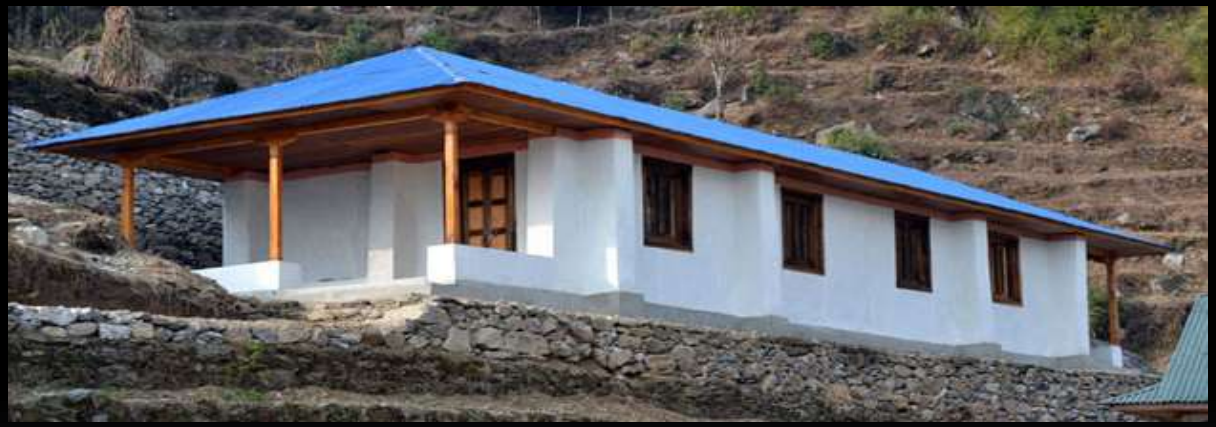
BUILD EARTHBAG WALLS BETTER

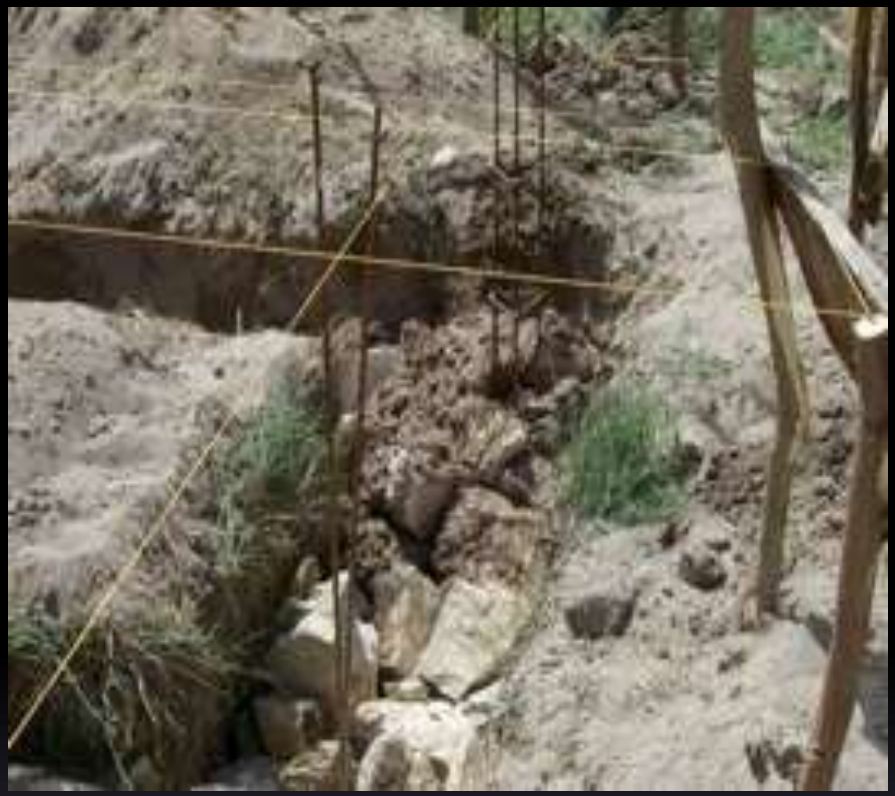
(QUICKER/ STRAIGHTER):



