



MUDPLASTERED BAMBOO-SHELTER

as temporary dwelling until the real house can be built
can last for 6-8 years



Things needed:

- (a) 6 pcs thick poles 7 feet long
- (b) 2 pcs thick poles 9 feet long
- (c) 3 pcs beams 14 feet long
- (d) 5 pcs rafters (split in middle) 14 feet long
- (e) 6 pcs laths (lateral pieces) 14 feet long

Tools required:

2 thick iron bars

1 saw

1 measure tape 5m

2 sets of strong pliers

1 wire cutter

24 feet of string or wire

1 tin scissor

Screws

1 hammer

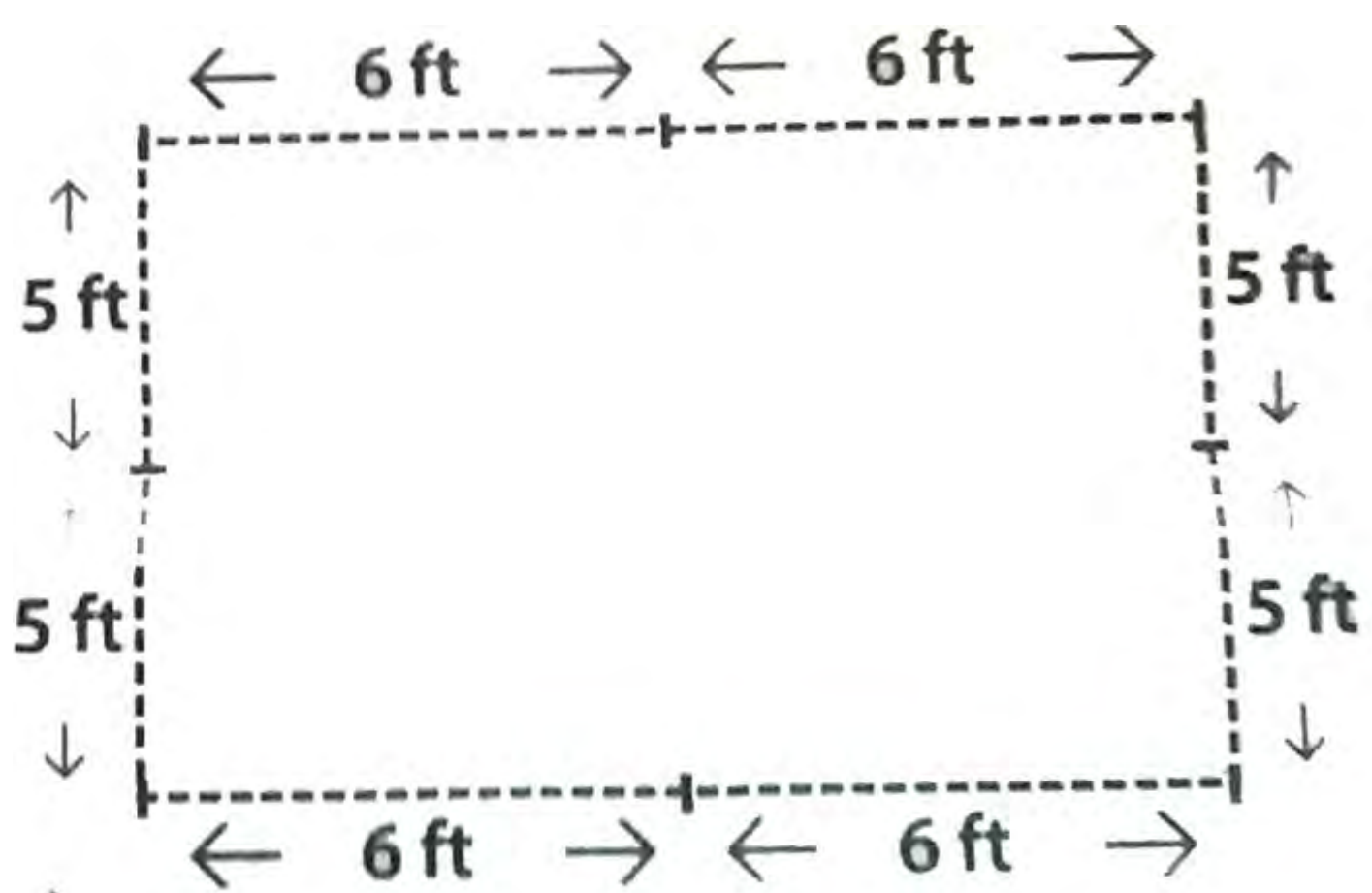
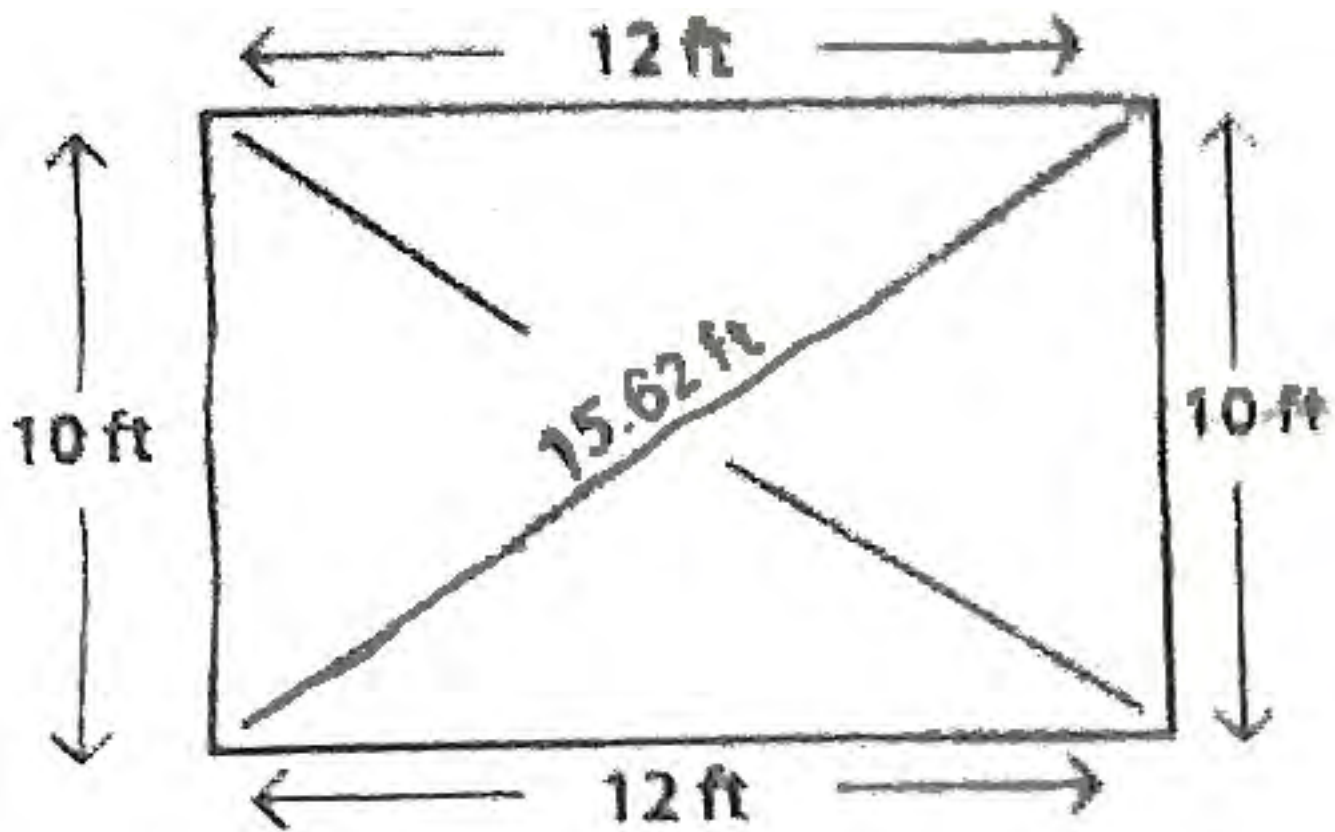
1 khukuri

