FINAL REPORT

Somalia Shelter Cluster Training
Modules 2

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April 25-30, 2015

SUSTAINABLE SHELTER SOLUTIONS

REF CRATERRE: KEN017

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1 Background

There are an estimated 1.1 million IDPs in Somalia. The Shelter cluster strategic objectives for 2013-2015 take into account he needs of different categories of IDPs, i.e., people who have been IDPs for nearly two decades and those displaced more recently, vary.

The cluster will continue to provide emergency assistance to newly displaced people affected by natural and man-made disasters (flood, fire, drought, conflict and evictions).

UNHCR together with REACH, a partner organization of IMPACT and ACTED, and the Shelter Cluster Coordination for Somalia have been working on a Monitoring and Evaluation framework for implemented activities.

- Shelter Cluster has been using mobile technology to capture data at field level and has rolled out an infrastructure mapping exercise.
- UNHCR has a toolkit on-line where you shelter typologies can be uploaded.

Some lessons learnt from M&E activities are:

- As Somalia is very diverse, SOLUTIONS FOR SHELTER SHOULD BE LOCATION BASED. They should vary depending on the materials present, the market capacity, the labor capacity…
- COMMUNITY PARTICIPATION: a main focus of the Shelter Cluster is advocating for a more owner driven approach and ensuring that the community is part of the decision making process.
- Use of local materials and localized solutions, linked to BUILDING BACK SAFER: this is linked to the different typologies and is closely linked to ownership.

In order to improve the capacity of implementing agencies to implement more sustainable shelter solution (Shelter Cluster Somalia; Concept Paper: Sustainable Shelter Solutions; IDP's in Somalia; http://www.sheltercluster.org/response/somalia) the need was assessed for the Shelter Cluster and Cluster partners and other humanitarian agencies to improve the capacity of the Shelter Cluster partners through training.

Thanks to the support of the Danish Refugee Council, this cycle of workshop/training will be implemented in 2015.

The project includes two weeks training/workshops in Nairobi for the shelter cluster partners and three sets of shorter trainings at field level. The objectives of the respective trainings are as follows:

- Phase 1 (6 days: 18-23 April)
  - Strengthen the capacity of the Shelter Partners on the Monitoring and Evaluation Framework produced by REACH and cross cutting issues related to Shelter planning (site planning, typologies, localized solutions...). REACH, NRC, DRC and UNHCR staff will provide support with the different modules as guest speakers.
  - Target group: mainly for Shelter Cluster Project Managers, Regional Shelter Cluster Coordinators, Project Coordinators, M&E officers and other Shelter-related positions.

- Phase 2 (6 days: 25-30 April)
  - Strengthen the capacity of the Shelter Partners to ensure community participation, the use of local materials and building back safer. An expert in localized building techniques will provide support on the localized solutions and a consultant will be recruited for the PASSA introduction course.
  - Target group: mainly for Shelter Cluster Project Managers, Engineers, Project Officers, Regional Shelter Cluster Coordinators, Project Coordinators and other Shelter-related positions.

- Phase 3; Trainings in the field (May and June, 3 days per region); training for the regional shelter cluster coordinators and the project managers of the main shelter cluster partners: the main focus will be on the M&E framework, with cross cutting presentations on localized solutions, PASSA, mobile technology, mapping, site planning, typologies and Housing / land / Property.

2 Term of reference

The Technical Expert in Localized Solutions will be working closely with the Shelter Cluster Coordinator, the Infrastructure Coordinator of DRC and the overall facilitator of the phase 2 training.

- The Technical Expert in Localized Solutions will perform the following tasks and duties:
- Preparation of draft modules for the trainings: prepare and propose training session to Shelter Cluster
- Finalization of the modules and agenda
- Moderate a training on Building back safer, localized solutions and participatory approaches (1 week in Nairobi from 25-30th of April)
- Provide a final report of the training (2 days home based)

3 Mission output

- A module for the participants based on existing materials that are appropriate to the Shelter context in Somalia.
- A module for the field trainings (shorter version) for the field participants (same as above)
- An increased understanding by participants of cross cutting issues related to the Shelter projects: participatory approaches, localized solutions and typologies, site planning, urban solutions, and technical improvements to building practice

4 Expected results

- Modules for the trainings regarding localized solutions and building back safer finalized.
- Modules for the field trainings (shorter version) finalized.
- An increased understanding by participants of cross cutting issues related to the Shelter projects: participatory approaches, localized solutions and typologies, site planning, urban solutions, and technical improvements to building practice,

5 Training program

Module 2 Agenda: 25-30 April, 2015

Saturday 25 April

Time	Session	Session Type	Facilitator
9:30-9:45	**Opening Remarks**	**Greeting**	**TBD**
9:45-10:15	**Participant Introductions**	**Introductions**	**Clay**
10:15-10:45	**Pre-Training Survey**	**Assessment**	**Clay**
10:45-11:00	**Sustainable Shelter & HRP**	**Presentation**	**Martijn**
11:00-11:30	**Introduction to CRATERRE**	**Presentation**	**Olivier**
11:30-11:45	**Coffee Break/Prayers**	**Break**	**N/A**
11:45-12:15	**Objectives & Overview**	**Presentation/Discussion**	**Olivier**
12:15-12:45	**Participant Expectations**	**Full group exercise**	**Olivier**
12:45-13:45	**Lunch**	**Break**	**N/A**
13:45-14:00	**Energizer**	**Icebreaker/Energizer**	**Clay**
14:00-14:45	**Typology Projects & Local Building Links**	**Working Group**	**Olivier**
Groups: • CGI • New Hybrid – Puntland • Stone Blocks – Gaalkacyo • Stone & Mud Mortar – Gaalkacyo			
14:45-15:45	**Typology Presentations**	**Working Group Presentations**	**Olivier, Clay**
15:45-16:15	**Coffee Break/Prayers**	**Break**	**N/A**
16:15-16:30	**SWOT Analysis Explanation**	**Presentation**	**Clay**
16:30-16:45	**SWOT Analysis Using Local Building Links**	**Working Group**	**Olivier**
Groups: • CGI • New Hybrid – Puntland • Stone Blocks – Gaalkacyo • Stone & Mud Mortar – Gaalkacyo			
16:45-17:00	**SWOT Analysis Presentations**	**Working Group Presentations**	**Olivier**
17:00-17:30	**Question & Answer**	**Review, Assessment**	**Clay**

