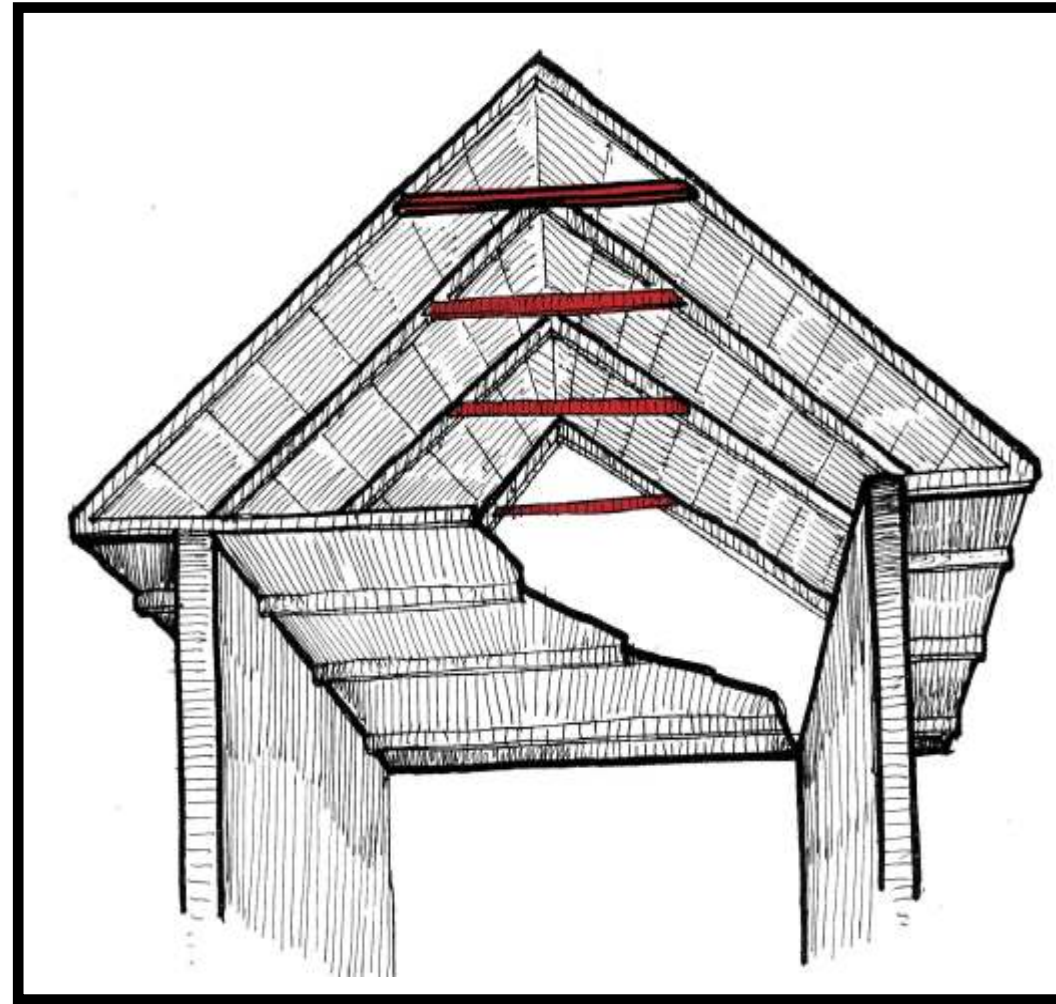