1 shovel or hoe

It is important to accurately measure the site so that posts are aligned. To do this, a measure tape, a long string and several small sticks will be required.

A standard structure measures 12 feet in length and 10 feet in width. Plot the first corner post with a stick, and the second post 12 feet away. Then the third post shall be in the distance of 10 feet from the first post and 15,62 feet from the second post. And the fourth on the same way.

Once the corner points have been identified, mark the half-way points between each wall (this is 5 feet and 6 feet from the corner points. A total of 8 points should now be identified. These will be where the holes will be dug for your poles.

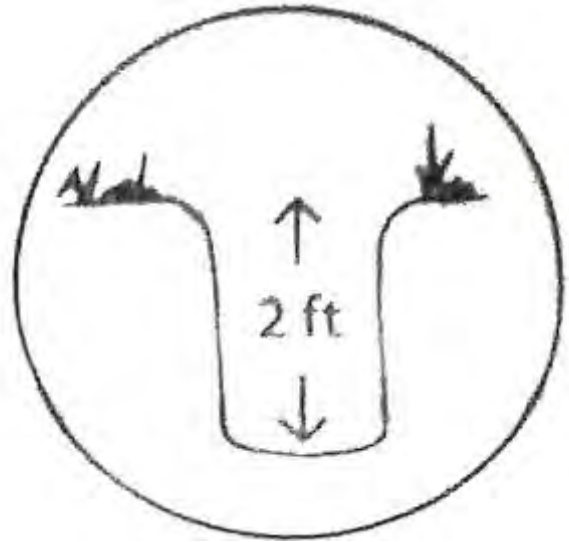


Digging the holes:

Use a metal bar to dig a hole in each marked location. About 1½ inch of space should be left between the pole and the earth all around the hole.