Sunday 26 April

Time	Session	Session Type	Facilitator
8:30-8:45	**Review of Previous Day & Overview of Current Day**	**Review**	**Olivier/Clay**
8:45-9:15	**LRRD**	**Presentation/Exercise**	**Olivier**
9:15-9:45	**SWOT Analysis of LRRD**	**Working Group**	**Olivier**
Groups: • CGI - Kismayo • New Hybrid – Puntland • Cement Blocks – Gaalkacyo • Stone & Mud Mortar – Gaalkacyo			
9:45-10:15	**Introduction to Local Building Culture (LBC) Concept**	**Presentation/Exercise**	**Olivier**
10:15-10:30	**Coffee Break/Prayers**	**Break**	**N/A**
10:30-11:00	**SWOT Analysis Using LBC**	**Working Group**	**Olivier**
Groups: • CGI - Kismayo • New Hybrid – Puntland • Cement Blocks – Gaalkacyo • Stone & Mud Mortar – Gaalkacyo			
11:15-11:30	**Building Back Safer**	**Presentation**	**Olivier**
11:30-12:00	**SWOT Analysis Using BBS**	**Working Group**	**Olivier**
Groups: • CGI - Kismayo • New Hybrid – Puntland • Cement Blocks – Gaalkacyo • Stone & Mud Mortar – Gaalkacyo			
12:00-13:00	**Lunch**	**Break**	**N/A**
13:00-13:15	**Energizer**	**Icebreaker/Energizer**	**Clay**
13:15-14:00	**Organize SWOTs**	**Working Group**	**Olivier/Clay**
Groups: • CGI - Kismayo • New Hybrid – Puntland • Cement Blocks – Gaalkacyo • Stone & Mud Mortar – Gaalkacyo			
14:00-14:30	**Review SWOT Categorization**	**Group Discussion**	**Olivier**
14:30-14:45	**Coffee Break/Prayers**	**Break**	**N/A**
14:45-15:15	**Difficulty/Importance Analysis**	**Working Groups**	**Olivier**
15:15-15:45	**Project Presentations**	**Plenary Discussion**	**Olivier**
15:45-16:00	**Question & Answer**	**Review, Assessment**	**Clay**
16:00-16:30	**Open Presentation Session**	**Participant Presentations**	**N/A**

Monday 27 April

Time	Session	Session Type	Facilitator
8:30-8:45	Review of Previous Day & Overview of Current Day	Review	Olivier/Clay
8:45-9:00	Select Topics to be Discussed in Ongoing Sessions	Full Group Activity	Olivier
9:00-9:30	Introduction to Earth and Construction	Presentation	Olivier
9:30-10:00	Earth Construction and Experience from Participants	Discussion	Olivier
10:00-10:15	Coffee Break/Prayers	Break	N/A
10:15-11:30	Introduction of Earth Practical Session	Presentation	Olivier
11:30-12:30	Practical Session on Earth	Practical Exercise	Olivier
12:30-13:30	Lunch	Break	N/A
13:30-13:45	Energizer	Icebreaker/Energizer	Clay
13:45-15:30	Practical Session on Earth	Practical Exercise	Olivier
15:30-15:45	Coffee Break	Break	N/A
15:45-16:00	Question & Answer	Review	Clay
16:00-16:30	Open Session	Participant Presentations	N/A

Tuesday 28 April

Time	Session	Session Type	Facilitator
8:30-8:45	Review of Previous Day & Overview of Current Day	Review	Olivier/Clay
8:45-10:15	Discussion on Technical Solutions for Earth Construction	Presentation/Plenary Discussion	Olivier
10:15-10:30	Coffee Break/Prayers	Break	N/A
10:30-12:30	Technical Discussion on Issues Identified by Participants	Discussion	Olivier
12:30-13:30	Lunch	Break	N/A
13:30-13:45	Energizer	Icebreaker/Energizer	Clay
13:45-14:45	Technical Discussion on Issues Identified by Participants	Discussion	Olivier
14:45-15:00	Coffee Break/Prayers	Break	N/A
15:00-15:45	Technical Discussion on Issues Identified by Participants	Discussion	Olivier
15:45-16:00	Question & Answer	Review, Assessment	Clay
16:00-16:30	Open Session	Participant Presentations	N/A

Wednesday 29 April

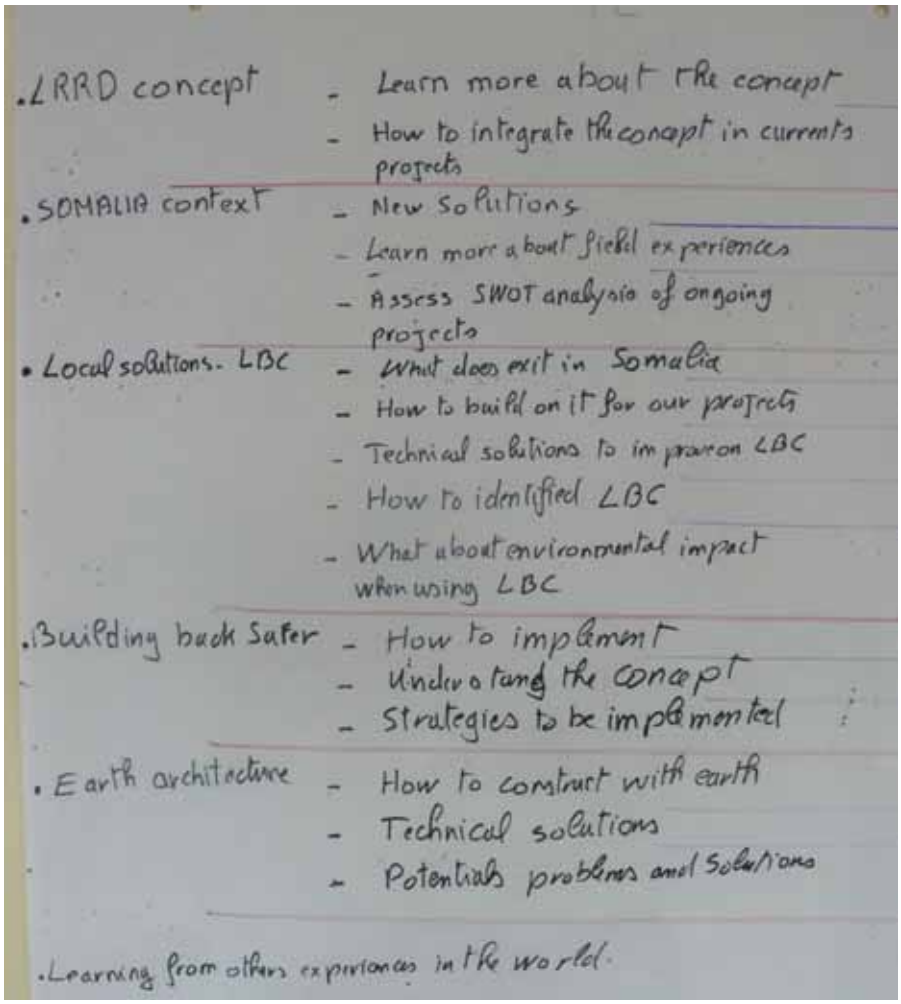
Time	Session	Session Type	Facilitator
8:30-8:45	Review of Previous Day & Overview of Current Day	Review	Olivier/Clay
8:45-9:30	Introduction to Assessing Local Building Practices	Presentation/ Discussion	Olivier
9:30-10:45	First Assessment of Existing LBC In Area of Intervention	Working Group	Olivier
10:45-11:00	Coffee Break/Prayers	Break	N/A
11:00-11:45	Discussion on Assessment of LBC	Discussion	Olivier
11:45-12:45	Case Study Presentation	Presentation	Olivier
12:45-13:45	Lunch	Break	N/A
13:45-14:00	Energizer	Icebreaker/Energizer	Clay
14:00-14:45	Wrap-Up on Technical Topics (Product) & Future Projects (Process)	Guided Discussion	Olivier, Martijn, Clay
14:45-15:00	Coffee Break/Prayers	Break	N/A
15:00-15:45	Wrap-Up on Technical Topics (Product)	Guided Discussion	Olivier, Martijn, Clay
15:45-16:00	Question & Answer	Review, Assessment	Clay
16:00-16:30	Open Session	Participant Presentations	N/A

