

**Shelter Cluster Meeting TWIG**  
**DRAFT Meeting Minutes**  
**23 June 2015**

**Attendance:** Red R India, MNAMOTO Intl. MinErgy, Peace Winds Japan, Christian Aid, IOM, DFID, ISR Nepal, UNHABITAT, SDC, IFRC

**Correspondence:** Eve Leonard [tech1.nepal@sheltercluster.org](mailto:tech1.nepal@sheltercluster.org), Marianne Pecnik [tech3.nepal@sheltercluster.org](mailto:tech3.nepal@sheltercluster.org)

---

**AGENDA:**

1. Alternative Sustainable construction materials and technique
  - a. Rammed Earth Wall
  - b. Compressed stabilized earth block
  - c. Brick
  - d. Rat Trap Bonding
2. Emergency Shelter: Construction, Technical guidance, Leaflet.

**1. Alternative sustainable construction materials and Technique**

**Rammed Earth Wall**

- Recommended in Nepal National building code.
- UNHABITAT Research shows that sandy soil shows best performance.
- House constructed using Rammed technique sustained in recent devastating Earthquake.
- Weathering and scouring are major challenges which can be minimized by proper stabilizing.

**Compressed Stabilized Earth Block**

- Curing takes 21 days.
- Aurum, a mechanical device which can produce around 1000 bricks per day.
- Approximately 3,000 compressed blocks required to construct a standard rural house.
- Transportation of machinery will be challenging in hard to reach area. However AIT portable compressed block machine can be an alternative option.
- Cost of cement need to be considered as it is one of the key components. Alternative option could be use of lime instead of cement.
- Clay soil is not suitable to produce compressed stabilized block

**Brick**

- Standard size 240 x 115 x 57 mm, Crushing strength 35 kg/cm<sup>2</sup>
- Brick shape vary depending on geographical location and market demand.
- Fire brick cost around 18 rupee.
- Approximately 300 Brick factory out of 800 damaged (mostly Kiln).
- Fire brick production capacity will be decrease by 30-40 % and there are possibility that price will be increase.

**Rat Trap Bonding**

- 35 % bricks saving.
- 50 % mortar saving.
- 20 % cost saving
- Show better performance in terms of thermal insulation.
- Not yet included in the Nepal National Building Code. More research work needed.



## **2. Emergency Shelter**

- Shelter cluster is working to develop a leaflet on safe shelter settlement and technical guidance how to fix CGI sheet. The main technical content of it got approval from DUBDC (Department of Urban Building Construcion).
- Printed version of leaflet will be available by next week.

### **Action**

- Due to time limitation discussion on emergency shelter will take place afterward tomorrow's shelter cluster meeting.
- 

### **Next Meetings:**

- *Next Shelter Cluster TWiG meeting will take place in Soaltee Crowne Plaza, KTM at 1:00 PM on 30<sup>th</sup> June (Tuesday) 2015.*