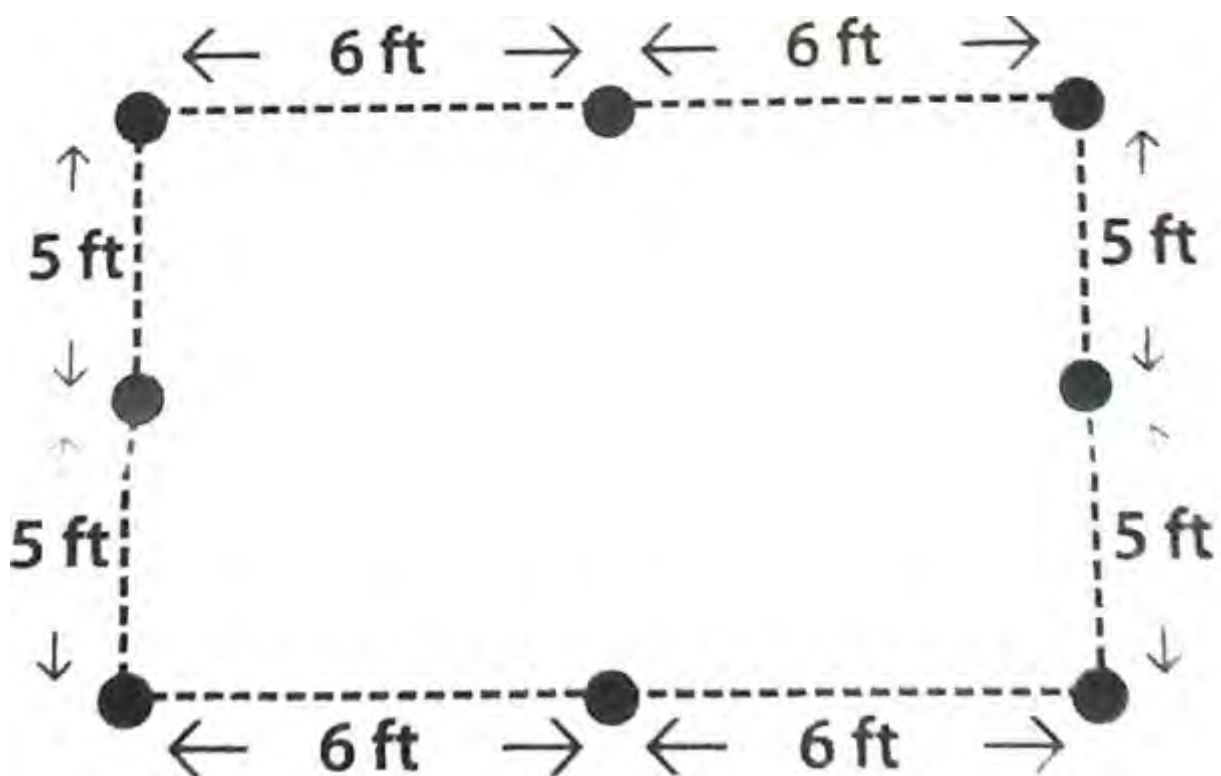
The hole shall be about 2 feet deep.

Small stones or gravel shall be produced by breaking larger stones. Around 1½ inches in diameter.



The bamboo shall be cut so the length above ground will be 5 feet along the side walls and 7 feet at mid-gable.