Thursday 30 April

Time	Session	Session Type	Facilitator
8:30-8:45	Review of Previous Day & Overview of Current Day	Review	Olivier/Clay
8:45-10:30	Wrap-Up on How to Improve Future Projects (Recommendations)	Guided Discussion	Olivier
10:30-10:45	Coffee Break	Break	N/A
10:45-11:45	Conclusions & Recommendations	Review, Assessment	Clay, Martijn
11:45-12:00	Post-Training Survey	Assessment	Clay
12:00-13:00	Lunch	Break	N/A
13:00-16:30	Practical Session on Earth	Practice	Olivier

6 Participants expectations before the training

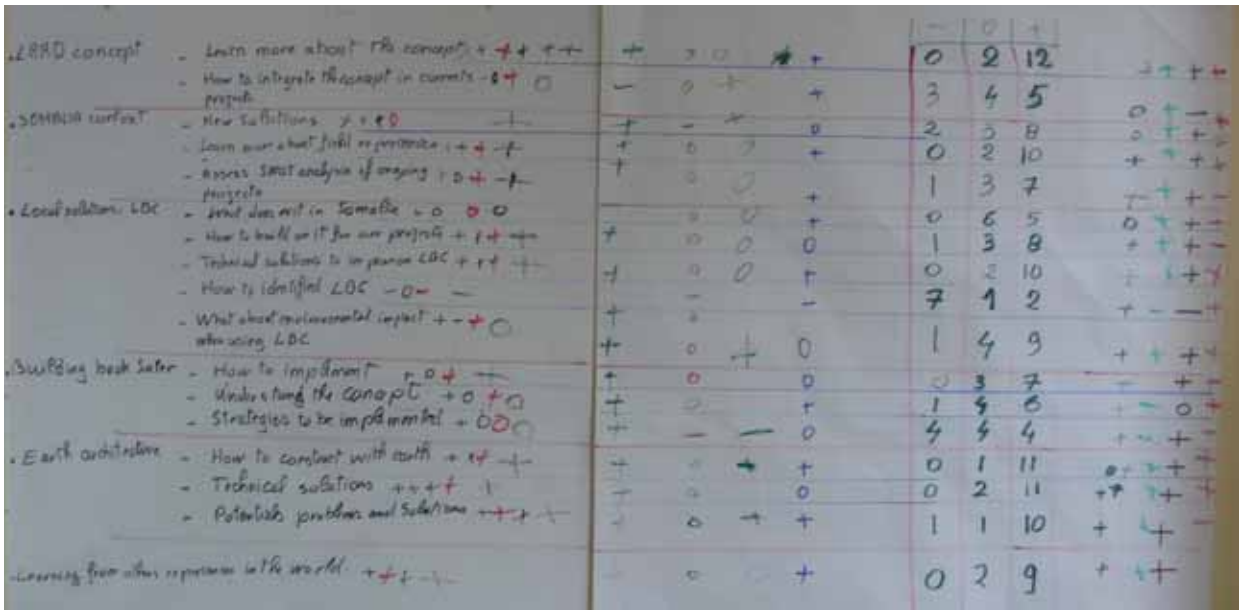
Participants expectations before the training	
LRRD; Linking Relief, Rehabilitation , Development	**Learn more about the concept**
	How to integrate the concept in currents projects
Somalia context	**New solutions**
	Learn more about field experiences
	Assess SWOT analysis of ongoing projects
LBC; Local Building Culture	**What does exist in Somalia**
	How to build on it regarding our projects
	Technical solutions to improve on LBC
	How to identify LBC
	Environmental impact when using LBC
BBS; Building Back Safer	**How to implement**
	Understand the concept
	Strategies to be implemented
Earthen Architecture	**How to construct with earth**
	Technical solutions
	Potentials problems and solutions
Others	**Learning from others experiences in the world**



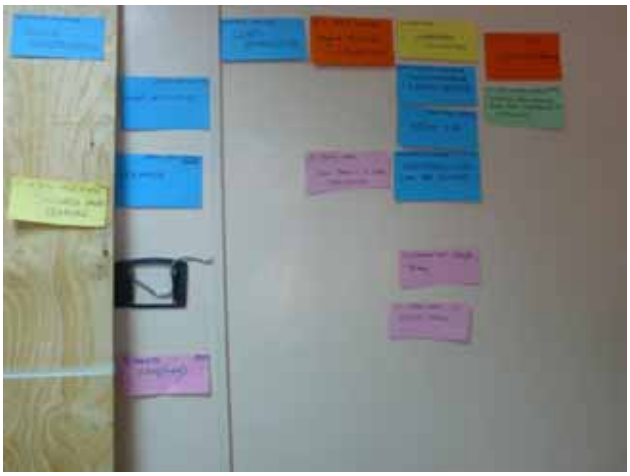
7 Participants evaluation after the training

Participants expectations before the training (marks regarding achievements of expectations; 14 participants)		No idea	Less than expected	As expected	More than expected
LRRD; Linking Relief, Rehabilitation, Development	Learn more about the concept	0	0	2	12
	How to integrate the concept in currents projects	2	3	4	5
	LRRD; Linking Relief, Rehabilitation, Development	8%	11%	21%	60%
Somalia context	New solutions	1	2	3	8
	Learn more about field experiences	2	0	2	10
	Assess SWOT analysis of ongoing projects	3	1	3	7
	Somalia context	14%	7%	19%	60%
LBC; Local Building Culture	What does exist in Somalia	3	0	6	5
	How to build on it regarding our projects	2	1	3	8
	Technical solutions to improve on LBC	2	0	2	10
	How to identify LBC	4	7	1	2
	Environmental impact when using LBC	0	1	4	9
	LBC; Local Building Culture	16%	12%	23 %	49%
BBS; Building Back Safer	How to implement	4	0	3	7
	Understand the concept	3	1	4	6
	Strategies to be implemented	2	4	4	4
	BBS; Building Back Safer	21%	13%	26%	40%
Earthen Architecture	How to construct with earth	2	0	1	11
	Technical solutions	1	0	2	11
	Potentials problems and solutions	2	1	1	10
	Earthen Architecture	12%	2%	10%	76%
Others	Learning from others experiences in the world	3	0	2	9
	Learning from others experiences in the world	21%	0%	14%	64%

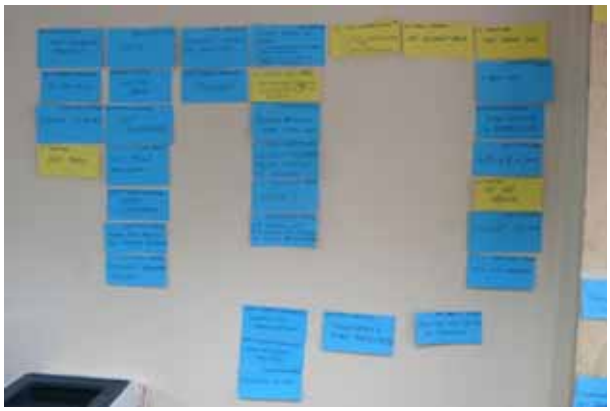
From this matrix, we can assess that if most of the concept are well understood, participants are not really comfortable when it will be about implementation in the field.
In fact, 50% of the participants would like to know better on how to identify LBC, while about 30 % of then do not really see how to integrate LRRD in their projects and what type of activities could be implemented in order to achieve BBS.
It is assumed that these issues cannot really be achieved without some experience gained (or built) from field experience.
However, for the organizations that will buy the concept, it is strongly recommended to pilot the approach in the further month, this in order to develop future proposal that will include the approaches based on a first practical experience.