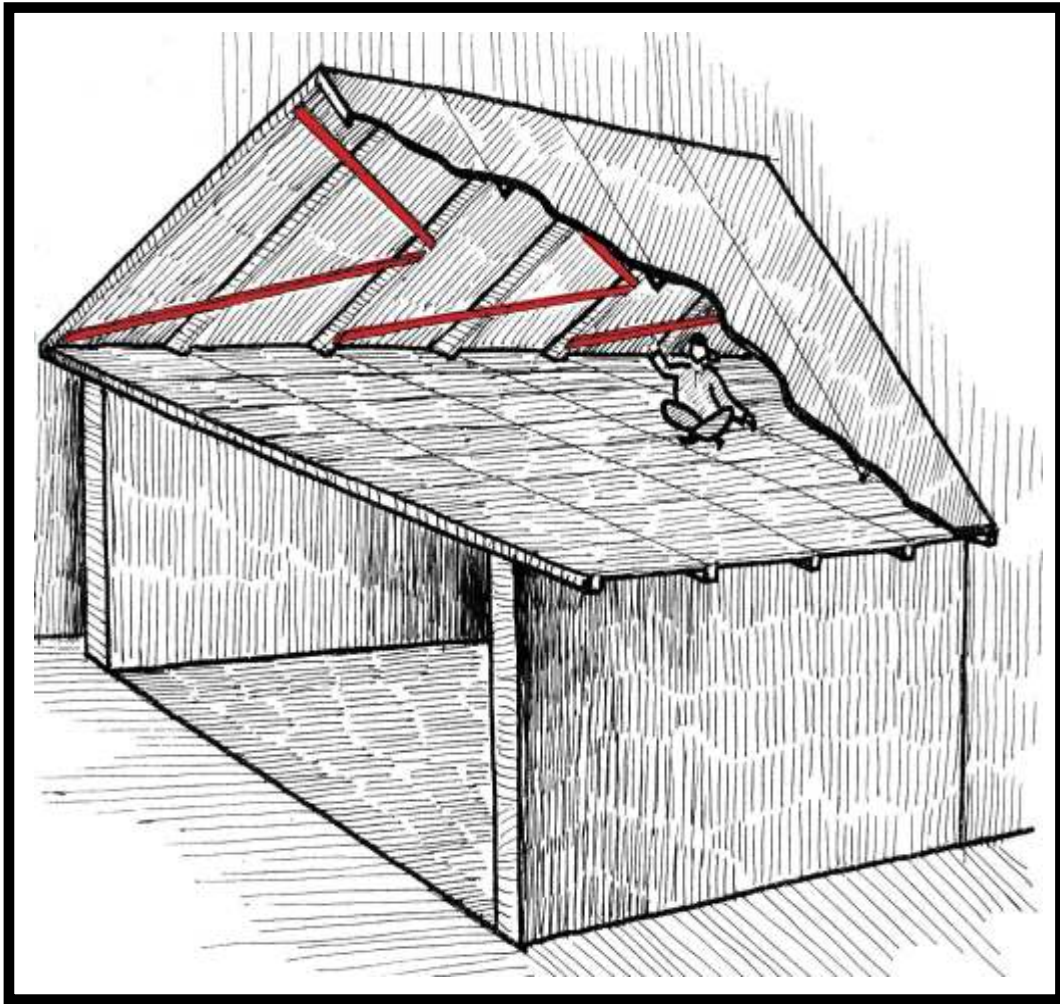