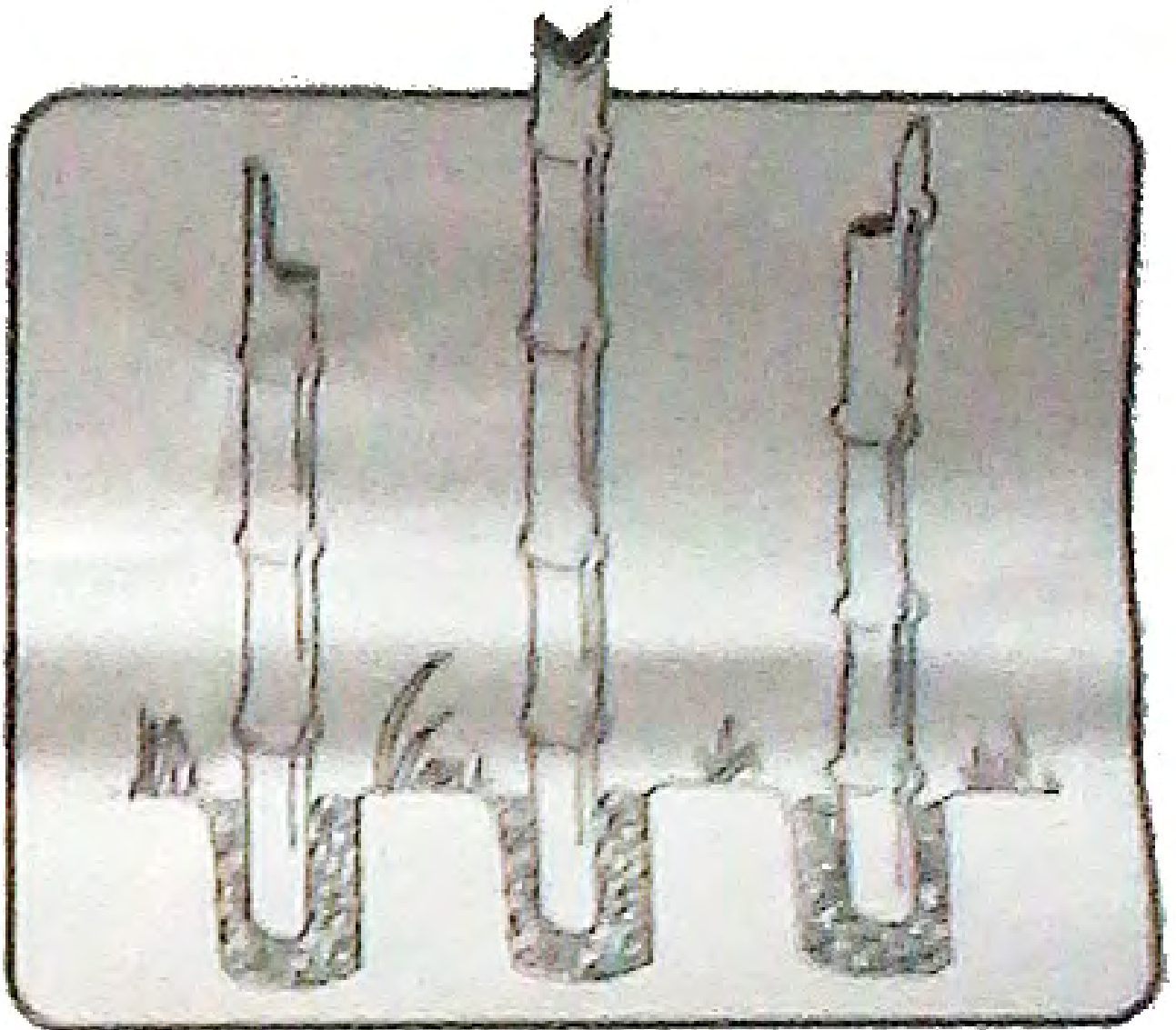
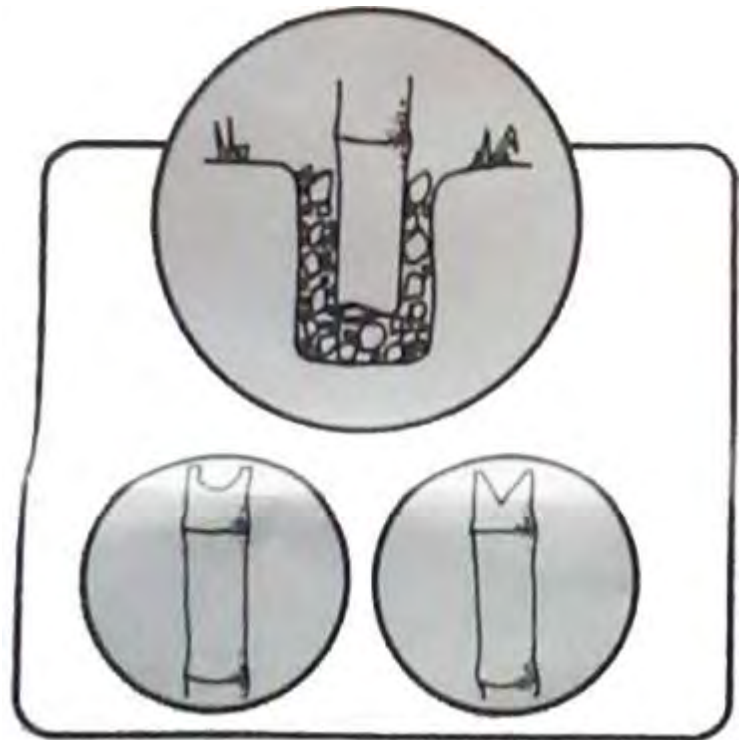
Before the poles can be placed in the hole, the bottom of the poles needs to be made waterproof. Wrap a rice bag around the bottom of the poles and secure with string or wire. Cover the bottom 3 feet of the poles.