8 SWOT analysis



STRENGTHS			
Products			
Technics	Durable	Plastering	Damp proof course
		Rot Painting	Roof anchorage
		Strong Foundation Base	Metal Gutter
		Ring Beam	Solid Structure
	Affordability	Cost effective (investment in regard to product achieved)	
	Easy logistics	Materials are available in the market	Quick to construct
	Can be improved	Upgradable / extendable	Transportable / dismountable
		100m2 site	Rectangular, can be divided
Social	Attractive	New concept / New type	
	Sustainability	Site planning exists	Local integration
		Secured land tenure	
	Comfort	Veranda	Good ventilation
		Privacy	Social Space
		Doors are lockable; security	
Environment	Hazard resistant	Cement blocks are fire, flood and wind resistant	Doors steps, (for flood resistance)
Process			
Social	Training	Beneficiaries capacity building	
	Participatory approach	Stakeholders involved	Community driven
		Layout, design is locally accepted	
Economics	Poverty alleviation	Promotion of livelihoods	Local markets supported
Environment	Environment impact	Environmentally friendly	
Cultural	Local Building Culture	Materials are locally available and familiar to most of the population	Vision future for the community



WEKNESSESS			
Products			
Technics	Durable	No tie beam	Not plastered
		Roof may need to be better anchored	Plywood degradation possible
		Extension requires dismantling part of the roof	Upgrade difficult
		Not dismountable	
Economic	Poverty alleviation	Material imported	Short lifespan
	Logistics	Needs more quality control	Time consuming for construction
		High cost	
Social	Attractive	Insecure	Size of doors are small (not disabled friendly)
		Latrines should be detached	
	Sustainability	Need to provide text / description on typology	
	Comfort	Very hot / cold	No privacy
Environment	Hazard resistant	Not flood resistant	Roof overhang too long (wind resistance)
Process			
Social	Impact on host community	Too permanent / Too temporary / T-shelter. Product should be carefully designed according to beneficiaries and host communities characteristics	
	Participatory approach	Contractor driven	
Economics	Poverty alleviation	Does not promote skill building use of local laborers	Imported material (stone are imported as there are stone locally available).
		Material fluctuation	Need close monitoring
		Livelihood imported	Machinery / fuel required
Environment	Environment impact	Impact on soil degradation	Local impact / global impact

OPPORTUNITIES			
Products			
Environment	Pollution	Climate / environment friendly	
Economic	Poverty alleviation	Create livelihood	Value for money
Technical	In line with funding agencies policies	Recommended by funding agencies	
Social	Participatory approach	Community involvement	
Process			
Social	Participatory approach	Community driven	Community acceptance
		Integration	
Economics	Poverty alleviation	Opportunity for job creation	Contribute to livelihood

THREATS			
		Products	
Environment	Pollution	Resource competition	
Economic	Poverty alleviation	High cost	
Technical	In line with funding agencies policies	Recommended by funding agencies	
Social	Host communities	Conflict	Attraction from host communities
	Comfort	Insecurity	
		Process	
Social	Effectiveness	Diversion	

9 Participants global recommendations

From the results of the SWOT analysis, participants were asked to give recommendations in order to build on existing strengths to address weaknesses, this taking into account existing opportunities while taking care of potentials threats.
Nevertheless, it is important to mention that there was not enough time to question what the participants had come up with. Results presented herewith only represent a draft for Somalia. Therefore, it will be recommended to further work with the working group on this matrix and update it regularly.

STRENGTHS	**VERY IMPORTANT**	**IMPORTANT**
NOT DIFFICULT	• Assessing the local resources available and hazards, design durable shelter (strong foundation, walling, concrete beam/wall plate and strong roofing) • Assess the available resources and use as much as possible to contribute the local market and enhance livelihoods of the beneficiaries • To avoid conflict and reduce the challenges, involve all stakeholders (beneficiaries, local authorities, clusters and land owners) for their participation, contribution, preference and acceptability. • Adequate ventilation should be taken care of depending on the context (climate, culture,…) in the area • Community-Driven for more participation and contribution from the community and enhancing the quality and ownership aspect.	• Assess the local building culture and use simple construction techniques to utilize the local people's manpower and to make easy for them to rehabilitate in the future for sustainability of the project. • Cost effective to reach more beneficiaries and respect local people's affordability. • Adequate space for Extension- through site planning ensure an adequate plot is allocated for the household for future extension • Environmentally friendly-considering the availability of the materials and the governmental systems in place.
DIFFICULT	• Land tenure- To protect the right of the vulnerable people and safeguard their dignity, ensure proper documentation is in place	

OPPORTUNITY	**VERY IMPORTANT**
NOT DIFFICULT	• Assess the available resource (materials, market capacity, manpower/skills) and utilize as much as possible
DIFFICULT	• Assess the possibility of securing permanent land and advocate through the relative bodies in the area • Assess the needs on the ground and donors and advocate for funds

WEAKNESSESS	**VERY IMPORTANT**
NOT DIFFICULT	• Ensure water resistant roofing are built during construction (**Roofing Designs**) **LBC concept** • Mainstreaming WASH into shelter projects throughout • Use the available local resources for the shelter • Reduce time taken by increasing the manpower • Mobilize local resources (LBC concept) **Cost effectiveness**

THREATS	**VERY IMPORTANT**	**IMPORTANT**
NOT DIFFICULT	• 30% of project beneficiaries should be host community in order to avoid any possible c**onflicts** among communities**. LBC concept** • Engage local government and other stakeholders i.e. communities to secure more **land** for shelter projects **LBC** • Beneficiaries should be trained on **DRR –LRRD concept** • Standardize shelter designs (latrines issue) **LRRD concept**	
DIFFICULT	• Advocate & discuss protection needs/mechanisms for beneficiaries with the local authorities i.e. having police stations in the IDP camps (Safety) **LRRD concept** • Community involvement **LBC concept** • Prior funding mechanism should be put in place at the agency level.	• Reduce the time taken by increasing labor-depending on the financial resources available
VERY DIFFICULT	• Accountability mechanisms should be put in place(**conflict of interest)** • Transparency and accountability trainings/workshop for beneficiaries should be conducted regularly **–LBC concept**	

10 Participants specifics recommendations

From the previous recommendations, participants were asked to develop specific one regarding a better use of localized building solution for their ongoing projects.

Recommendations that came out of this exercise are summarized below.

Assessments

- Assess the local (natural) resources available for shelter construction
- Assess availability of materials on local market
- Assess local capacities (financial, technical skills, time, IDP community)
- Assess potential local and global environmental impact of natural resource use
    - Include project activities that compensate for local environmental impact
- Assess existing hazards in priority areas
    - Regional cluster coordinators organize cluster partners to map existing hazards in priority areas
- Review current shelter typologies in reference to existing local building practices

Planning & Design

- Review existing stakeholders and assess respective interests in shelter project
    - Involve all stakeholders (beneficiaries, local authorities, clusters, host community authorities, and *land owners*) at each stage of the project cycle
    - Ensure benefits of shelter project are communicated, understood, and adopted
- Engage with donors to advocate for localized shelter solutions
- Include flexibility for pilot implementation in project proposal budget
- Ensure use of available resources contributes to the local economy and enhances beneficiary livelihoods
    - Shelter design, labor, and materials should directly impact the local economy
- Design localized, contextually-appropriate shelter
    - Foundation, walls, bracing, and appropriate roofing
    - Ensure adequate ventilation depending on the context and preferences of community
    - WASH infrastructure should be built using local cultural behavior
    - Use Building Back Safer principles
    - Ensure cost-effective and linked to local replicability
- Shelter programming in host communities should be linked to local livelihoods
- Ensure land is secured for shelter project through direct engagement with appropriate local authorities

Implementation

- Pilot new and / or more localized shelter solutions by end of 2015
    - Demonstrate possibility of upgrade, extendibility, or relocation of shelter
    - Include training on maintenance
- Stronger focus on capacity building and BBS

Monitoring & Evaluation

- Measure and disseminate impact of shelter programming on local economy and livelihoods

11 Proposal for new indicators for shelter project in Somalia

Follow the workshop, some teams brainstormed on and came up with one possible indicator for measuring progress on localized building solutions. The idea behind this move being to ensure that we increase the local content of the shelter solutions used in Somalia. Almost directly linked to this is the contribution to the local economy, and livelihoods, which may come from use of locally harvested materials, local transportation and distribution, local skills employment and labor. Easily, this can be expressed in economic terms.

