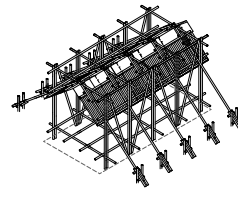
Overlap the sheets. Use umbrella or twisted roofing nails

50



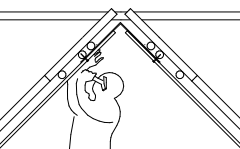
Finish the first side of the roof. Make sure that the ridge panels are overlapping

51



Add the second half of the roof

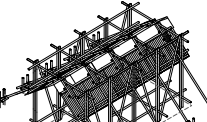
52



Make sure to connect the nails with the middle bamboo stick

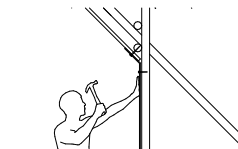
53

Floor



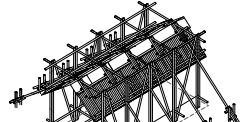
Start adding the aluminium cladding

54



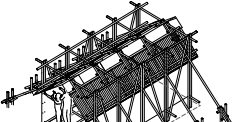
Add the nails as shown in the graphic

55



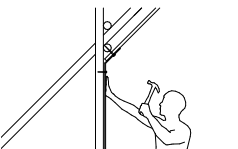
Finish the first side

56



Add the cladding to the other side of the shelter

57



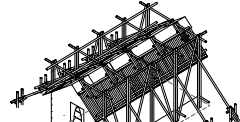
Add the nails as shown in the graphic

58



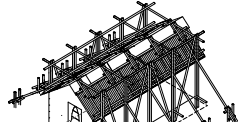
Install the wooden floor

59



Add aluminium cladding to the front and the back side of the shelter. The shelter is finished

60



The shelter is finished

61