EARTHBAG INFO PART 4

Patti Stouter/ Build Simple Inc. December 2020
and Natural Building Blog friends

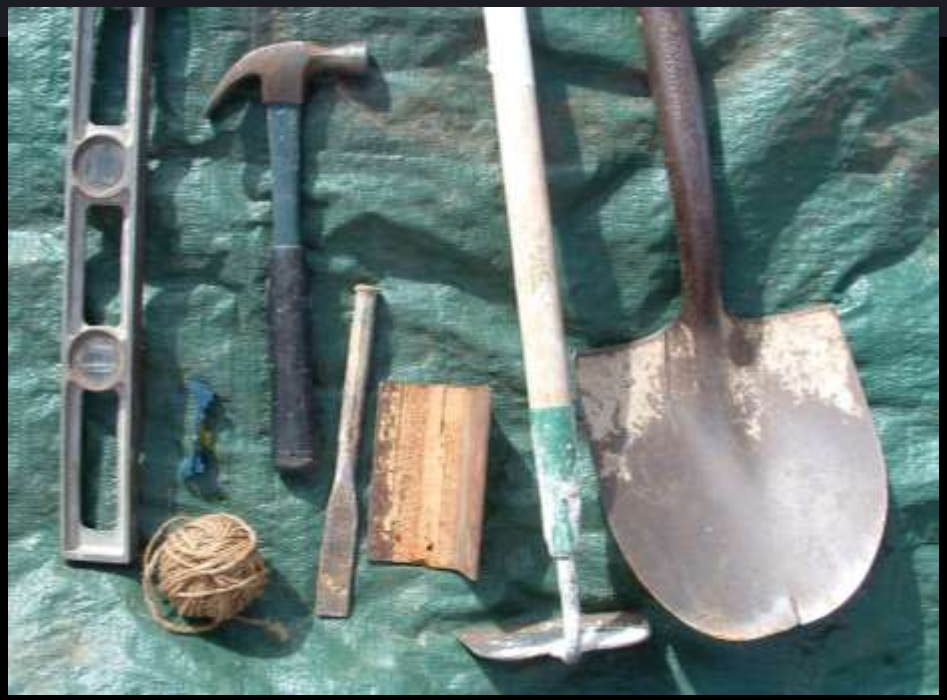
Stake carefully



Main string lines outside of walls

Both diagonals measure the same in a 90° rectangle

Tools can speed work

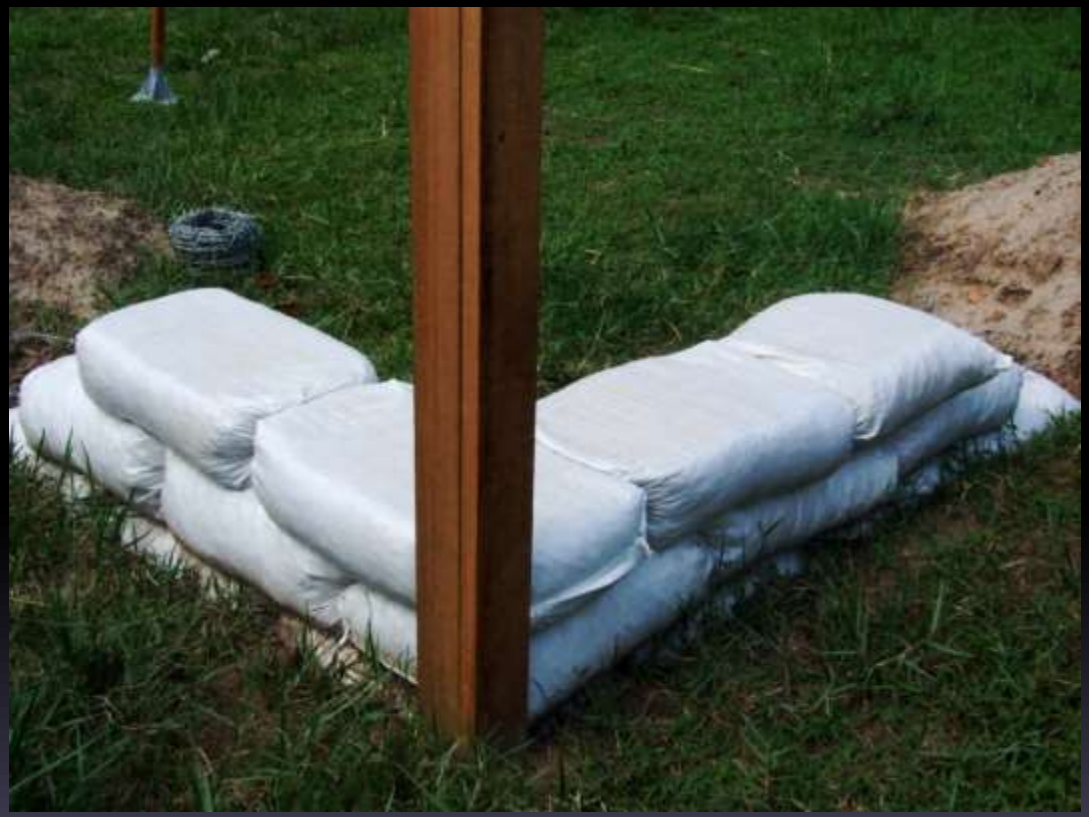


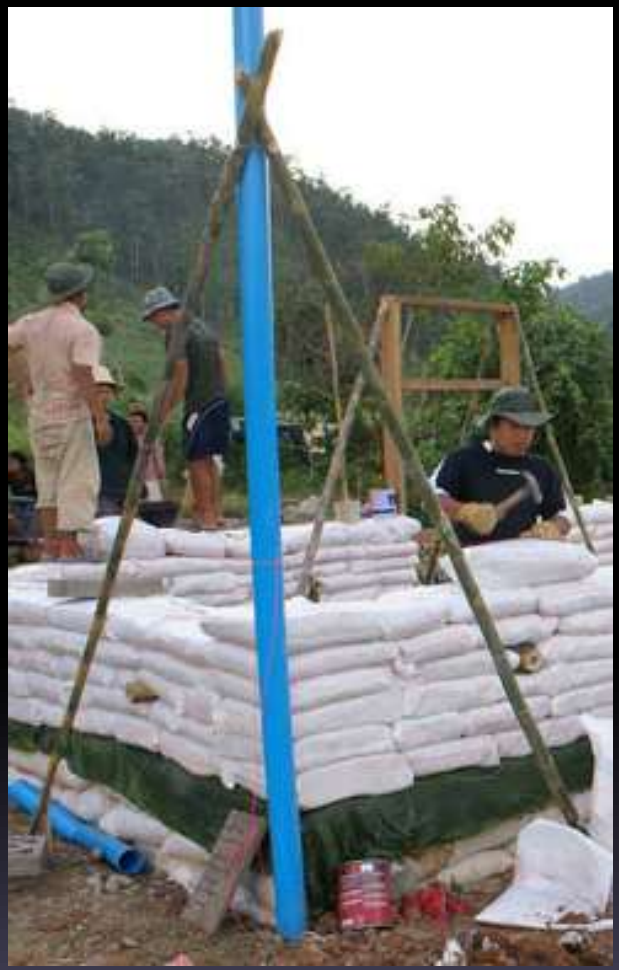
Line level with string

Chisel on steel to cut wire

Many kinds of tampers