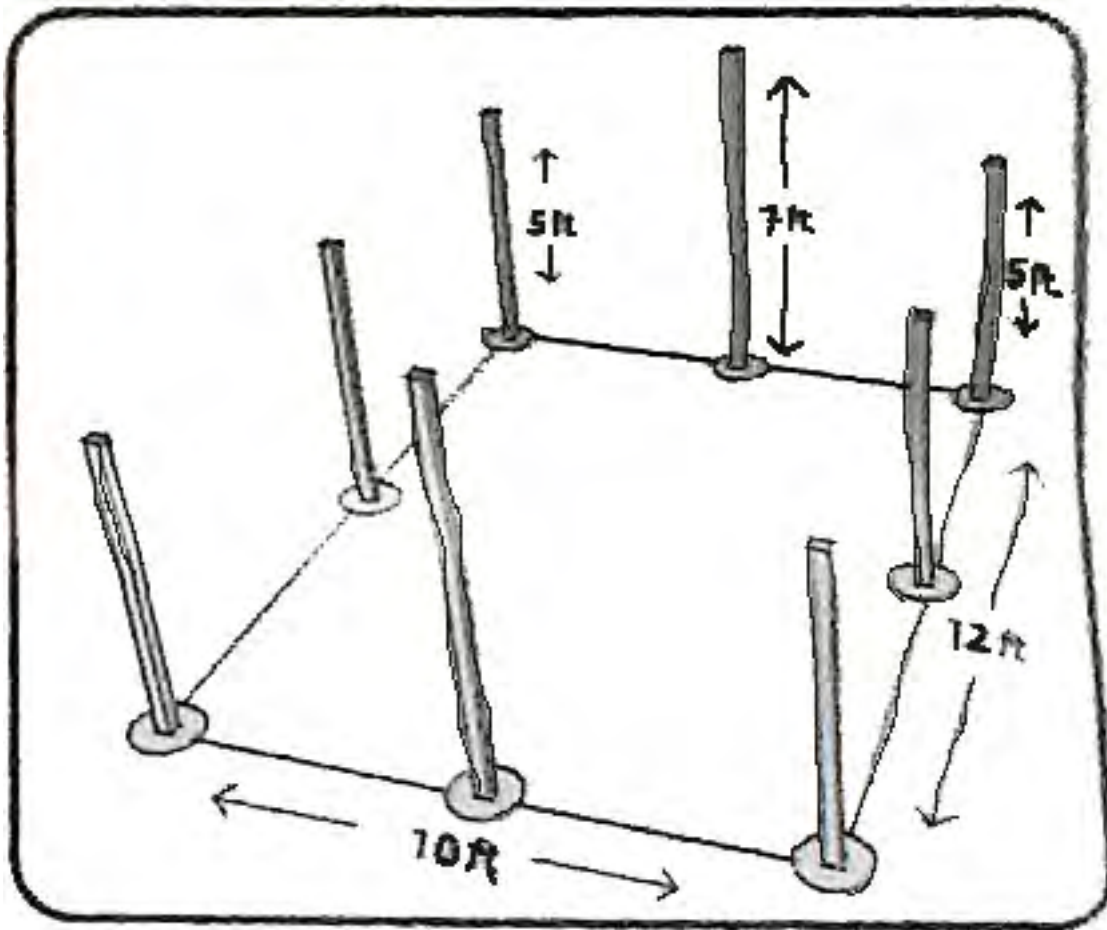


A notch needs to be cut in to the top of each of the 7 (5+2) feet and 9 (7+2) feet poles.

The poles shall be placed in the holes and check that the notches cut in the top are aligned with the beams.

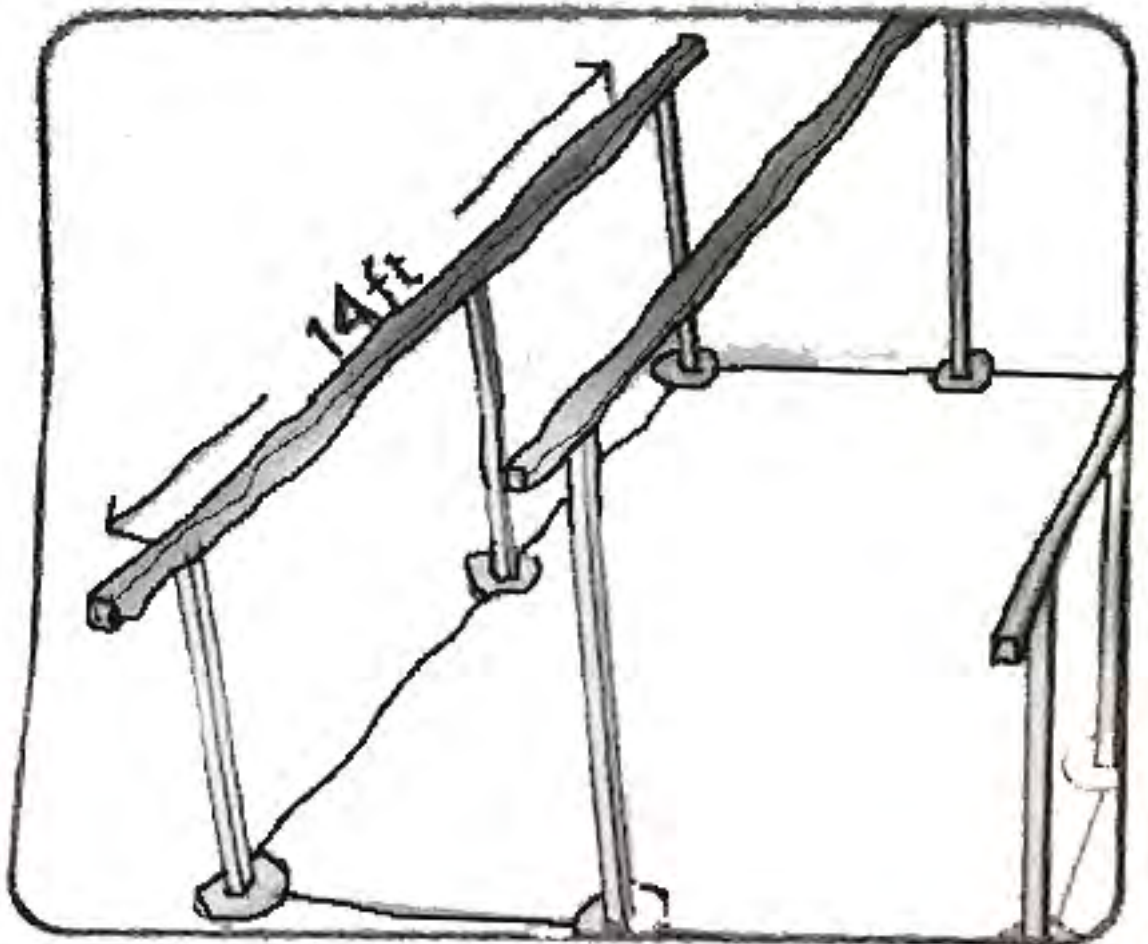
Secure the poles by stamping the gravel into the sides of the hole.