Consequently, the outcome indicator would read like this;

> *% of local content in the shelter solutions provided. This would have a %age of the overall sheltering cost, in which case we measure the level of procurement, or costs that leads to investments in the local economy / region. Naturally, imported items or materials would be excluded from this component.*

At the output levels, we could possibly be looking at the following;

> *Number of persons employed by the shelter project.*
> *Amount of locally harvested materials used to develop the shelter project. Could be measured in volume, weight, etc.*

These are but suggestions, and it would be good to hear from the rest of the team on the same before considering it for inclusion in our indicator list.

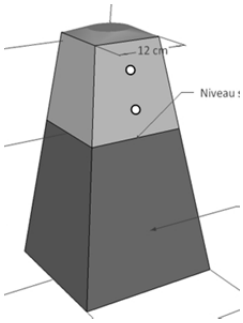
12 Compilation of technical issues discussed during the workshop

CGI

- No bracing is done and no protection of the wood in the ground.

In some areas (like Puntland) protection of the wood in the ground is not problematic as there are no termites, insects or rain. In others areas, it is highly recommended to add appropriate technical details, this in order to increase the shelter life expectation as well as to reduce impact in local environment (deforestation).

Bracing is recommended everywhere, this in order to reinforce the shelter capacity to handle strong wind.



- All wood is never treated

  There is different quality of wood that will resist differently regarding rotting and insect attacks. Red wood is known to have a better resistance than “white wood”. Of course if there is no risk of decease, this is not necessary to invest on an expensive wood, even if stronger.

  In areas where there are risks of decease, wood resistance can be improved in different ways.

  - Carbonation can be achieved by burning smoothly the part of the wood that will be buried in the ground.
  - Impregnation with gasoil or dead oil will achieve some protection
  - Chemical treatments are somehow expensive, but achieve good results.

  On top of these solutions, it is recommended to assess local solution developed by native population in order to increase life expectation of wood used in the construction sector.

- All nails are sticking out on the inside of the shelter

  There is a risk regarding harming inhabitant. Of course, to bind the nails will be an option, but it could make more difficult the shelter to be dismantled and displaced. During the process, many CGI sheet maybe damage, and this will reduce the potential income of beneficiaries if they will to sell recycle CGI.

  The best solution seems to use the right nails length when fixing the shelter. A length of $2/3^{rd}$ of the wood thickness will certainly achieved a good CGI anchorage to the wood structure.

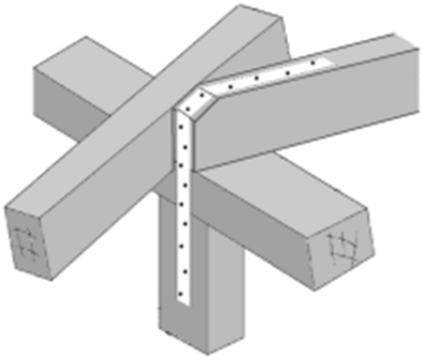
- The size of the shelter is not modular towards the CGI sheets. There are many CGIs that are cut and lose their value

  It is obvious that the size of the shelter should be designed (modular) according to the size of the materials used for walling (CGI Sheets, Plywood), this in order to save time and money (no need to cut) and increase flexibility in reusing, improving, adapting the shelter to inhabitant evolution conditions. What is true for the wall is also true for the roof (dimension defined in order to avoid wasting material).

- No real anchorage of the roof to the main structure. Most elements are connected to each other with only nails. Especially in coastal areas and in Puntland/Somaliland, wind can be very high.

  Due to change of moisture contents, wood expend and shrink continuously. It happen the same to nails due to change in temperature along the days and the seasons. As results, after few years, the connections given by the nails between the roof and the main structure will become weak. In areas where there is a lot of wind, this may end to the roof to be blind off from the shelter.

  It is highly recommended to reinforce the roof anchorage to the main structure by using metal strap, robs, wire, or any other strong and long lasting material.



NEW Hybrid shelter

- This is a pilot and we do not have much experience.

  Proper documentation should be done. Evaluation could be done regarding recommendations given by the participant of the workshop on localized solution.

- Bracing should be important for all wooden structures

  See comments on Bracing regarding CGI model

- How the deep of the foundation related to the idea to upgrade the shelter to more permanent solutions.

  If the shelter given to the beneficiaries is supposed to evolve on permanent building, it is obvious that the foundation of the shelter should be designed in order to support this evolution.

  In order to achieve this, there is a need to assess the various options beneficiaries will have to improve their shelter in permanent houses. What kind of materials they will use for the walls, for the roof. According to the characteristics of these materials (compressive strength, load, water resistance, etc…), the project will need to designed adapted foundation solutions and apply them to the shelter they will deliver.

  The foundation should be designed in order to properly transfer the upper structure load to a stable and resistant enough soil, this taking into account the nature and characteristics of the materials used to achieve the foundation itself.

- Plywood. In more humid areas, the wooden boards will rot quite quickly. Is it necessary to treat?

  Treated plywood will last some few years more than non-treated plywood. Nevertheless, normal plywood is not a material supposed to be use for external wall, exposed to water. Beside treatment, it may be a plus to see how the plywood exposure to moisture should be achieved. This can be done by taking care of the shelter orientation, the roof overhang (related to rainfall inclination), the protection of the base of the plywood (same principle than picture below).

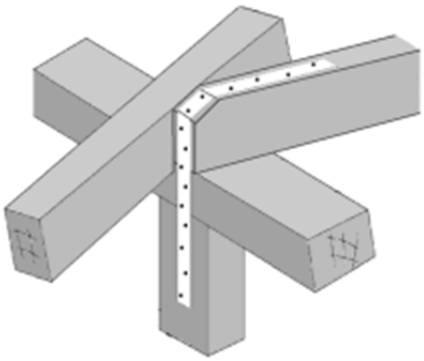
- It would be good to make the shelter modular towards the size of the plywood in order to re-use the material afterwards (as suggested for internal walling).

  It is obvious that the size of the shelter should be designed (modular) according to the size of the materials used for walling (CGI Sheets, Plywood), this in order to save time and money (no need to cut) and increase flexibility in reusing, improving, adapting the shelter to inhabitant evolution conditions. What is true for the wall is also true for the roof (dimension defined in order to avoid wasting material).

- Anchorage of the roof to the superstructure.

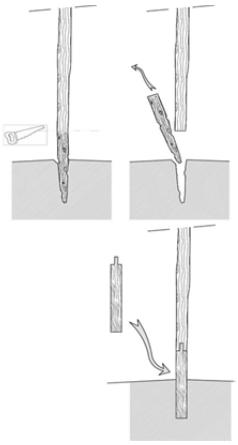
  Due to change of moisture contents, wood expend and shrink continuously. It happen the same to nails due to change in temperature along the days and the seasons. As results, after few years, the connections given by the nails between the roof and the main structure will become weak. In areas where there is a lot of wind, this may end to the roof to be blind off from the shelter.