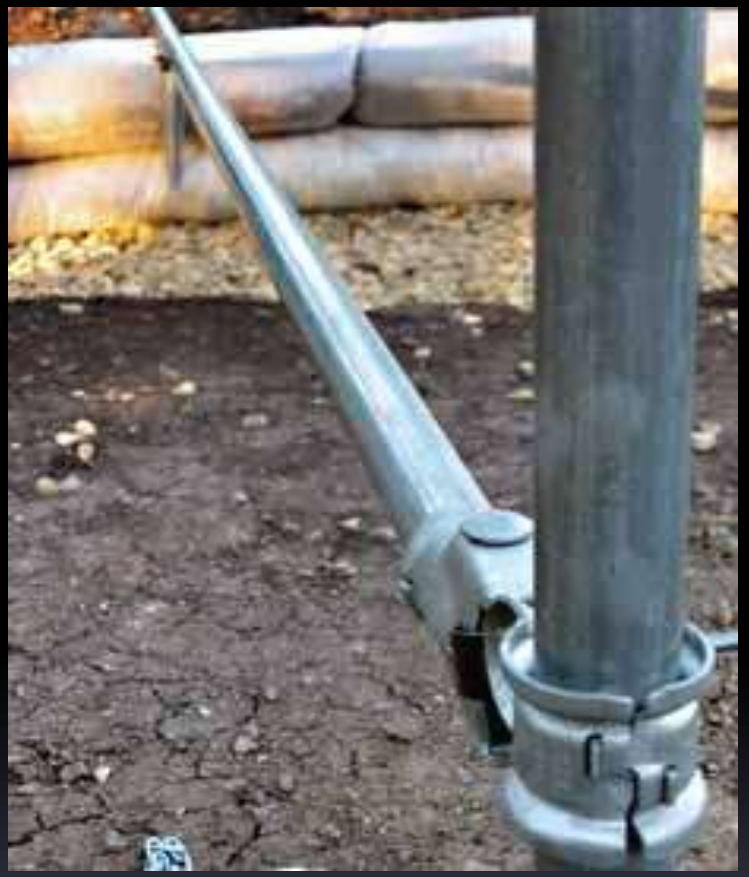
Guides keep corners plumb





Compass for curves

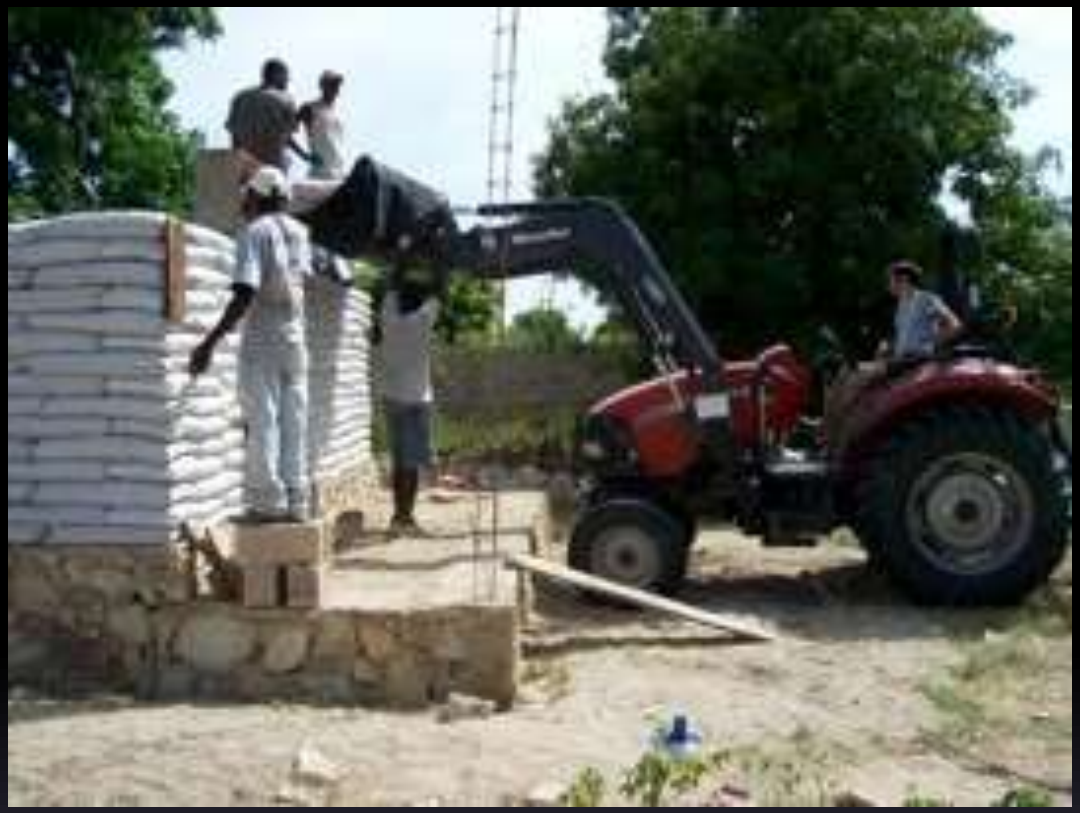
The string or pole rises up center post



Pile soil close to the walls

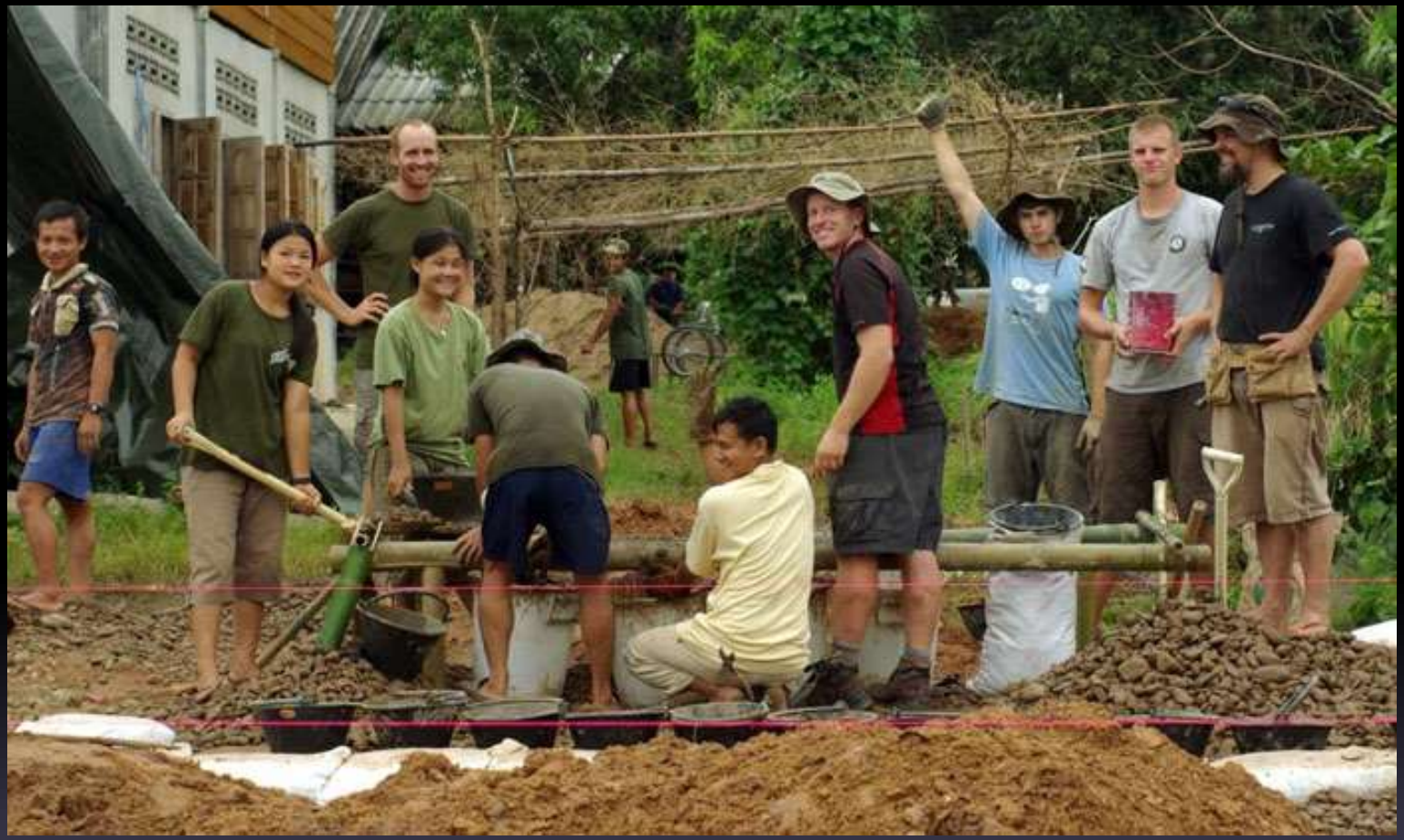
Fill buckets quickly

Lift soil easily

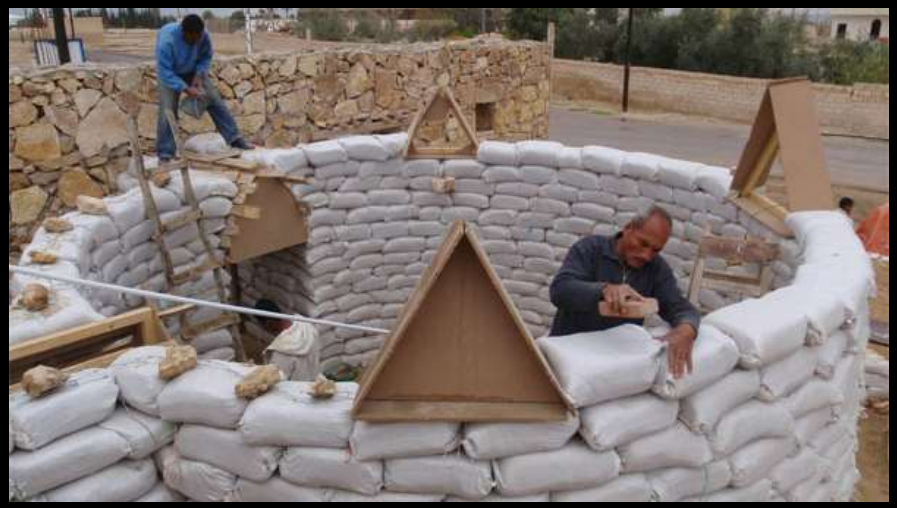


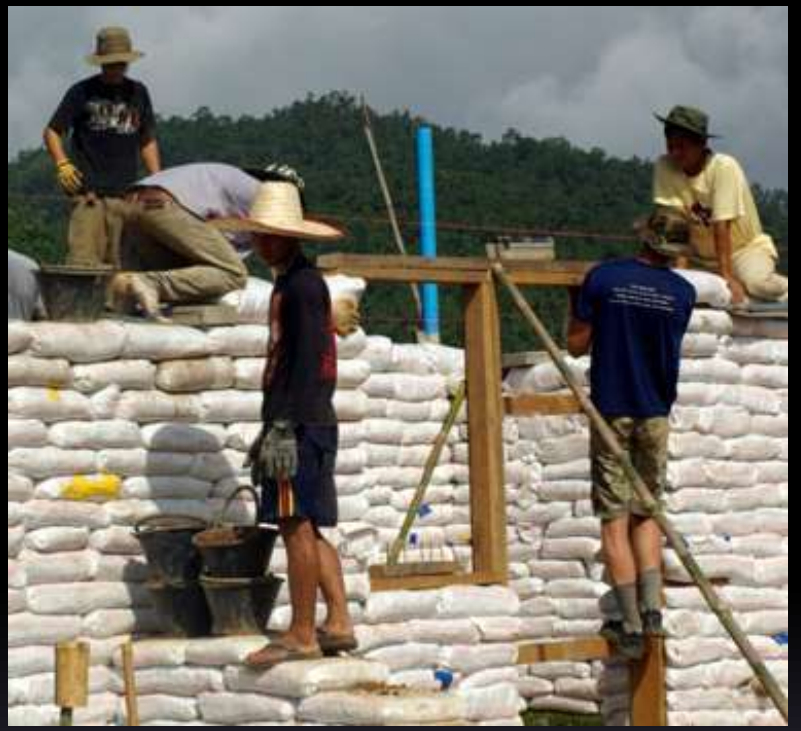
Use an auger or elevator if no loader is available

1 or more workers...



