

General tips for health and safety on the work site:

The majority of HFH Egypt building is **renovations** on existing structures, with limited new construction. Teams should be prepared and **physically able** to walk short distances, **climb and carry** items up stairs, lift 30-40 pounds, and be comfortable working in tight spaces with limited ventilation. Building in Upper Egypt is a **full body workout** – be prepared for sore back, arm and leg muscles and lots of fun!

- **Common sense will serve you well during your build.** When in doubt, ask. If you feel uncomfortable performing any task, then please do not do it.
- **Think before you start something.** Do you have all of the required tools? Is there something that looks unsafe? Can I work in the shade rather than the sun?
- **A safe worksite is a tidy worksite.** Clean your area of anything that may pose a trip or other safety hazard such as bricks or timber in pathways.
- **Check equipment before using and report any defects.** Inspect the site for dangers, nails sticking out of wood, bars protruding from the walls etc. Check materials such as block stacks for critters of any kind.
- If you **see anything that looks unsafe please call it to the attention of your supervisor** Team Leader, GV Coordinator or Field Coordinator as soon as possible.
- **Stretch** before you start working.
- **Wear sunscreen, sunglasses, a hat or bandana.**
- You may be working in hot and humid conditions. Try to **drink at least 3-5 bottles of water** a day and take frequent breaks in the shade. Re-apply sunscreen often.
- If you **feel at all ill, STOP** work and inform the Team Leader or GV Coordinator immediately.
- **Pace yourself.** Team members often try to work too hard on their first day and run out of energy early. Keep some reserves for the rest of the week. This is a marathon not sprint.
- **Always wear sturdy closed toed shoes.** Keep an eye out for nails or other sharp objects on the ground and pick up any you may see and relocate them to a safe place.
- **Gloves will save your hands** from blisters, cuts, splinters and cracking.
- Most injuries occur from **improper lifting.** Use your legs and not your back for leverage. Please review the proper lifting techniques found in this book.
- **Treat any scratches immediately.** Clean the cut, apply and antiseptic wipe or lotion and cover the area. There is a first aid kit on all work sites.
- **Report any accidents,** however minor, to the team leader or host coordinator.
- While working, **watch out for loose gravel** and slippery slopes.
- **Horseplay on the worksite can cause injuries** so please take care and watch out for others.
- **Stay away from dogs, cats and animals in general.** No worries, donkey rides can be arranged upon request.
- **Always stay with the group.** Security does not take kindly to runaways.
- **Please don't smoke on the worksite.**
- **Follow all instructions by HFH Staff and local engineers.**
- **Have FUN!!!** Keep in mind that this is about building relationships; take the time to play charades in an attempt to communicate with those around you. But don't dilly dally, we're still building a house here.

Cultural Norms to be aware of on the work site:

- **Patience** – keep in mind that life in Egypt is communal. Everything is a discussion, so be patient as HFH Egypt staff and local contractors decide what and where to start. It may appear disorderly, but rest assured, there's always a method to the madness of Egypt.
- **Modesty** – remember that just because we're on a construction site doesn't mean the rules surrounding modesty and culturally appropriate clothing change. You should remain **fully covered** at all times. Loose fitting t-shirts and long pants are your best work site uniform. Men, if you're hot drink some water; do not remove your shirts. Ladies, be sure that your shoulders are covered and no cleavage is showing. Take the time to notice as you stretch before your build that even with arms fully extended no belly is showing.
- **Hospitality** – It is very countercultural in Egypt for visitors to do manual labor, especially foreigners. Whether you realize it or not, you are this community's honored guest and they will want to pamper you. HFH Egypt Field Coordinators do a great job of prepping the community before you arrive to explain why you're coming and what you'll be doing. However, don't be surprised if after 5 minutes of working you're asked to sit and have tea. Please be kind and receptive. Teams come to work hard, but we also don't want to offend. Follow the lead from your GV Coordinator or Field Coordinator (one of whom will be with you at all times). Sometimes the best relationship building happens over tea!
- **Onlookers** – Many of our affiliate communities rarely have foreign visitors; you may even be their first contact! In addition, construction will be the last thing they expect you to do. For this reason, we will likely draw quite a crowd. It may seem slightly awkward to have an entire community watch you do things like sift sand and haul bricks, but again patience and flexibility is key. Your HFH Egypt coordinators will do their best to manage the chaos; in the meantime, try to enjoy your (albeit less glamorous) version of celebrity ☺ If at any time you are in a situation that feels uncomfortable, let an HFH Egypt staff member know immediately.

Typical work site activities:

- Sifting sand
- Mixing cement
- Carrying/laying bricks
- Plastering
- Shoveling
- Wood roofing
- Tiling



The Results:

Typical Rural Mud Brick Housing



Old Living Space



New Three Story Home

Best Practices on the worksite:

Proper Lifting Techniques:

- Stand close to the load with your feet shoulder width apart, one foot slightly in front of the other for balance.
- Squat down, bending at the knees and not the waist. Keep your chin in and your back as vertical as possible.
- Secure a firm grasp of the object before lifting.
- Begin slowly lifting with your legs by straightening them. Do not twist your body during this step. If you must turn, use your feet and not your torso.
- Once the lift is completed, keep the subject as close to the body as possible.
- To place the object below the level of your waist, follow the same procedures in reverse order. Remember to keep your back as vertical as possible and bend the knees. If the object is awkward or too heavy for you, please ask for help. Ensure there are no obstructions in your path before lifting any object; that you can see around the load when lifting it; and that there is adequate room to place the load after you moved it.