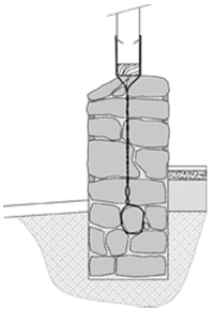
  It is highly recommended to reinforce the roof anchorage to the main structure by using metal strap, robs, wire, or any other strong and long lasting material.

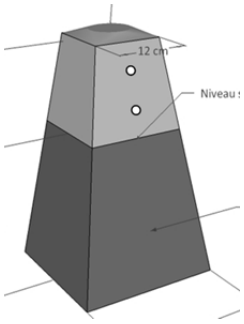


- How are we going to properly attach the wooden superstructure to the base?

  Many options exist. But, one should take care of the tensile resistance of the material used to ensure the anchorage as well as its resistance against rotting and breakage if too much solicited. Particular details may be developed in order to replace any damaged parts by a new one.







STONE BLOCKs and mud mortar

- Quality of the mud mortar used

  A good mortar for masonry should help a good vertical load transfer from the structure to the ground. It needs to have a good structure and to be stable regarding change in its moisture content.

  Moreover, it should not be too sticky in order to avoid masons to lost time because the mortar will stick too much to their trowels.

  The maximum size of the sand should be related to the mortar thickness. Most of the time, this maximum size shouldn't exceeds 1mm.

- Plastering is an extra big cost and we could reduce by just filling the joints in-between the stones.

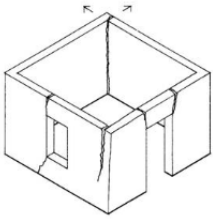
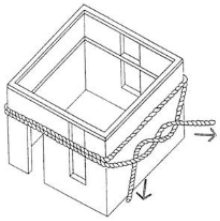
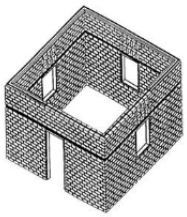
  This is a common practice in many areas.

  Pointing can be achieved by using cement / lime / sans mortar (1vol cement / 3 vol limes / 12 vol sands) or sand/cement mortar (1 vol cement / 6 vol sand).

  Pointing should be at least 3 cm (1") deep to achieve enough strength to resist against erosion and water penetration.

- Tie-beam at the top of the building could be reduced to one. Now there are two tie-beams, one above the windows and one at the top.

Tie beam function is essentially to avoid walls to disconnect themselves.

In order to fully play its rule, a tie beam needs to be loaded. To achieve this, a solution can be to position it at the lintel level.

To have a tie beam at the top of the walls, if not linked to the ground with column in order to confine the masonry inside a concrete framed structure, will not really achieve its function.




- Veranda is quite expensive with a full tie-beam and two / three concrete columns

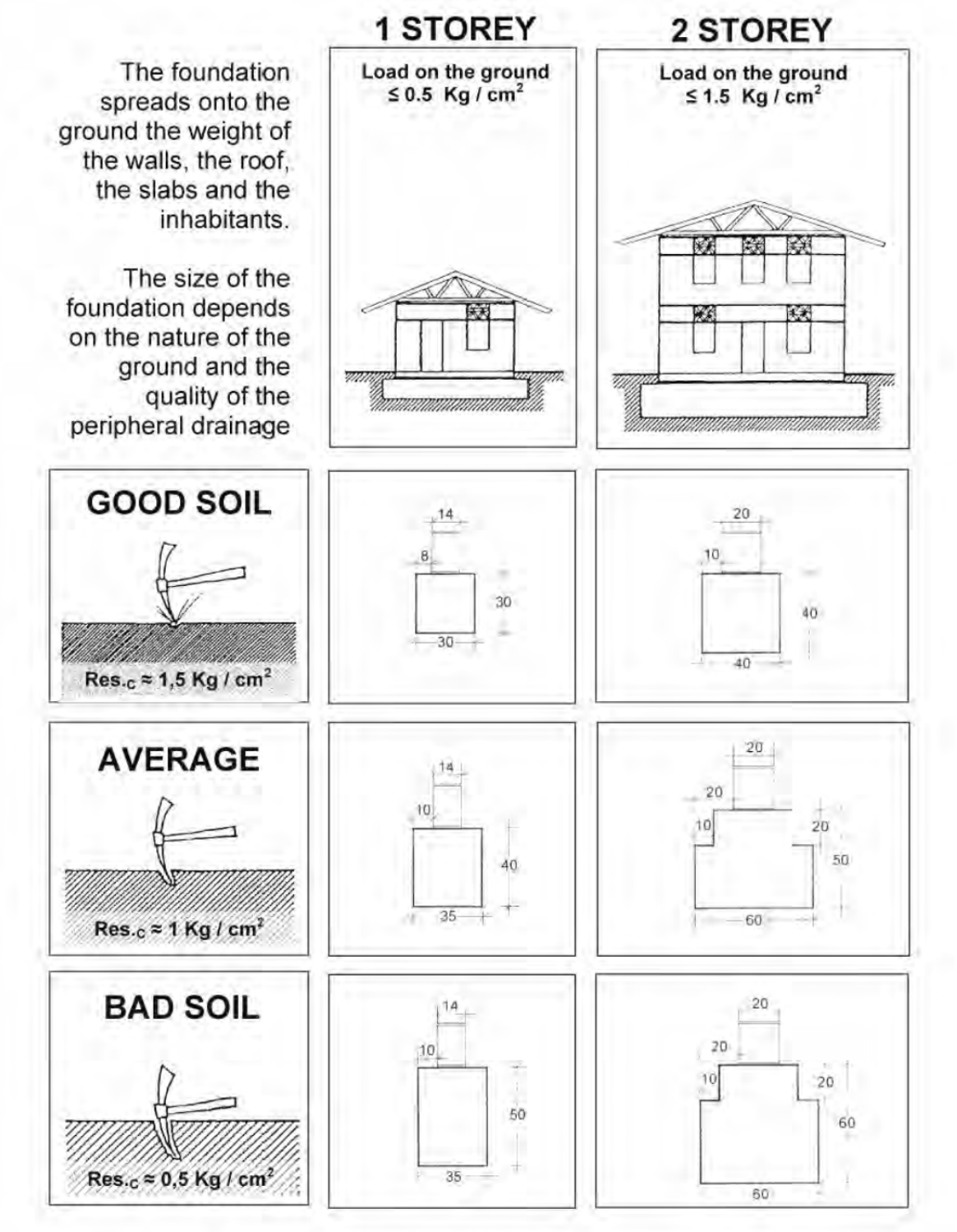
  Option using wood structure may be studied

- These houses have been built since beginning 2012. We should have some inputs now on the problems that are showing.

  As the workshop participant recommended, it will be useful to document strength and weaknesses of each shelter project after their implementation. It will be very good to monitor how the beneficiaries appropriate the shelter few years after their completion.