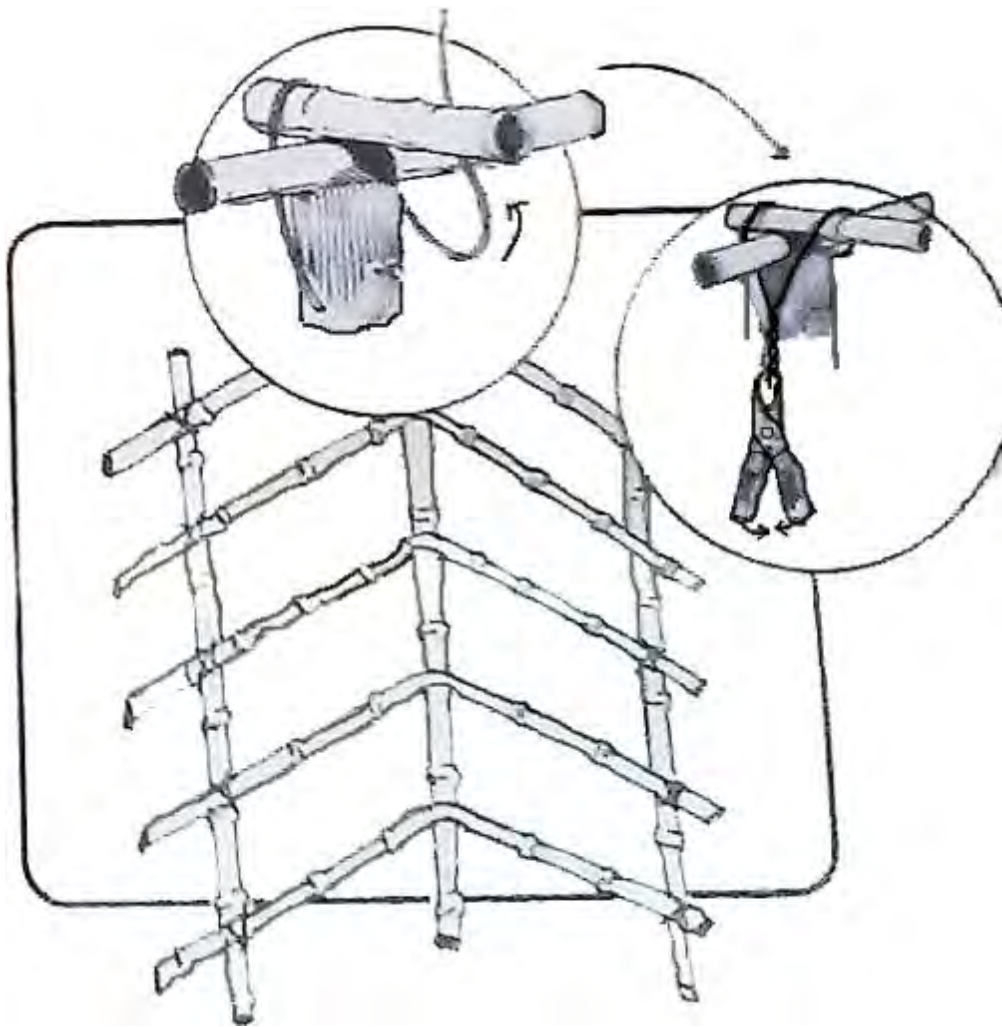




Place the beams on the poles and make sure that they are aligned as

horizontally as possible, and the poles running perpendicular.





Secure the beams to the poles with wire. Drilling in a screw in the top of the pole, just under the notch, can help in fixing the wire.

If fresh bamboo is being used, it will contract after exposure to sun. This often causes the fitting to loosen. Be sure to recheck the

wiring before roof is put on.

For rafters it is best to select pieces of bamboo that are a bit thinner than the beams. A notch needs to be made at the center-point to allow the bamboo to bend easily and to rest on the center beam. Use a khukuri to make a curved notch in the centre of the rafter.

To bend the bamboo over the center beam, lift the notch point on to the beam and get one person to hold either side, bending the rafter gently down on both sides.