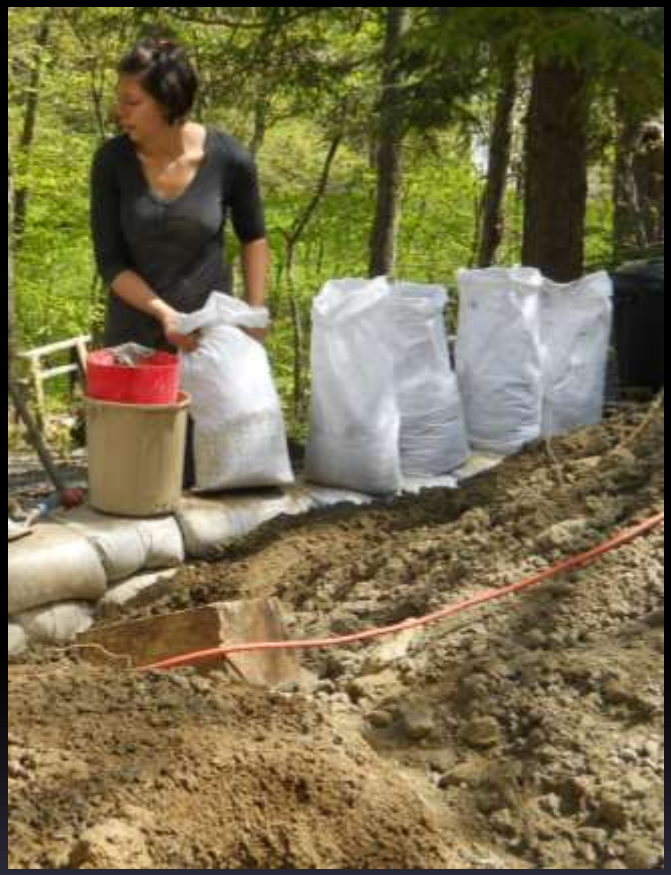
Bags can be built solo

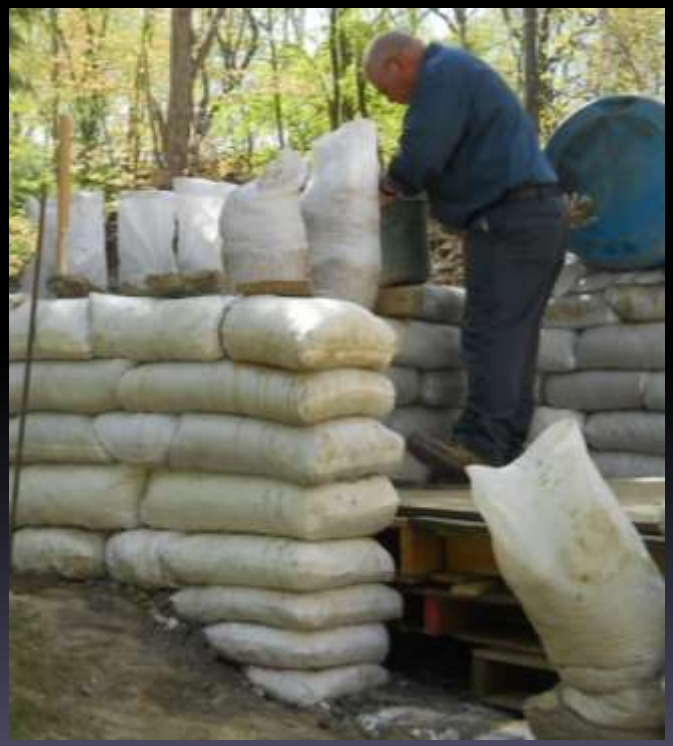




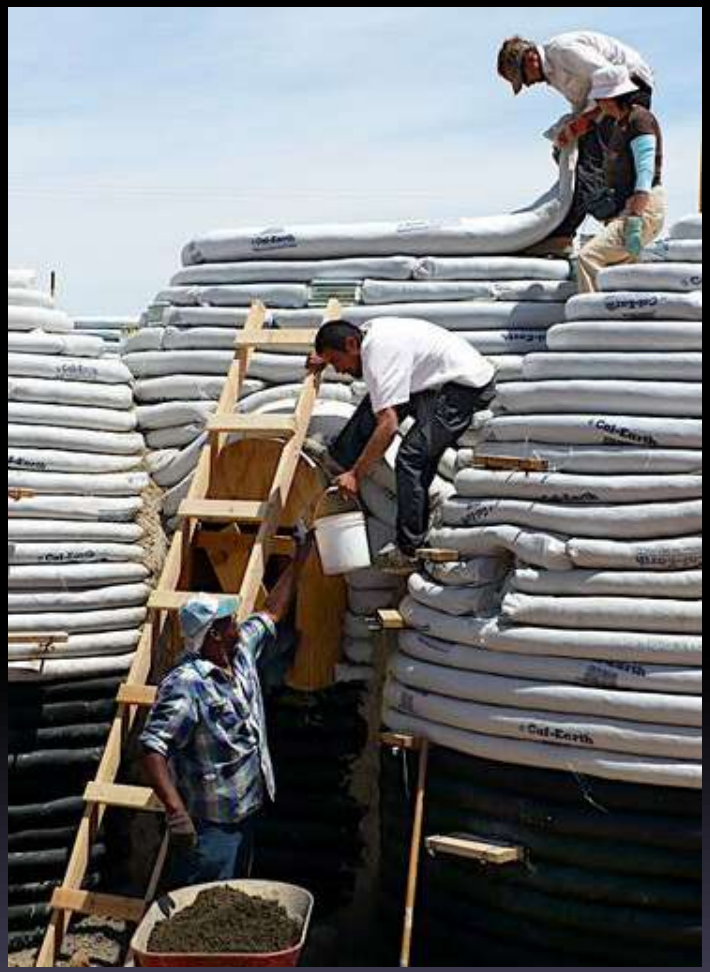
Half-fill bags on soil pile

Fill to 50 lb (25 kg)
Carry to wall and
finish filling





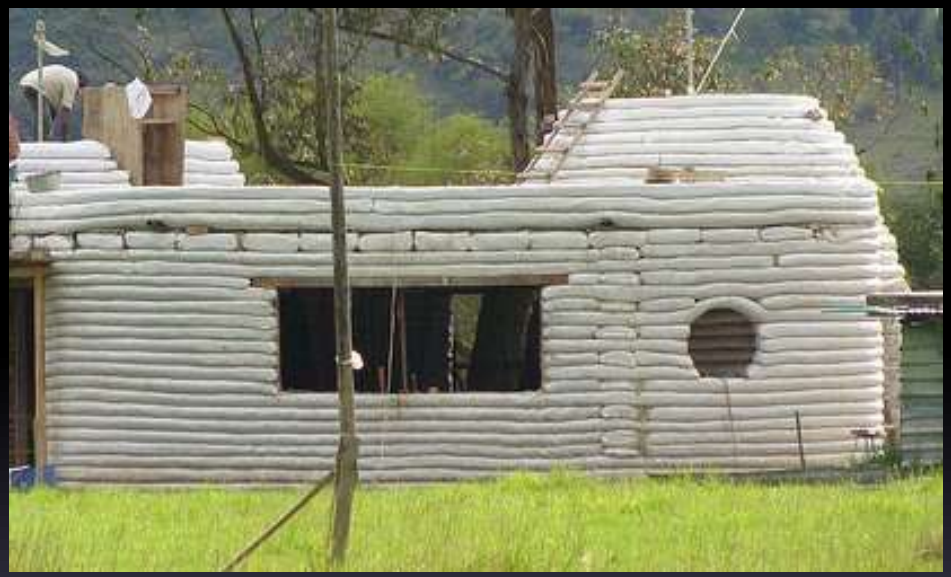
Earth in tubes



Easiest with team of 3-4
Custom lengths are easy

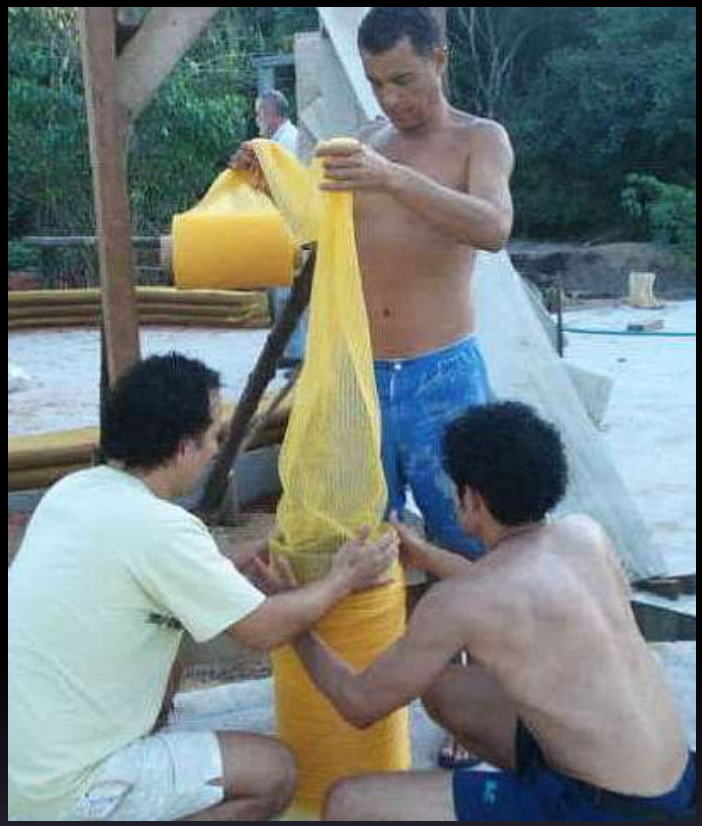
Tubes save time building and plastering

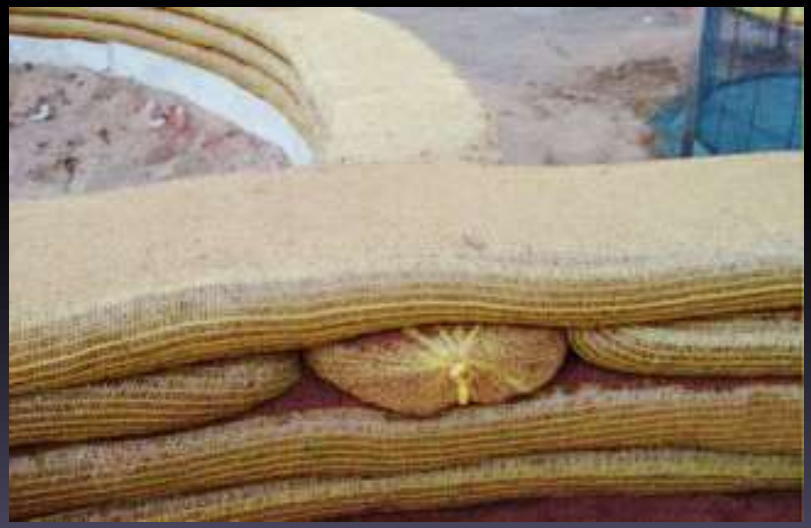
May work better for earthquakes



Mesh tubes are fastest*

Easy to load chute
Goes solid between courses if soil damp, so needs little or no barbed wire



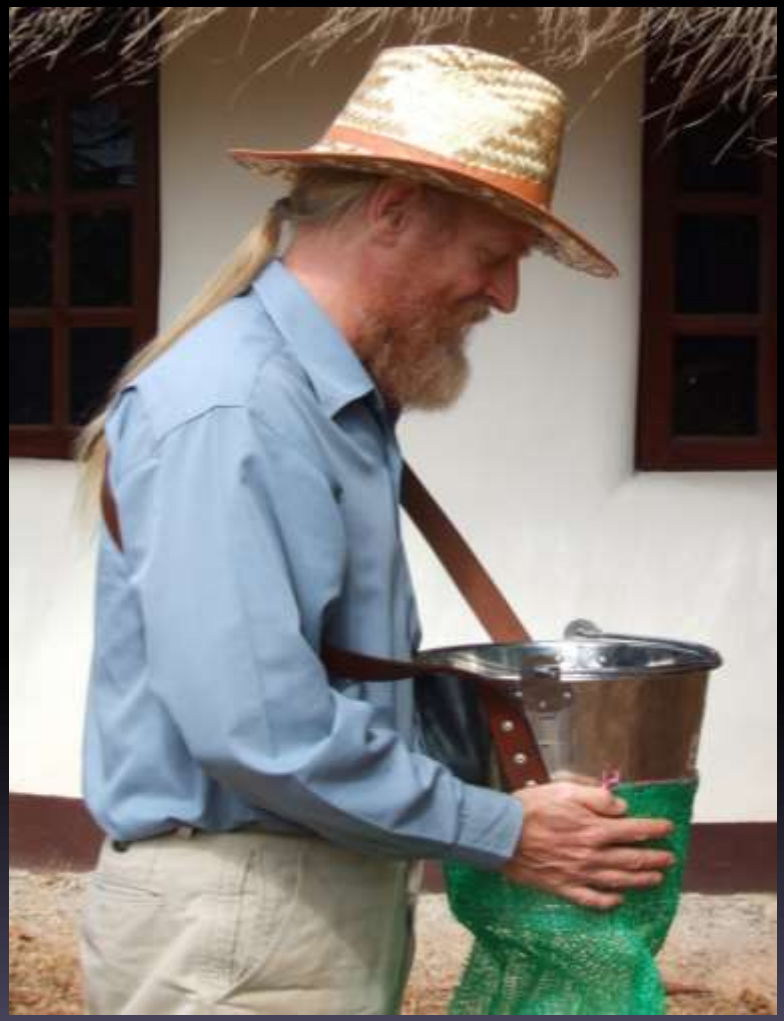


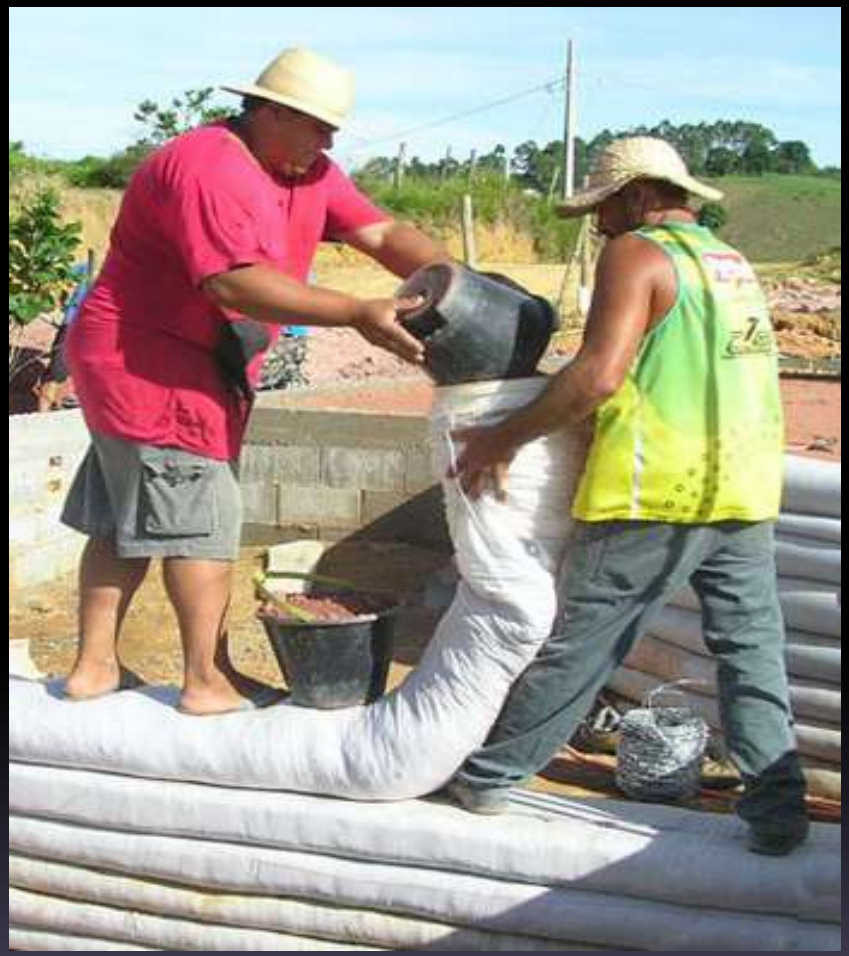
*Non-hazardous areas

Use a metal slider

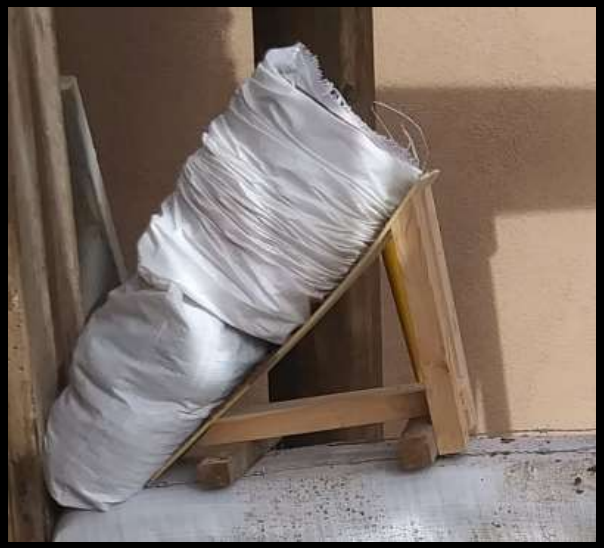
Place bag or tube, lay down, then pull slider out