# Building Earthquake Resistant Houses in Kashmir

## Roof:

Earthquake shaking can deform the CGI roof, which results into damage to roof and walls. Such damage can be prevented by (1) improving the roof by **installing bracing and strut system** in it, (2) by constructing **complete trusses instead of rafters**, and by (3) **anchoring roof deck** to walls..



### How to install bracings and struts?

(1) Install diagonal bracings and struts of timber between two successive roof rafters on their underside starting from eave level to ridge without interruption. (2) Pre-drill the elements and use minimum two nails at each end

### How to construct truss?

(1) Between the two opposite rafters install Collar Beam / Horizontal Tie. (2) Pre drill all elements and use a minimum of two nails at each end.

### How to anchor roof/floor deck to walls?

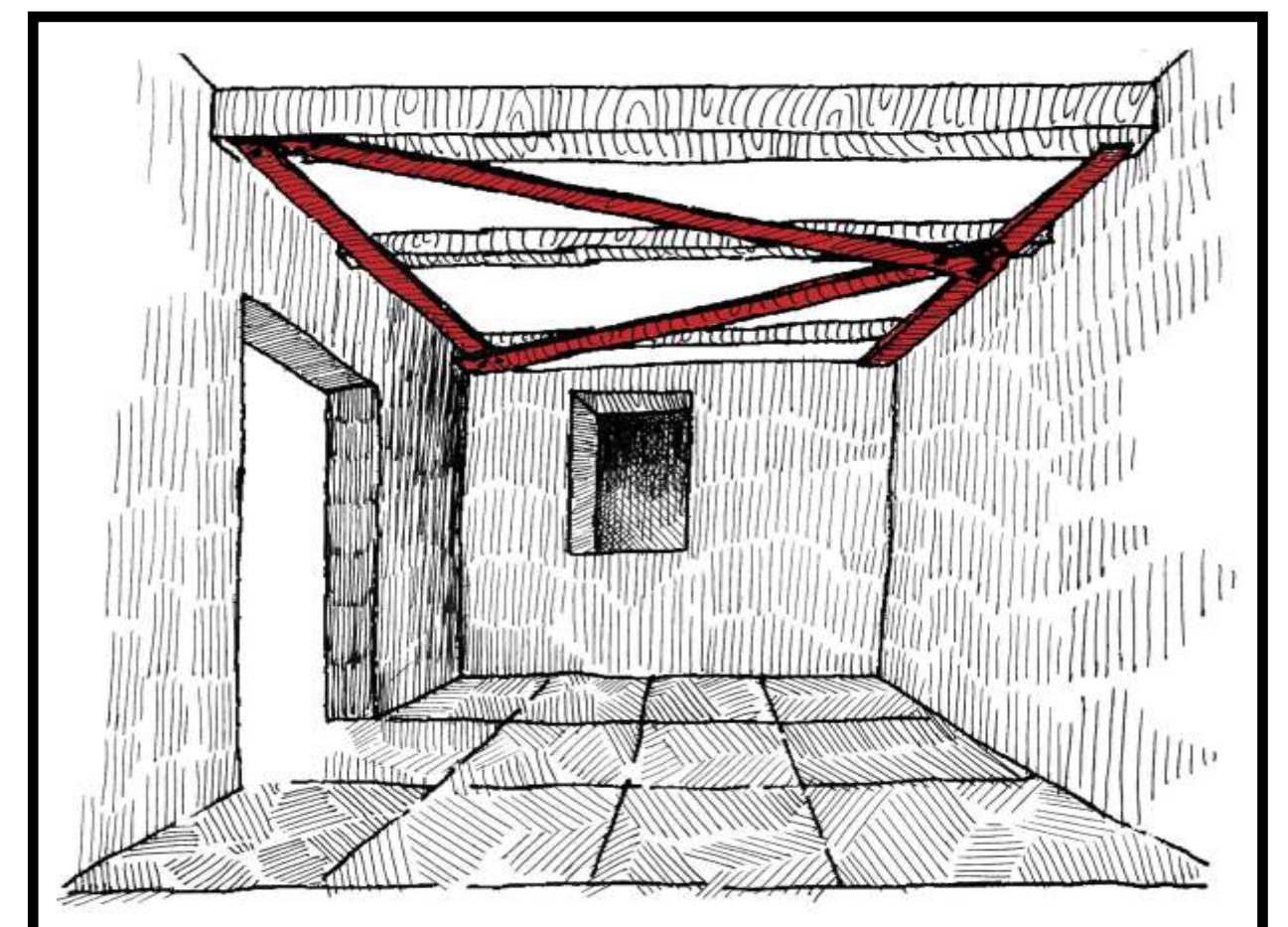
(1) Anchor floor deck beams to the floor level band with the help of 2-13 gauge GI wires or 12mm diameter anchor bolts.

## Floor:

Earthquake shaking can deform wooden floor leading to damage to floor and walls. This can be prevented by installing **bracing and strut system** on underside of floor and by **anchoring**.