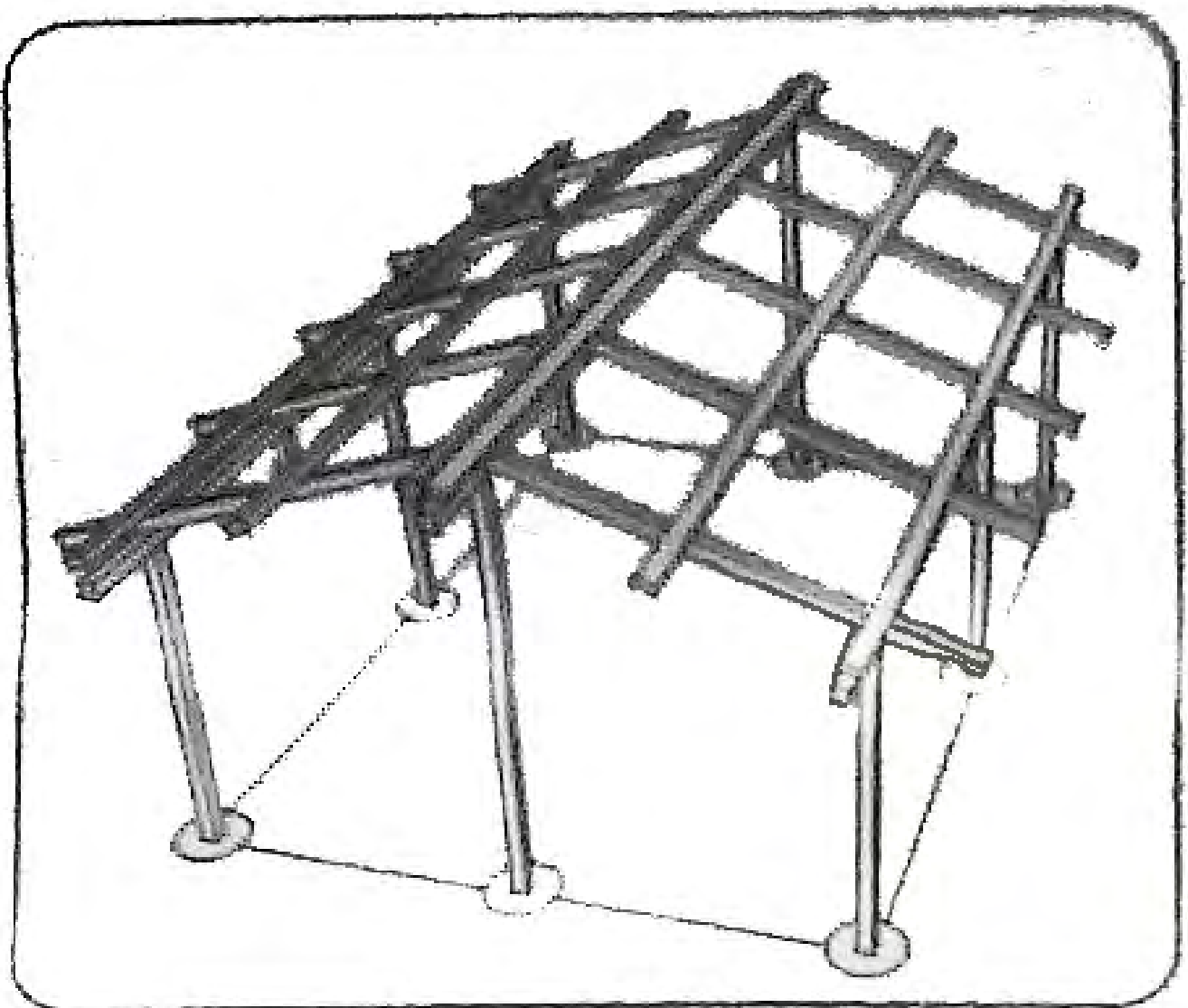
Secure the bottom of the rafters with wire to the side wall beams.

As the roof ultimately rests on the laths it is important to use good quality bamboo for these pieces.

One large and straight piece of bamboo, 14 feet long, shall be split down the centre producing two half laths.

Laths shall be secured as parallel as possible to the center beam.

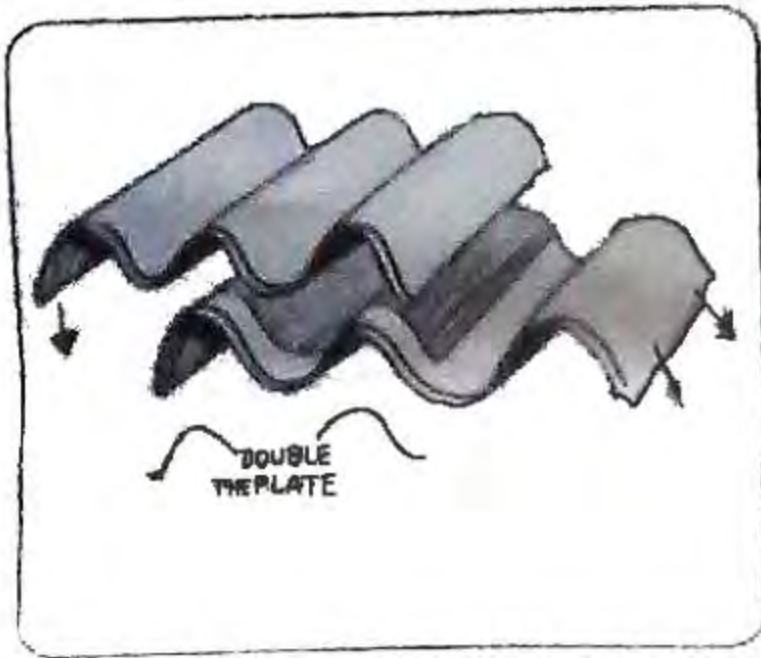
First, secure the laths near the top of the structure using wire. They should be no more than 6 inches from the center beam on either side. Even less is better.



Next secure the bottom laths. They should be secured about 8 inches down from the bottom beams, or at least at the bottom beam.