Hold open with a chute

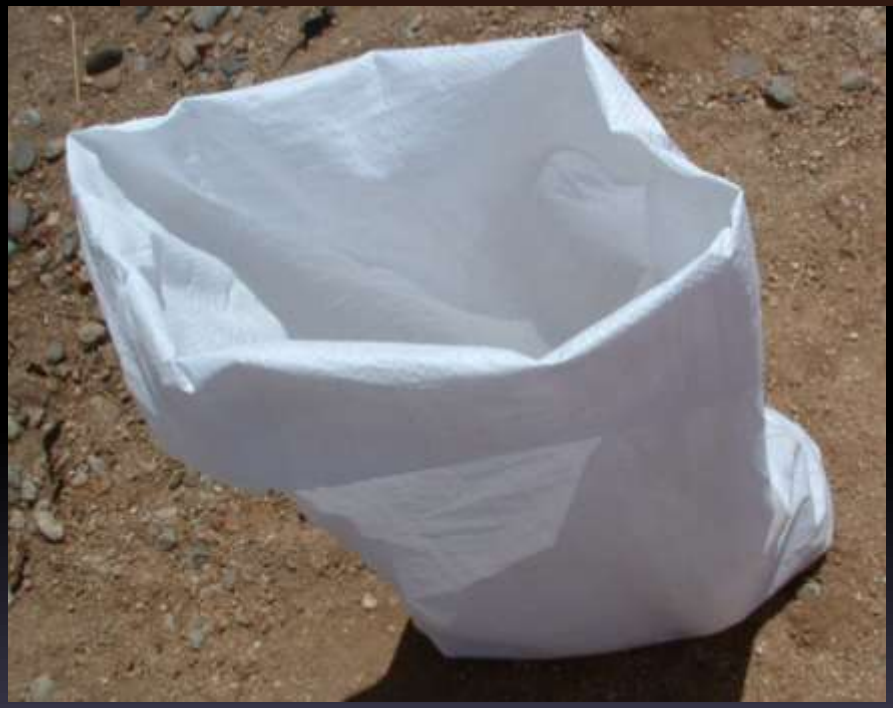




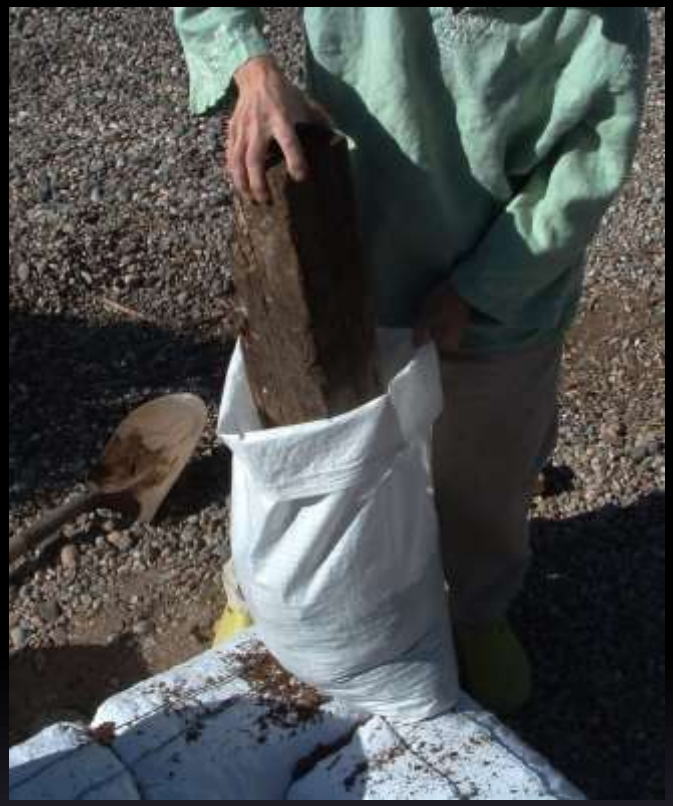
Bag or tube stands reduce fatigue

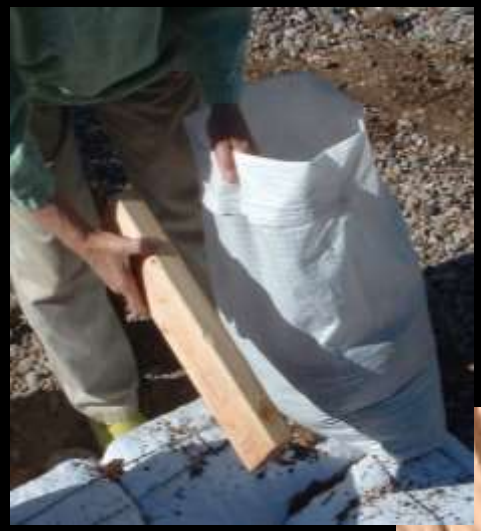


Or with no chute roll the bag edge



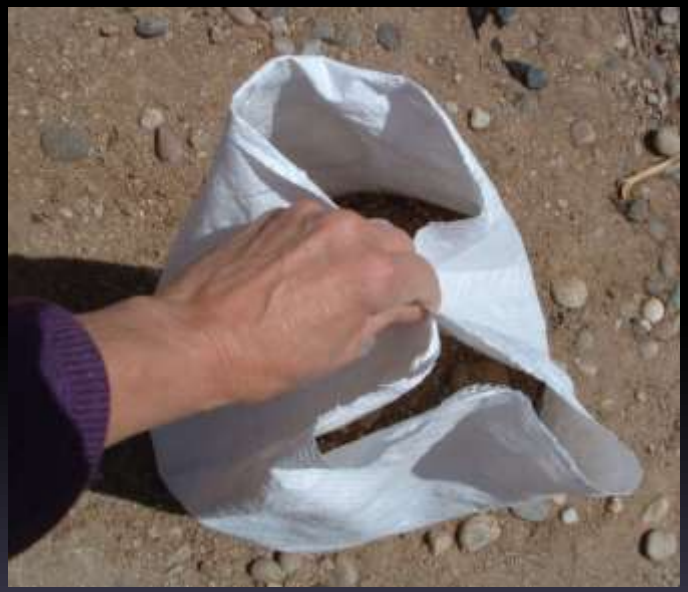
Firm up ends while filling

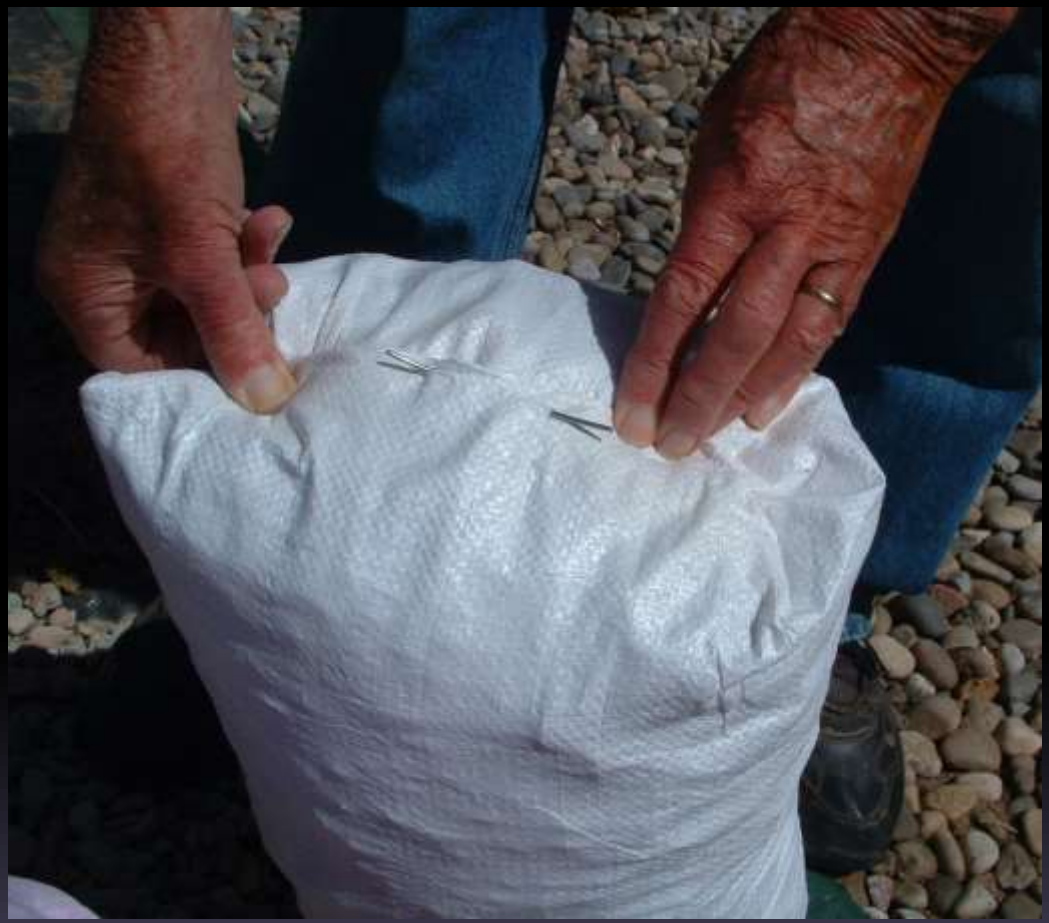




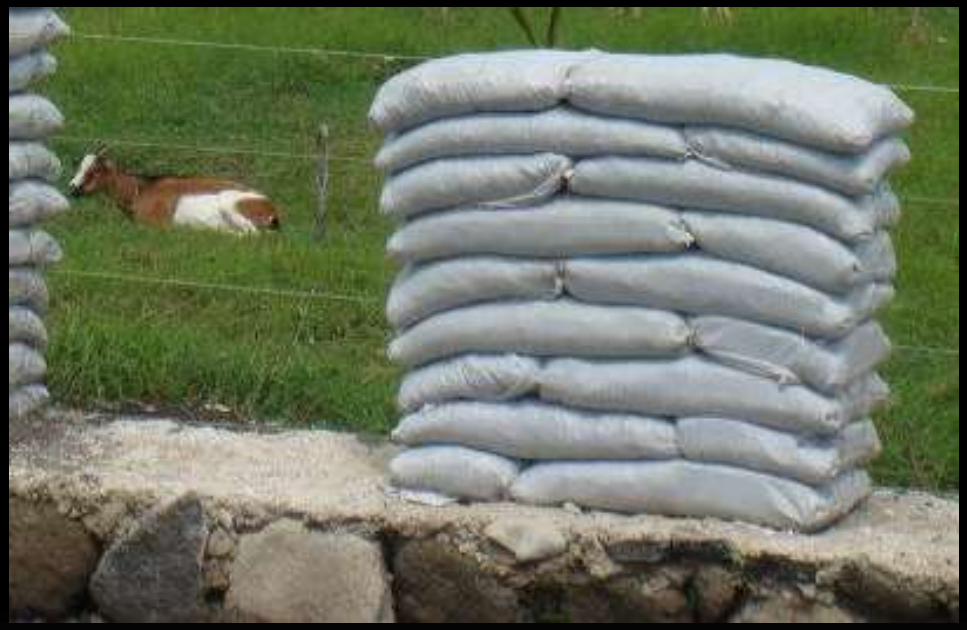
Pin ends with wire

Tuck 2 sides in, roll down, then pin





Design for full and 3/4 bags



Shorter bags wreck running bond

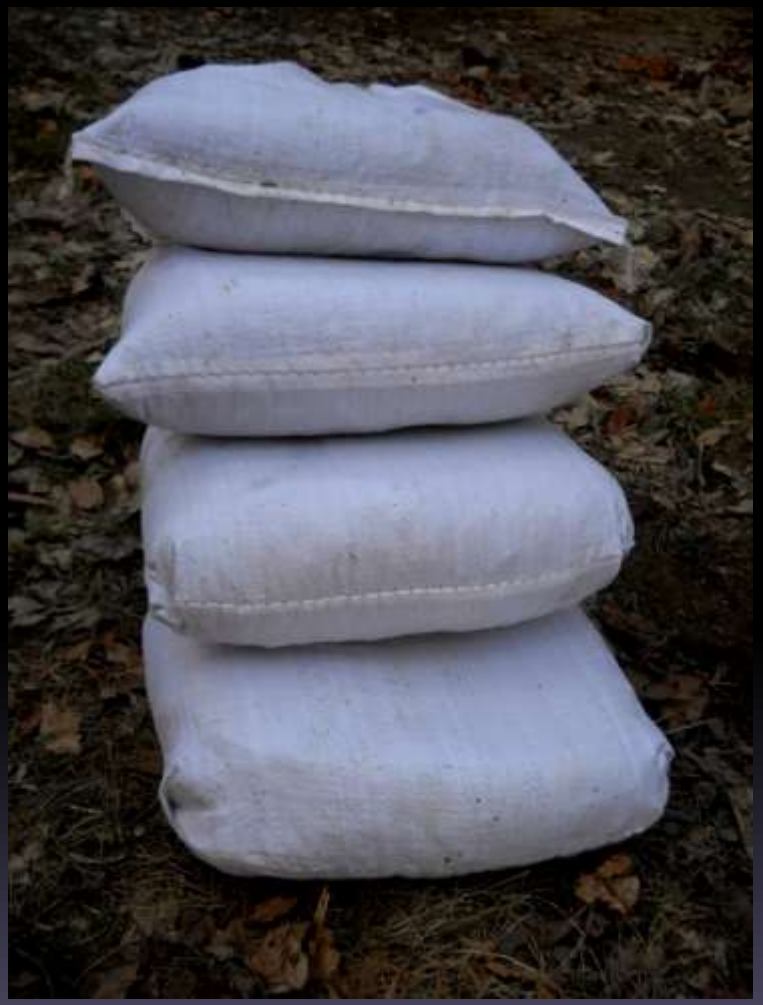
Neat ends speed plaster

Seam sticking out >

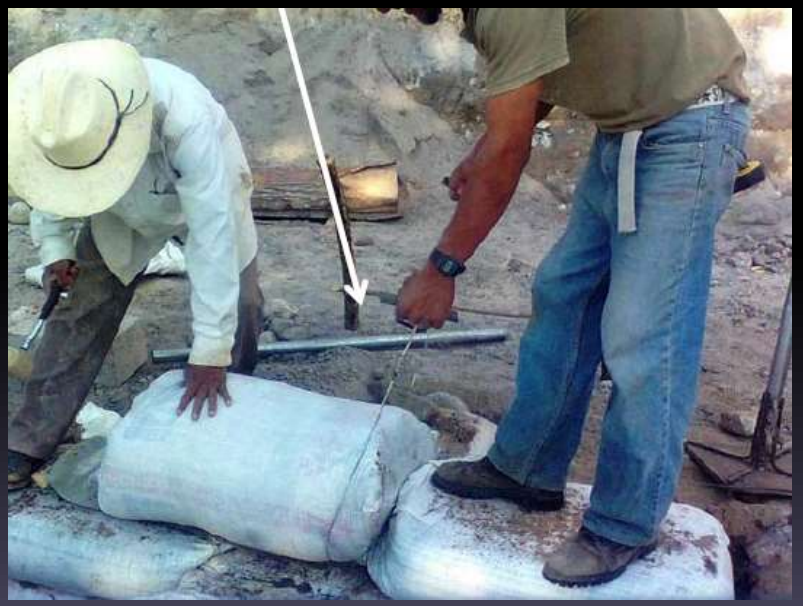
Corners stick out >

Corners tucked in >

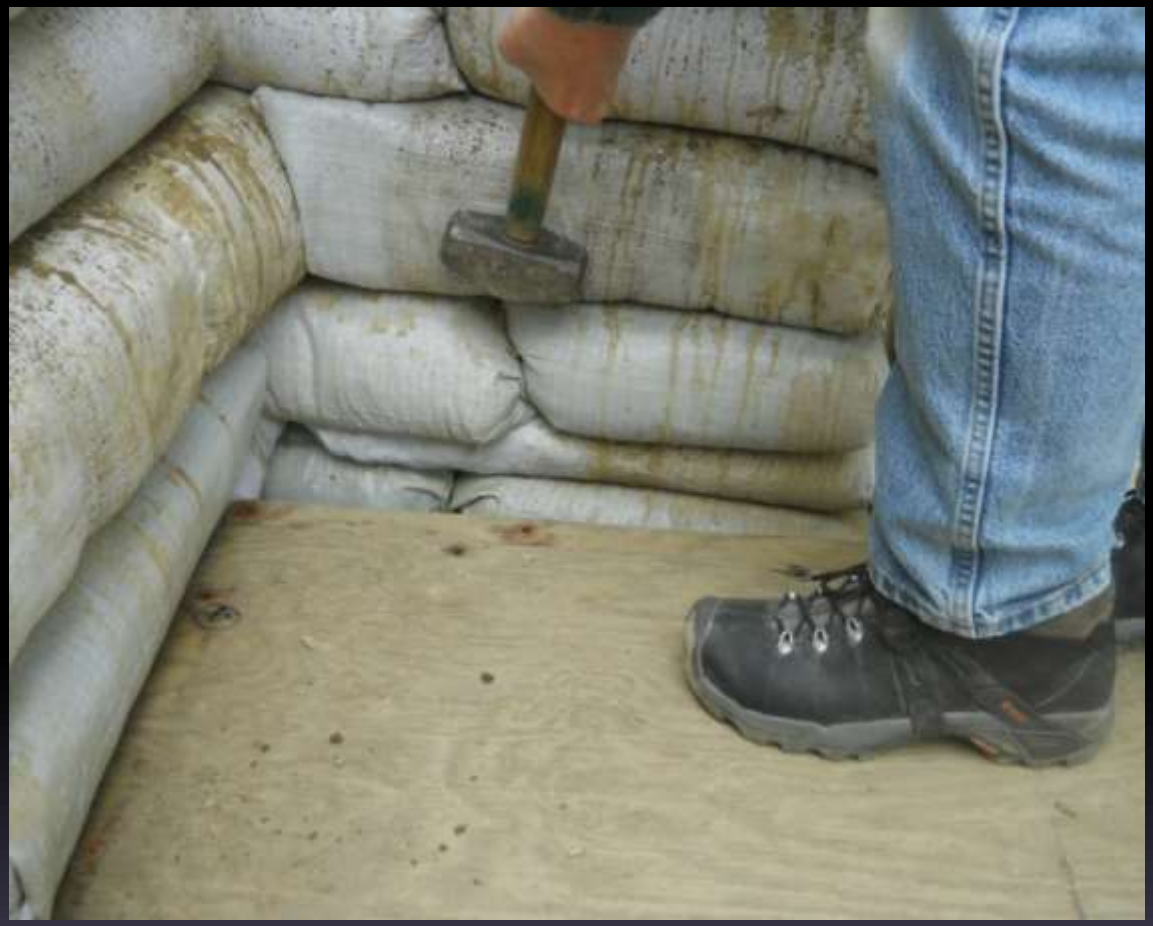
Corners tacked in >



Pull in place with string

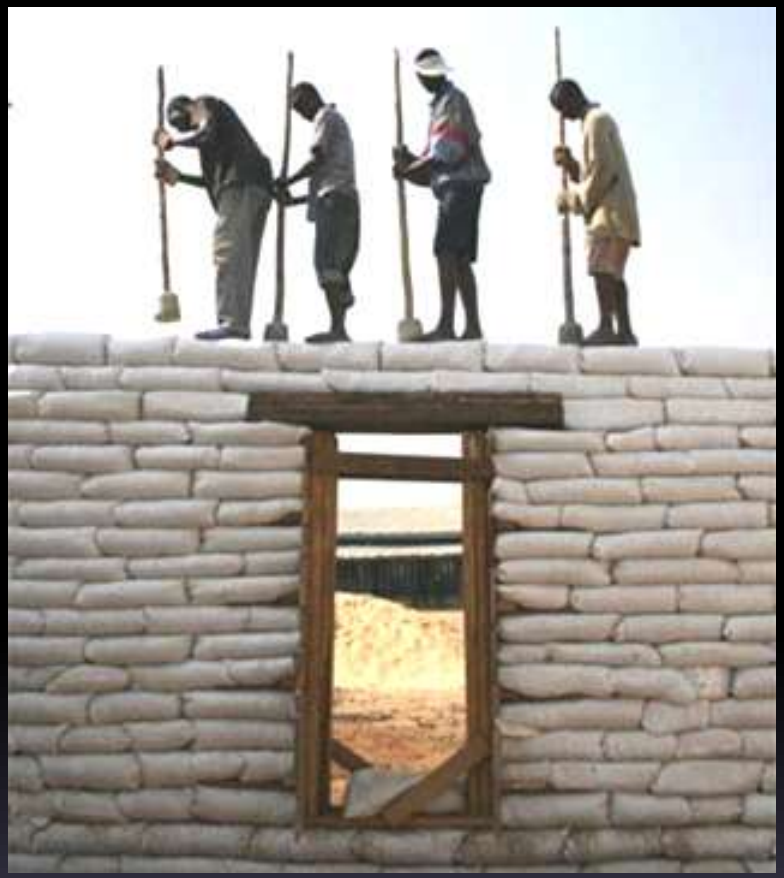


Side tamp clay while damp



Flatter bumps reduce plastering - but leave shallow nooks

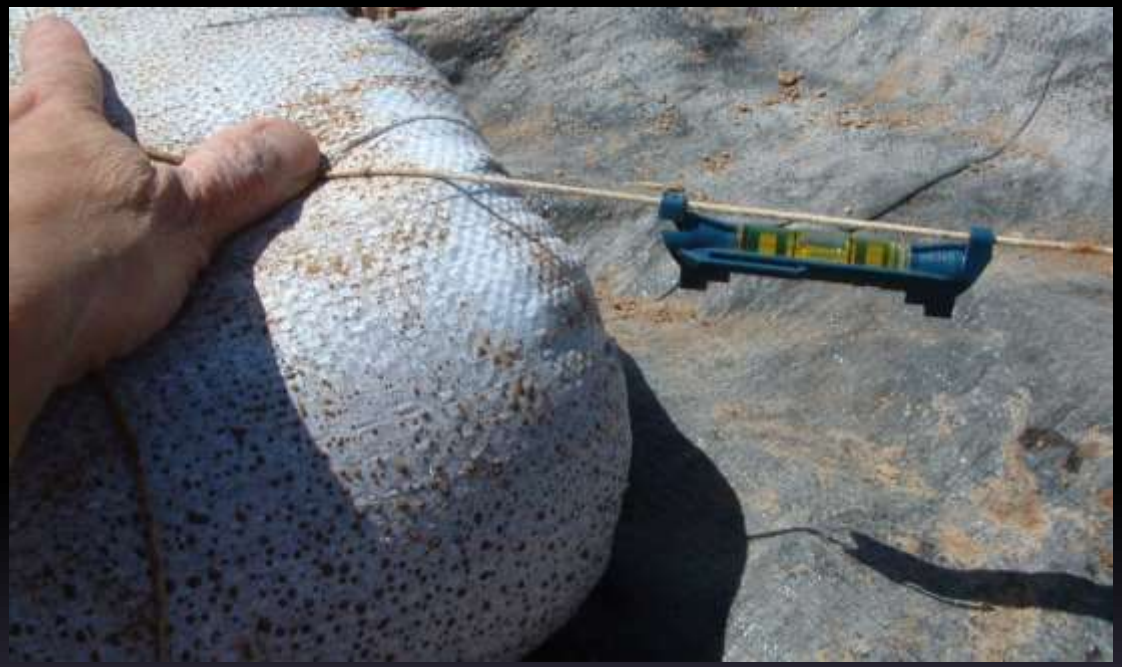
Start level, finish level

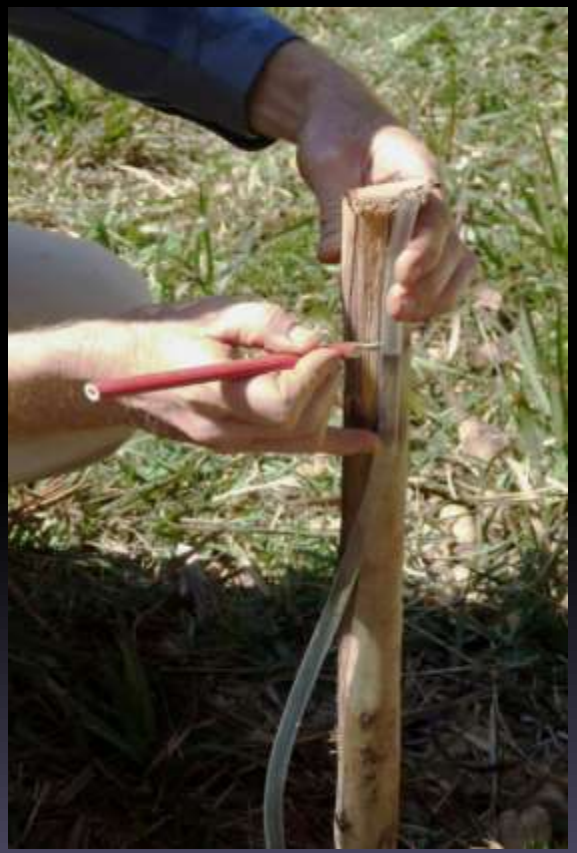