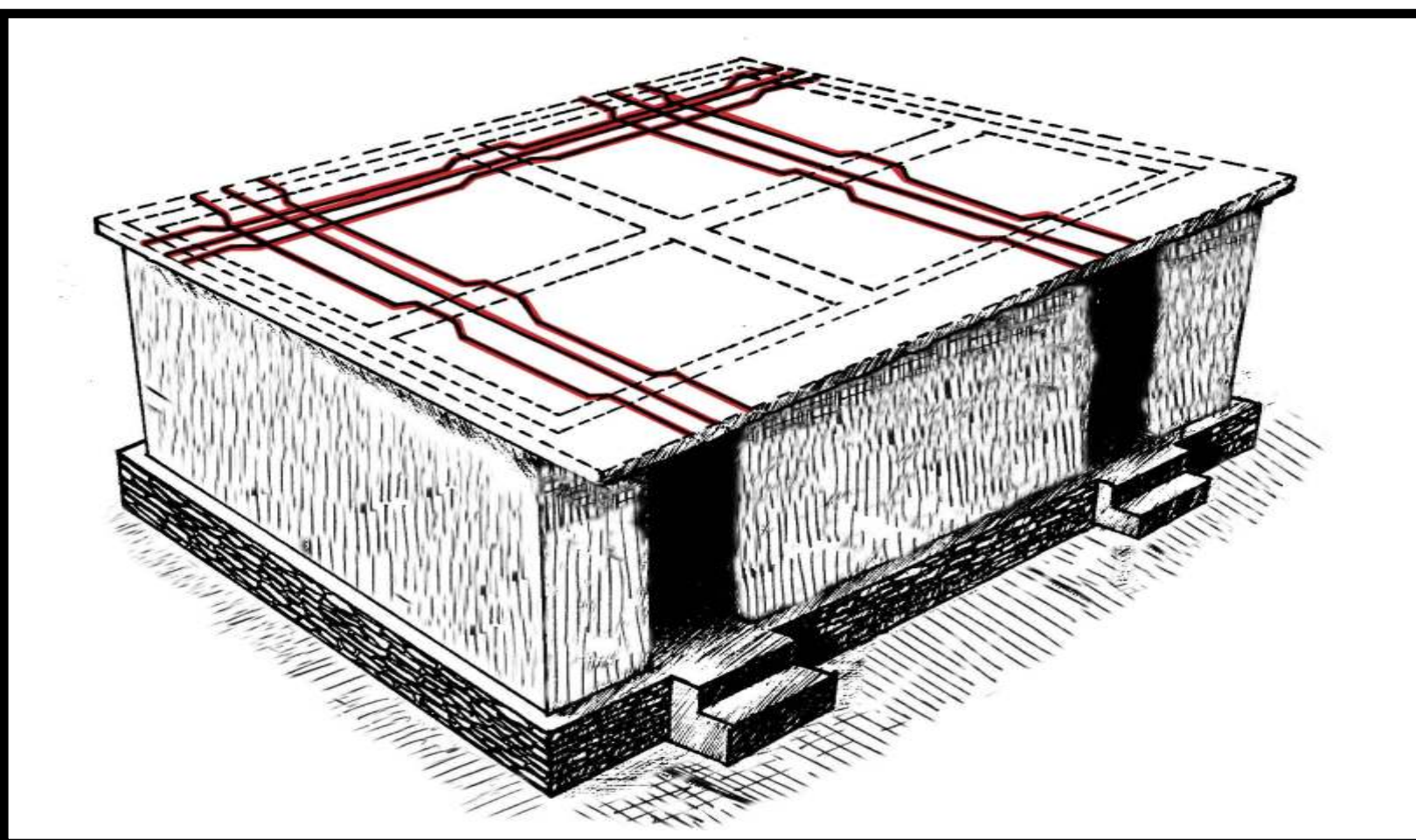
### How to install bracing and struts?

(1) Install pre-drilled timber struts parallel to support walls. (2) Install braces diagonally ensuring continuity from one wall to other, (3) Pre drill timber and use minimum two nails at each end.



## RC Roof & Floor:

Earthquake shaking damages RC roof and floors. This can be prevented by better placement of reinforcement bars.



### How to build better RCC slab?

(1) Provide reinforcement both ways in a slab, (2) Crank up alternate bars over the support walls, (3) Place reinforcing bars near the upper face of the slab when constructing chhajja and balconies projecting out, (4) Cure the slab for 15 days properly.

**Build Earthquake Resistant House**  
Because no one can predict when, where and how big earthquake will strike



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