CEMENT BLOCK

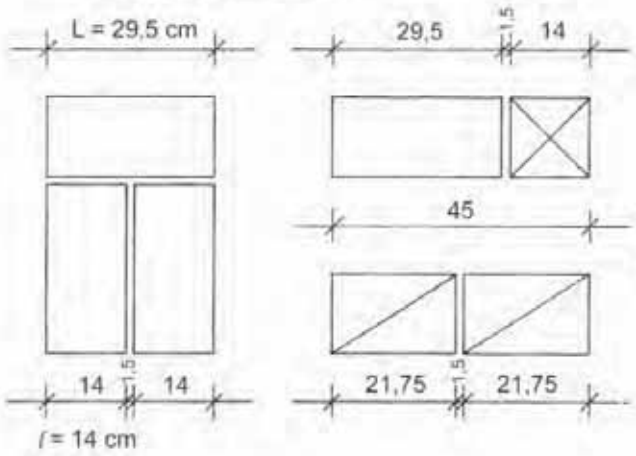
- What kind of foundation is being used? In many cases, the foundation is as wide as the top walls.



- Possibility in some areas to use this as foundation but proceed with mud blocks / adobe on top if local resources would permit.

- Adapt the size of the shelter to the size of the blocks

The masonry is well dimensioned when all the elements (walls, openings) are dimensioned according to the size of the brick, and when all the mortar joints are equal in thickness.

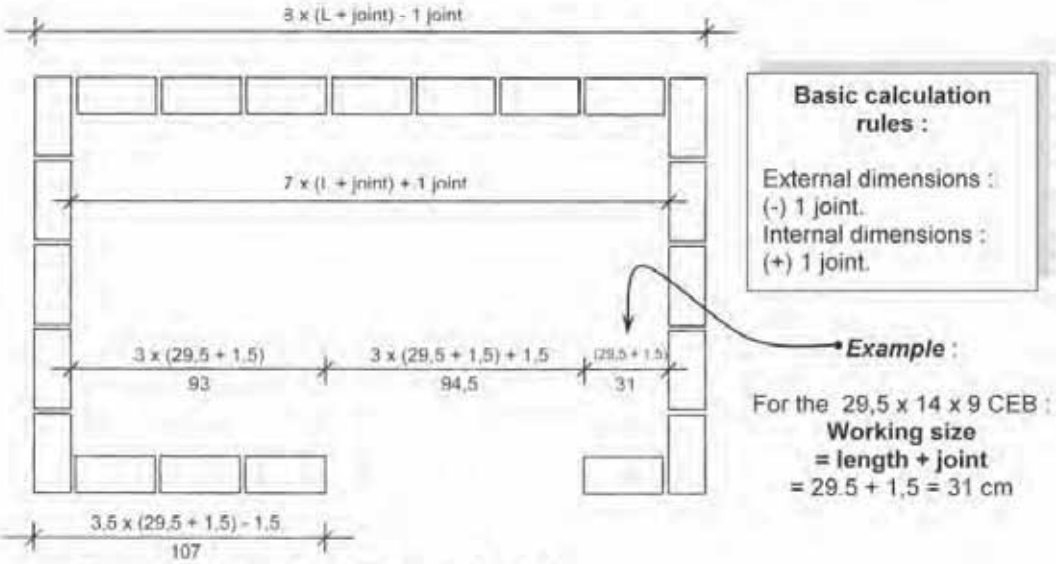


- Therefore, its is essential to take into consideration the size of the brick and its derived products (half or ¾ brick)

Example :

For the 29.5 x 14 x 9 CEB :
- the thickness of the joint is L – 2 *l* = 1.5 cm.
- the length of the ¾ brick is (L + *l*) / 2 = 21.75 cm.

- All the bricks are drawn to check the bonding. All dimensions are calculated according to the size of the « brick + the mortar joint ».



Basic calculation rules :

External dimensions :
(-) 1 joint.
Internal dimensions :
(+) 1 joint.

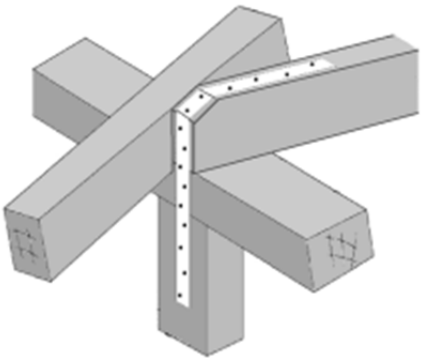
Example :

For the 29,5 x 14 x 9 CEB :
Working size
= length + joint
= 29.5 + 1,5 = 31 cm

- **The good reasons for drawing each brick** :
  - The plan is easier to read.
  - Bricks will not be wasted due to excessive cutting on site.
  - Bonding patterns are easy to implement.
  - The speed of laying the bricks is increased.

- Anchorage of roof to the structure

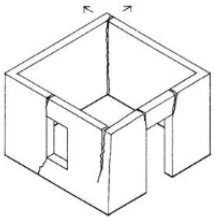
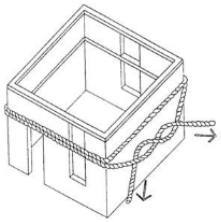
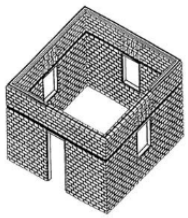
It is highly recommended to reinforce the roof anchorage to the main structure by using metal strap, robs, wire, or any other strong and long lasting material.



- Tie-beam, where is it placed… Can a tie-beam be put on the slope of the roof?

  Tie beam function is essentially to avoid walls to disconnect themselves.

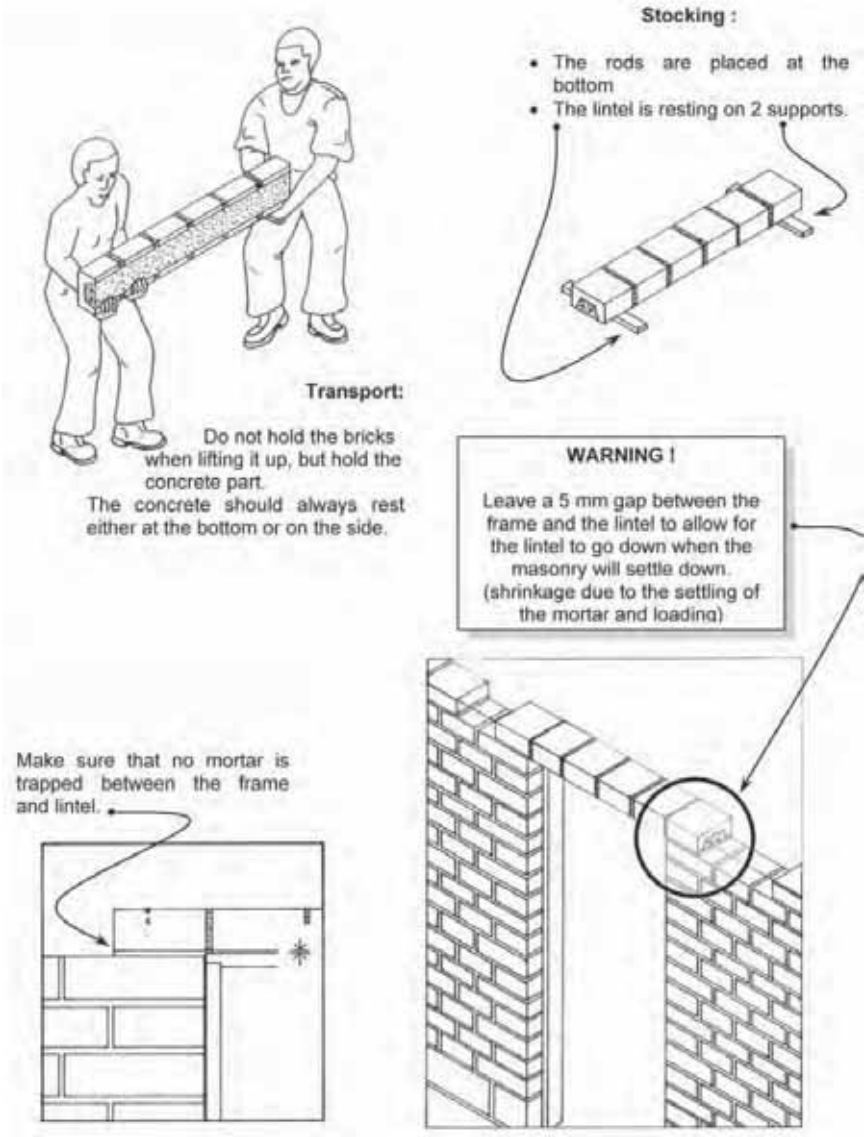
  If tie-beam will be put on the slope of the roof, this main function will not be fully achieved. So, it is recommended to put the tie-beam horizontally.