Thin courses waste time, supplies and are too wide

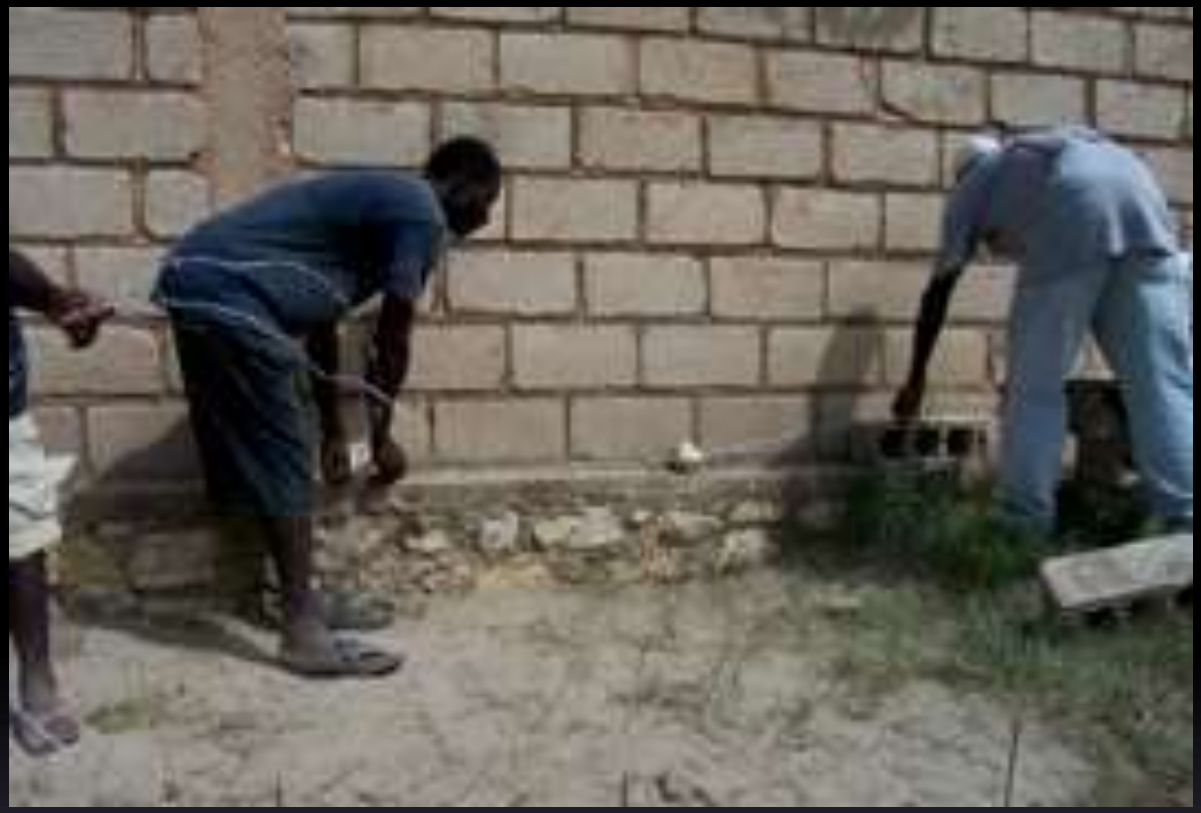
Check with line or water level

From one central spot to far ends





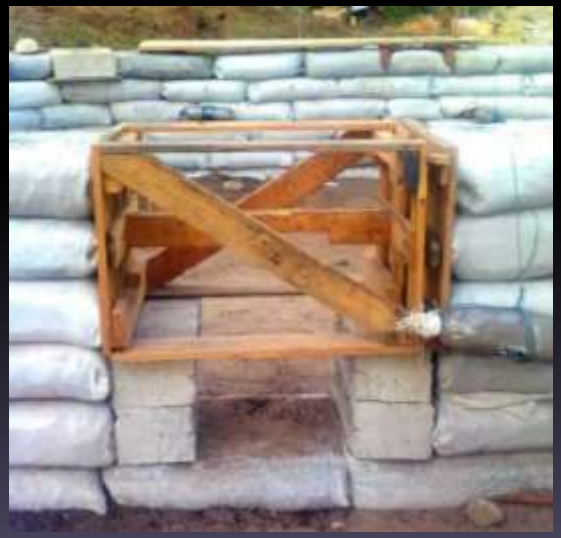
Cut wire to length marks

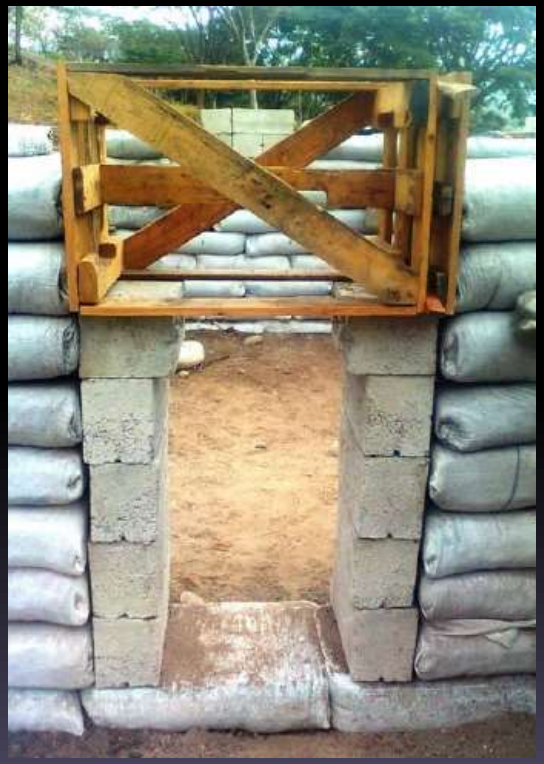


Mark the length on a wall, Stretch wire alongside, cut, place immediately

Adjustable door bucks

Keep the strong buck at the tamping level



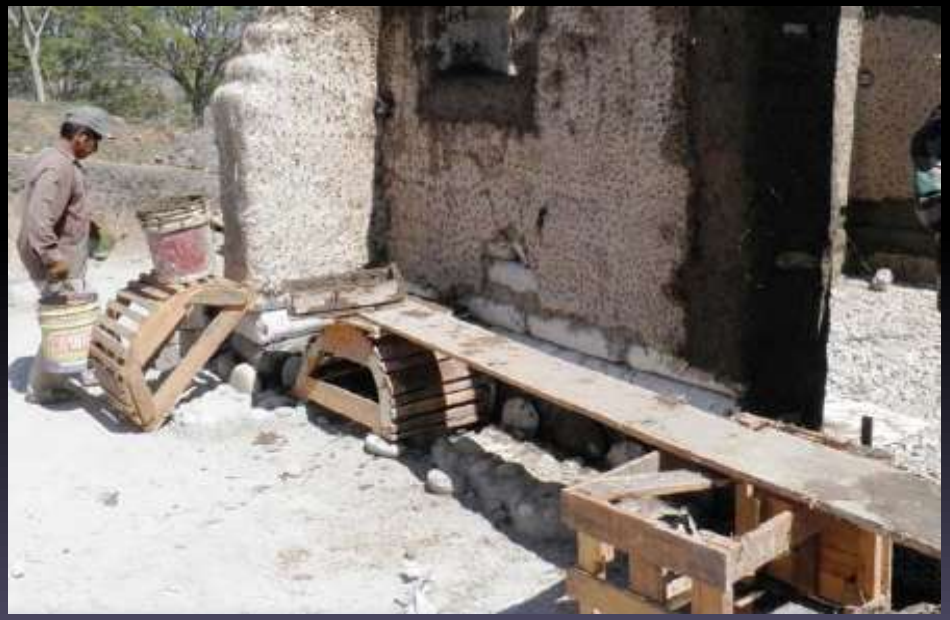


Cement or brick door frames

Termite proof but should attach to barbed wire

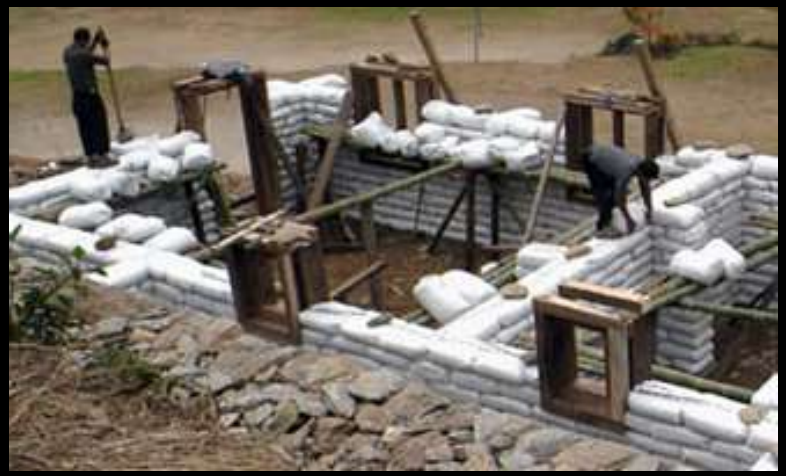
Simple scaffolds

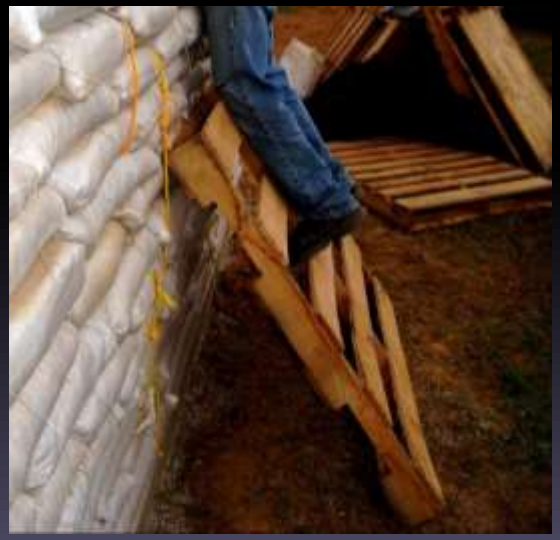
Stand on buttresses, re-use door bucks



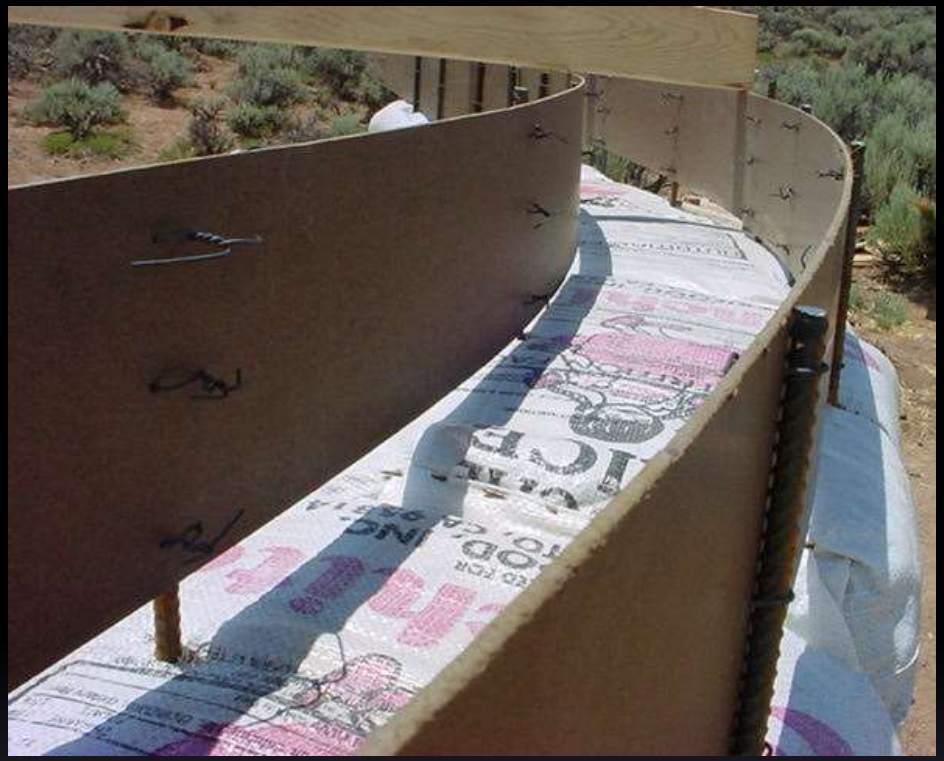
More scaffolds

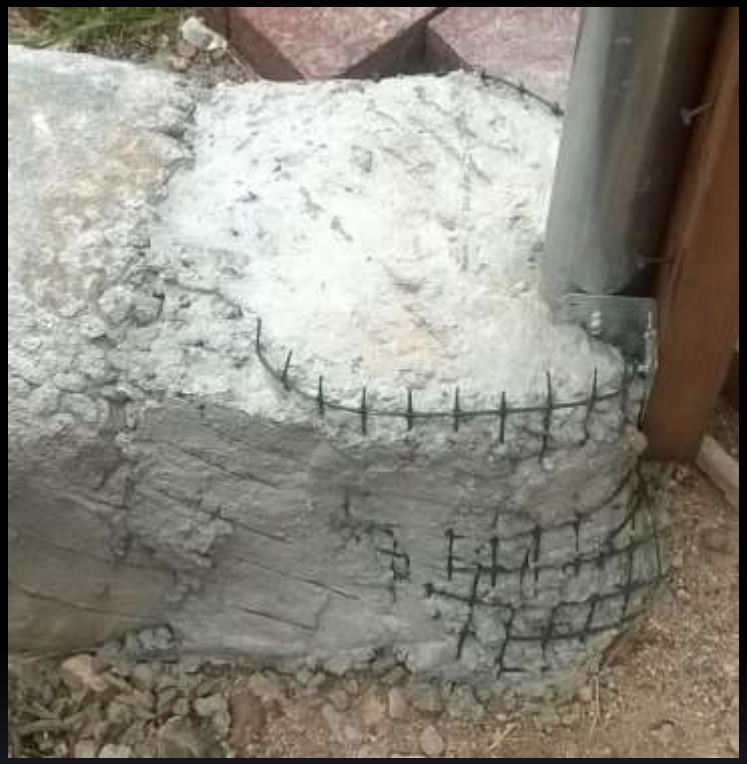
Poles through walls, pallets



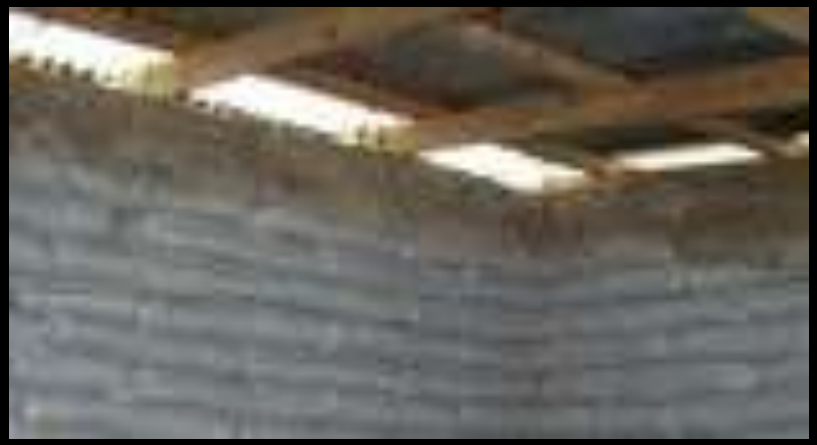


Cast bond beams in bendable forms

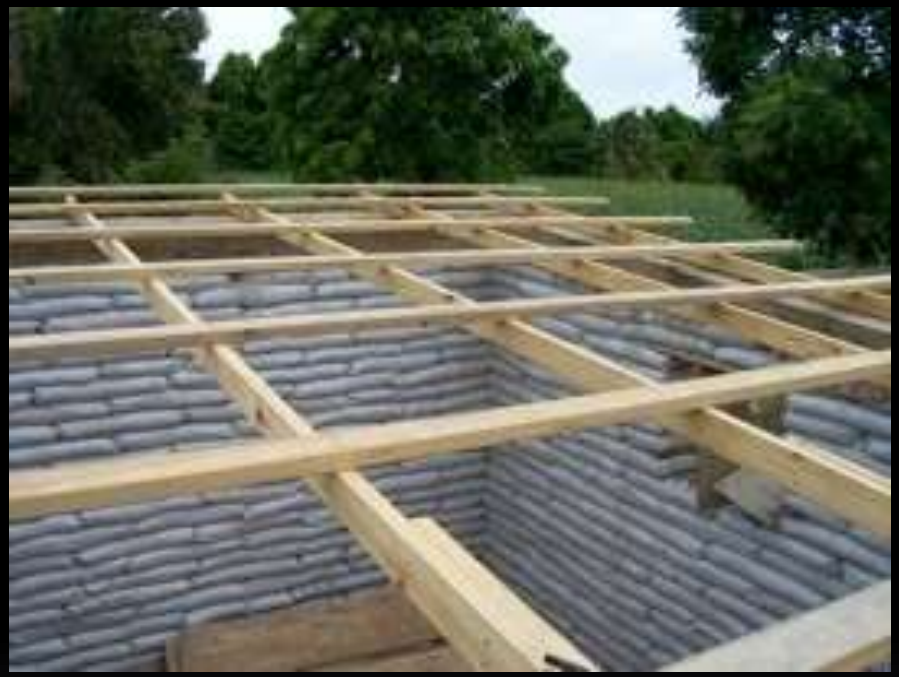




Let tropical roofs breathe



Openings near the roof let hot air out