Finally secure the middle laths. Place these equidistant from the top and bottom laths. If a drill and screws are on site, then set screws into the poles to secure each lath firmly in place.



If you have tin plates for roof, then leave about 6 inches over the lower rafter.

Do not let any sheets sheet out over the top of sheets on the opposite side.

Drill pilot hole before inserting a screw. Only do one pilot hole at the time.

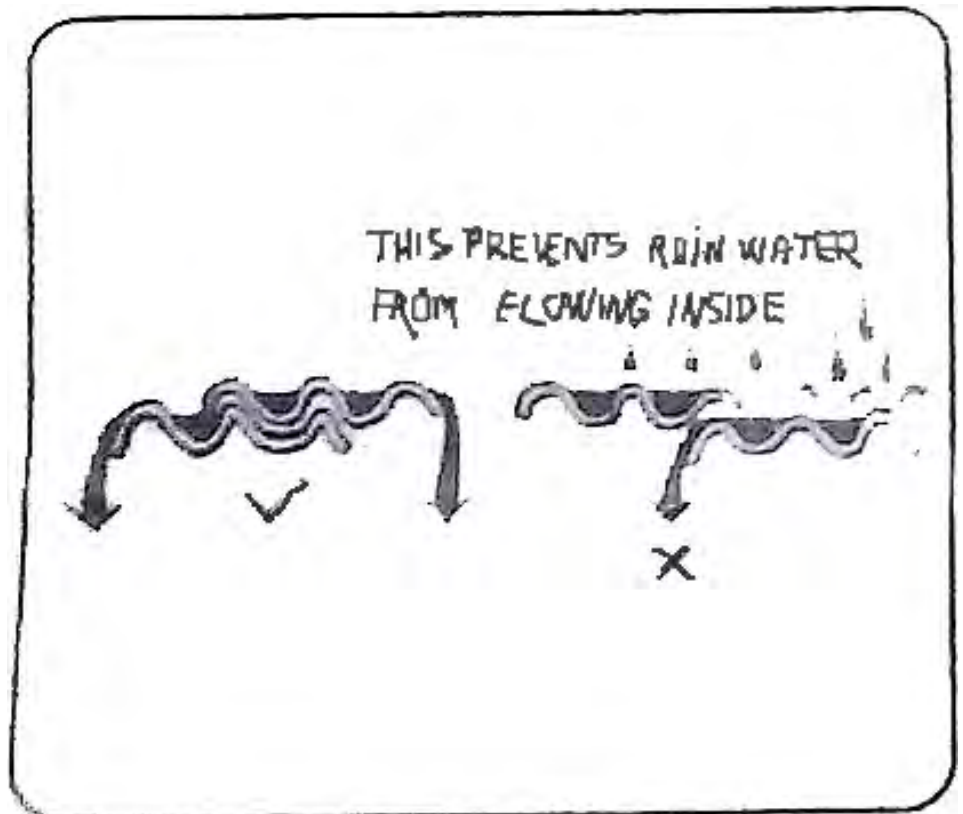
Screw should always go in to a ridge.

Once first sheet has been secured with 9 screws (gap of 4 troughs between each line of screws) place the second sheet over the first one. Allow an overlap of 2 ridges.

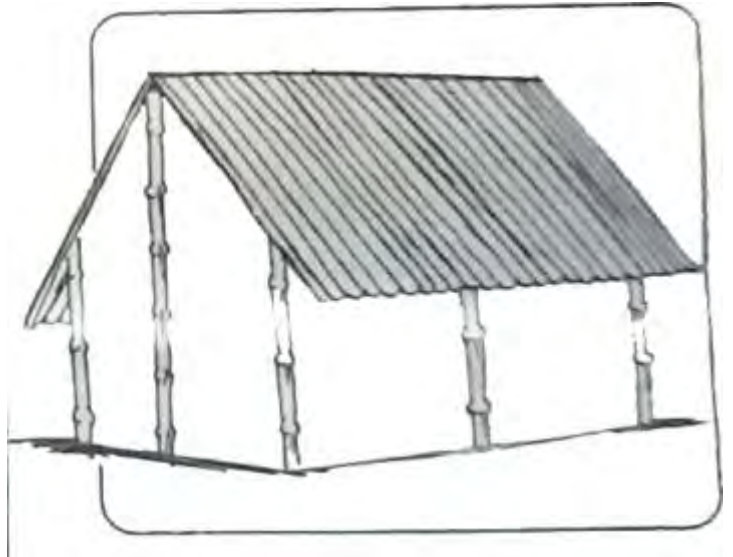
The next screw should go over the outer ridge of the overlap. Repeat process – 6 sheets should fit on each side.

Take one sheet and split it down in the middle using a tin scissor. Secure the 2 half pieces over the gap at the top with screws.

If tarpaulin is used instead more rafters and laths shall be in place.



Before making the wall, first split some bamboos in half. Then attach those half bamboos between the poles using wire or screw. I top, bottom and middle. Leave one part for door.



The walls can be covered with bamboo, straw or any other material, which can adhere to the mud plaster. The plaster shall not be in a heavy layer, as it can easily be repaired time after time.

This house is only meant to be a temporary shelter, but it will be stronger, more well-sealed than mat, plastic, tarpaulin shelters, as well as kitchen fire can take place.