Limestone Block Passing Line

Process:

1. Form a line, alternating men and women whenever possible.
2. Clear loose gravel and other debris from the path.
3. The first person should pick up the block from the pile and dump out the limestone dust.
4. Each block weighs 10-15 pounds so be prepared to accept it from your neighbor and to pass it on down the line - it is best to keep the momentum of the block going.
5. Minimize your movement - you must be close enough to each other so that you pass the block without twisting the upper body and without taking any steps.
6. When holding the block, place one hand on a top corner and the other on the opposite bottom corner.



Mixing Mortar / Concrete

Concrete is a mixture of sand, cement, water and small aggregate stone. This mixture is used for the plastering of walls and as mortar between bricks. It can also be used as the final step for wood roofing.

Process:

1. Two or more people will work together at this activity.
2. Please keep shovels clear of the space when not in use so people do not trip on them.
3. The cement bags weigh 50 kilos or 110 lbs each and need at least two people to move.
4. Follow the directions of a HFH Egypt Coordinator or local engineer to know how much sifted sand is needed to create the mixing platform.
5. Place a bag of cement on top of the mound and open it with the corner of your shovel.
6. Slowly pour the cement on top of the mound of sand.
7. Use your shovel or trowel to mix the sand and cement together by moving the mound to one side, making a new mound, and then back to its original position.
8. Open the mound, moving the mixture away from the center to create a volcano type crater.
9. Fill the crater with water to the specification of a HFH Egypt coordinator or local engineer.
10. Take a 5 minute break while the mortar soaks up the water.
11. After 5 minutes, slowly move the mortar from the inside edge of the mound walls towards the center of the crater to absorb the water.
12. Take care not to break a wall, allowing water to escape.
13. Once the water is mostly absorbed, mix in the mortar from the outside edges of the mound.
14. A properly mixed batch of mortar is roughly the consistency of cake batter.
15. Should you need to transport the mortar, only fill the buckets half-way because a full bucket is difficult to carry due to its weight.



Building walls

You will work with a skilled engineer during all structural assembly. The following are basic guidelines for block-laid walls, however you should follow carefully the instruction of an on-site engineer at all times.

Process:

1. A Habitat staff member will walk through the design of the house, showing you where windows and doors will be located and the block layout for off centered windows and doorways.
2. First, a bucket of mortar will be retrieved from the mortar mixing station.
3. Starting next to a column or previous block, a trowel is used to spread a layer of mortar on top of the previous row of blocks.
4. The mortar bed should be around 3cm thick and should be spread for approximately 45 cm, just past where the new block will end.
5. Place the new block in line, leaving a 3cm space between the blocks.
6. Using a trowel, fill the gap with cement.
7. When setting the block on top of the fresh mortar, hold the block the same way as when you were passing the blocks and set (do not drop) the block gently on top of the mortar.
8. Tap the block into place with the heel of a trowel or hammer and check to make sure it is level on top.
9. You may have to fill in some spaces between the blocks with more mortar- if you feel unsure of the spacing, please consult HFH Egypt staff.
10. Scrape off any excess mortar from both sides of the new block and mix it back in with the mortar in your bucket.
11. Always check to make sure the tops of your blocks are flat and at the same level as the previous block.
12. After you have laid your first few blocks, have an expert inspect your work to make sure you are on the right track.



Wood Roofing

You will work with a skilled engineer and local builders during all wood roofing projects. The following are basic guidelines for constructing basic wood roofing, however you should follow carefully the instruction of an on-site engineer at all times.

Process:

1. Once on site, a Habitat staff member will generally split the team into two groups. One group will remain ground level to prepare wood planks and pass them to the group on the roof to nail into beam.
2. An engineer will have already installed wooden cross beams where the roof is to be laid. Roofs are flat to allow for future additions of higher levels to the home.
3. A Habitat staff member or local engineer will nail in the first 3-4 planks to create a safe platform for teams to work on.
4. Team members on the ground will saw planks to the correct length for the roof and hand them to team members on the roof.
5. Planks should be laid tightly next to each other to ensure as little gap as possible between planks.
6. Check to be sure that the plank is the appropriate length and is level with the edges of previous planks creating an even overhang for the edge of the home.
7. Once the plank is in position use a hammer to place two nails through the plank into each cross beam.
8. Hammer one nail centered on the beam and approximately 2 inches from the edge of the plank.
9. Place the second nail centered on the beam an approximately 2 inches for the opposite edge of the plank and hammer.
10. Once the plank has been hammered in each cross beam, the ground level team can hand up a new plank.
11. This process is repeated until the entire surface area is covered.