BUILD EARTHBAG WALLS BETTER: EARTHBAG INFO PART 2

This file covers some techniques for better accuracy and speed building with earthbag in non-hazardous or low risk areas. See the other parts of the Earthbag Info series available online to learn more.

Projects built around the world are featured at both the Earthbag Building and Calearth websites.

Strong buildings of natural materials require care and advice. Before building, purchase a book or video, take a course, and seek advice from experienced builders and architects or engineers.

Before building in areas with seismic risk, check www.BuildSimple.org for the latest structural information. Check online for the latest version of *Best Practices for Quake-resistant Earthbag*.

Thanks for hard work and sharing photos:

Slides:

1, 30 (upper right)- Small World School, Phuleli, Nepal

2, 8, 26, 32- M. Long, Haiti Christian Dev. Project, Bois Marchand, Haiti

4 (l.)- N. Decker, Residence, Thames, New Zealand

4 (r.), 9, 10 (r.), 29 (l.), 40- R. Barber/ EMI, Free Burma Rangers Clinic, Thailand

5- Guiding Star Creations, Tepoztlan, Mexico

6, 7, 15 (l.), 16 (l.), 25 (r.), 30 (l.)- O. Geiger, Natural Building Blog

10 (l.)- K. Watanabe, Community Center, South Shounah, Jordan

10 (r.), 30 (center)- Konbit Shelter, Barriere Jeudi, Haiti

13- Residence by architect Vallejo, Bogota, Columbia

14 (r.)- F. Pacheco, Ecooca, Brazil

15 (r.), 16 (r.), 22, 27, 29 (r.)- Cato, Chiapas Clinic, Mexico

17 (bottom l.)- Athens Zen Center, Ohio, US

18 (r.)- T. Hall, Residence, Hawaii

20 (l.), Rasin Foundation Clinic, Leogane, Haiti

20 (r.), 30 (r.)- E. Bellamy, University of Cincinnati prototype, Kentucky, US

24 (l.)- Shine on Sierra Leone School, Sierra Leone

28 (r.) K. Hart, Puerto Vallarto, Mexico

28 (l.), 37 (r.)- J. Anderton, Eternally Solar, South Africa

30 (l.)- Aman Setu School, Pune, India

31 (l.)- Christina & Reid, Addition, sw US

32 (r.)- J. Balmer, Phangan Earthworks, Koh Phangan, Thailand

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