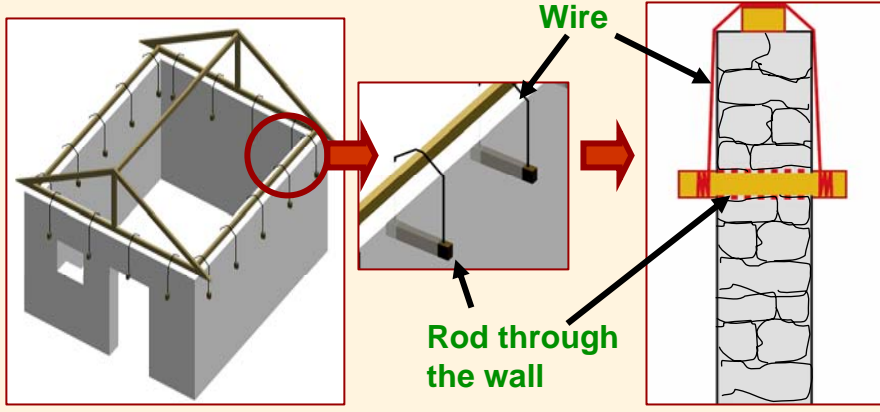


Problem: Wall Collapse

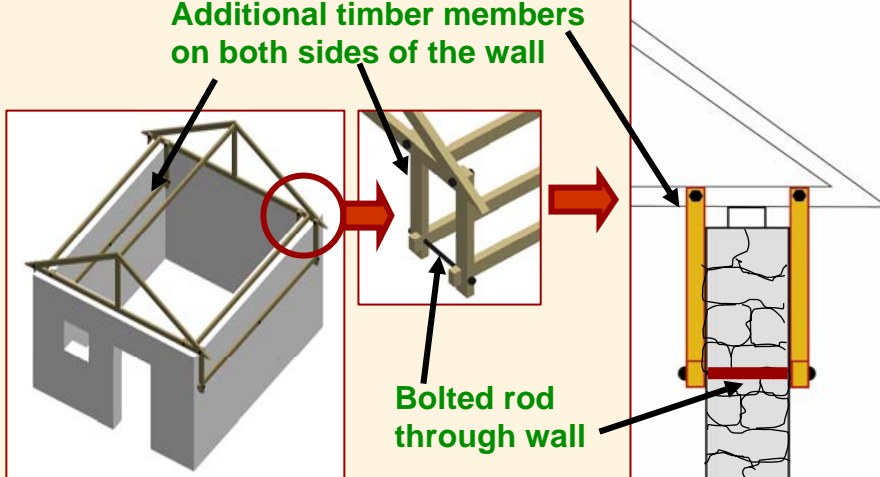
Solution: Roof-Wall Connection

Simple Solution: Insert a series of rods in the wall and connect them with wire to the roof frame



Stronger Solution: Use timber members connected to the roof and to each other

Additional timber members on both sides of the wall



BASIC CONSTRUCTION RULES TO BUILD STRONGER STONE HOUSES

*If we want our families to live in safer homes
we do not need to spend more money...
but we have to **work harder***

**Don't let it
happen again!**

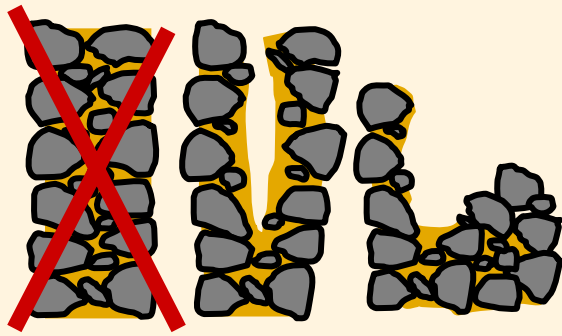
**Build better
houses!**



For additional information:
www.engineering4theworld.org/Pakistan.html

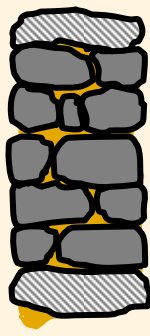
Problem: Wall Crumbling
Solution: Through-Stones

WRONG !!!



