UNHABITAT

Safe, Warm, Easy to build

Winter Shelter



How to Plan

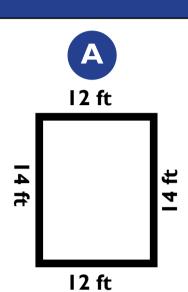
This shelter can be made quickly and easily.

Choose a site with protection from wind. Plan for the door to face the sun.

Start by filling the sandbags so that the wall can be made.

Then follow carefully all the details shown below to make sure the shelter is safe and lasts for the winter.

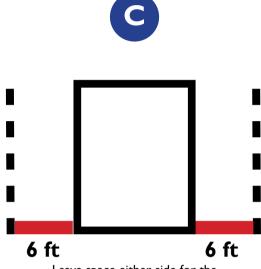
It is important to protect the shelter from aftershocks, cold and wind.



Measure this size on ground. This is the inside of the wall. Mark each corner.



Check the diagonals to make sure the walls are straight.



Leave space either side for the roof poles.

Making the Walls



Fill the bags with dry earth. No large stone. Bags must be only half full.



Lay the bags flat and level, with no gaps.



Fold over the top of the bag.



After 2 courses lay a full sheet of shelter plastic for floor.



Fix the door in place so the wall can be built around it.



The wall should be maximum 3 feet high.

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Shelter for All



One bag should overlap the other.



Vertical joints are dangerous. The wall may fall over.



Lay barbed wire between the courses to tie the wall together.

Making the Roof



The roof is made from 6 bamboo or timber trusses.



After the trusses are fixed, cover the roof with shelter plastic.



Fix kera mats between the purlins for insula-



Joints should be nailed and also tied with rubber or wire.



Tie down the roof with rope or wire. The wire should be laid in the wall from the base.



Fix shelter plastic at the gable. Insulate inside and fix another sheet of plastic.



A ridge pole ties the trusses together and holds them in place



Fix 3 purlins for the CGI sheets. Sheets are 10 ft long.



Fix CGI well against wind. Lay sand bags on the roof poles to hold them down.

Fixing and Finishing



Do not nail plastic sheeting it may rip, always fold it and use a washer.



Fix the door in the wall with a steel strap.



Protect any stove with a fireproof surround.