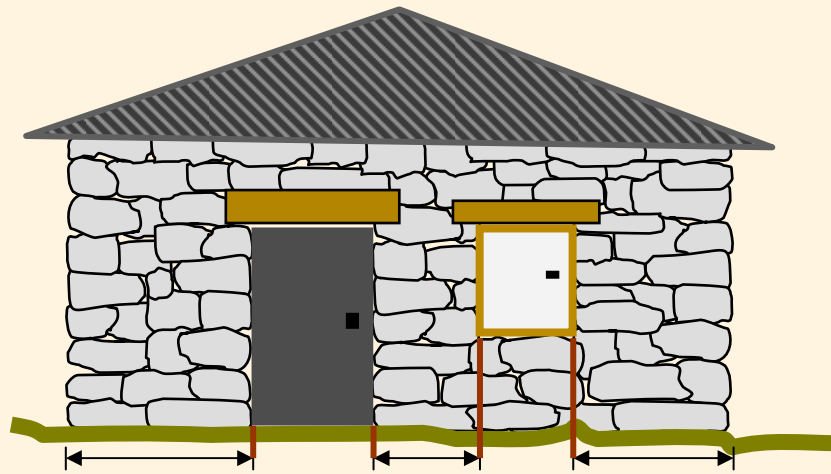
Don't Use: Irregular stones
 Small stones
 Big joints

RIGHT !!!



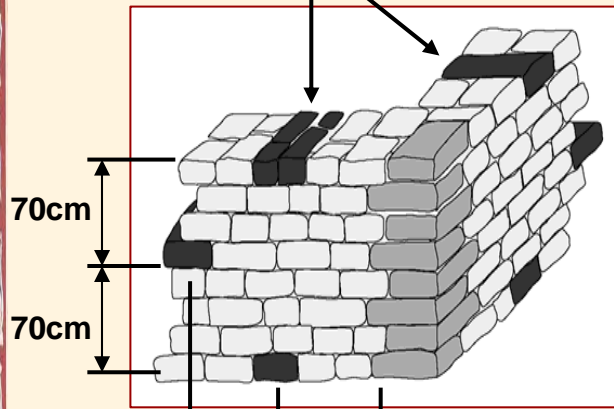
Use: Through-Stones
 Big stones
 Small Joints

Problem: Wall Openings
Solution: Proper Dimensions



Minimum: 70cm 70cm 70cm

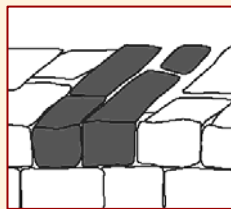
Through stones



70cm
 70cm

50cm 50cm

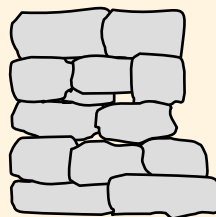
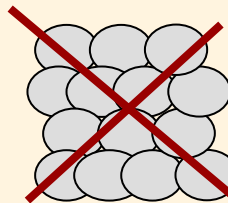
**Minimum spacing
 between through stones**



**Through stones
 made of four
 smaller units**

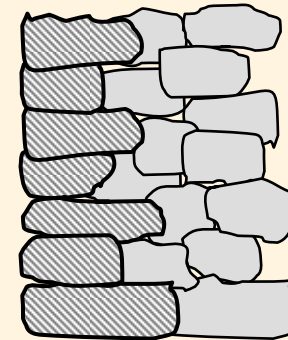
Additional Problems and Solutions:

**Don't use
 rounded,
 smooth
 stones**



**Use large,
 square
 stones**

**C
 o
 r
 n
 e
 r**



**Use big regular-shaped
 stones**