- Window openings? Lintels, sometimes no lintels but blocks rest on the window frame.

  If lintels are resting on the windows frame, they are not playing a rule of lintel.

  Most common practice is that the lintels to last on a minimum of 15 cm of masonry, both side of the windows.



13 Soil analysis

BAIDOA 1




Grain size distribution:	From 1cm to fine component. 60 % of aggregate. Soil inert component are well graduated
Cigar test:	Very cohesive soil Clay is very active. Not enough fine component to fill the gap between sand and gravel
Cake test:	Slight shrinkage with slight cracks. Many big aggregates.
Conclusions:	Good structure / grain size distribution. Very cohesive. Soil structure can be improve if some fine sans is added.
Recommendations:	Remove the biggest gravel (1 cm and more) using a sieve Add some fine sand up to obtain a continuous grain size distribution from gravel to clay (can be check looking at the aspect of the soil when doing the cigar test or the cake test)
Potential use:	Adobe. Production tests can be done with the natural soil, then with adding some fine sand. Dry blocks should be tested regarding cracks development, shrinkage and compressive strength.

KISMAYO




Grain size distribution:	Very fine component. 50 % of fine sand.
Cigar test:	Medium cohesive soil
Cake test:	Slight shrinkage.
Conclusions:	Good structure / grain size distribution. Slight shrinkage with fine structure. Not very active clay.
Potential use:	Plastering. Maybe necessary to add some few percentage of sand maybe good for SSCB if some coarse sand is added.

BOSSASO

Grain size distribution:	Biggest aggregates are 2 cm diameter. Grain size distribution is not good. 70 % of inert component.
Cigar test:	Low cohesive soil
Cake test:	Very slight shrinkage.
Conclusions:	Grain size distribution to be improved if this soil has to be used Slight shrinkage with fine structure. Not very active clay.
Potential use:	Plastering? But cohesion may not be good enough. And soil will need to be sieved at 1 mm. Maybe good for SSCB if some coarse sand is added. But again, cohesion may be not good enough to ensure SSCB to be removed from the press after compression.

BAIDOA 3



Grain size distribution:	Biggest aggregates are 2 cm diameter. Grain size distribution is not good from 1cm to bigger. From 1cm to clay, grain size distribution is regular. 50 % of inert component.
Cigar test:	High cohesive soil
Cake test:	Very large shrinkage and many big cracks
Conclusions:	Grain size distribution to be improved if this soil has to be used (dependent of the mold size, remove the gravel bigger than 1 cm, or add some coarse sand to improve on the size distribution).
Potential use:	Maybe good for Adobe if shrinkage is not too high and if adobe do not develop cracks while drying. May be good to go for square adobe, for example, 20 cm * 20 cm * 12 cm (less cracks risk when drying). If shrinkage is too high, or if too many cracks appear, it could be relevant to add grasses in the soil.

GAROWE

Grain size distribution:	Biggest aggregates are 1 cm diameter. Grain size distribution is irregular from 0.2 cm to 1cm to bigger. Then, from 0.2 cm to clay, it becomes regular. 60 % of inert component.
Cigar test:	High cohesive soil
Cake test:	Large shrinkage and no / slight cracks
Conclusions:	Grain size distribution to be improved if this soil has to be used. Shrinkage may create problems for plaster, adobe, SSCB.
Potential use:	Maybe good for Adobe if shrinkage is not too high and if adobe do not develop cracks while drying. May be good to go for square adobe, for example, 20 cm * 20 cm * 12 cm (less cracks risk when drying). If shrinkage is too high, or if too many cracks appear, it could be relevant to add grasses in the soil.

BAIDOA 2

Grain size distribution:	Biggest aggregates are 1 cm diameter. Grain size distribution is good from 0.5 cm to clay. 60 % of inert component.
Cigar test:	High cohesive soil
Cake test:	Large shrinkage and no / slight cracks
Conclusions:	May be expansive clay.
Potential use:	Maybe good for Adobe if shrinkage is not too high and if adobe do not develop cracks while drying. May be good to go for square adobe, for example, 20 cm * 20 cm * 12 cm (less cracks risk when drying). If shrinkage is too high, or if too many cracks appear, it could be relevant to add grasses in the soil.

14 Participants

1	Mohamed Abdulkadir Said
2	Abdirahman Farah Barkhadle
3	Mohamed Ahmed Omar
4	Abdiaziz Mohamed Hamud
5	Abdihakim Mohamed Farah
6	Muna Ibrahim Mohamud
7	Mohamed Jama Hashi
8	Mohamed Muse Ali
9	Badar Abdulkadir Abdulle
10	Abdirahman Hirad Mohamed
11	Mohamed Abdullahi Abdi
12	Ruth Ruguru Njagi
13	Chiara Jasna Vaccaro
14	Timothy Mutunga
15	Mohamed Dirie Abdullahi
16	Issa Dubow Oyow
17	Winnie Baraza
18	John Kipterer
19	Sophie Lebuf

15 Annex

Supplies List

Quantity	Item	Notes
20	Multi-colored permanent markers	
60	Sheets of thick paper (A4)	Any color
2	Reams of multi-colored paper (A4)	
10	Rolls of large, clear shipping tape	
2	Reams of plain white paper (A4)	
60	Pens	Black, ballpoint
5	Large flipcharts	
5	Bulletin boards / cardboard sheets	
5 or more	Soils sample (1kg min) from various region of Somalia	To be collected by participants
10	Plastic basin	
1	Camera	Just to be sure that at least someone will have one to capture SWOT analysis evolution along the training.
1	Video projector	
5	Transparent glass bottle with large opening (0.75 l mini)	
5	Measuring tape (2 m mini)	
10	Clothes	To dry hand after every practice on earthen material
5	Buckets	(to store water close to the practice)

Annex, PPT presentations:

Local Building Culture:

Take into consideration the local construction cultures for a greater efficiency in the housing programs

Taking into account the local housing specificities is essential to fight efficiently against poverty, improve the living conditions and sustainable development. Then, it is most important for development actors to agree on a vision and clear strategies allowing better choices when intervening in post-emergencies but also when acting before, on reduction and risk prevention.

Century old experiences to be emphasized

The history of constructions shows that builders have always adapted their housing to the local resources available to achieve a better answer to their needs, taking into account the social and climatic constraints and the natural risks.

As such, all over the world the various societies have developed local housing specificities, as a result of a “contextual architecture”, and ways of specific constructions, the fruit of a balance between man and nature, what would be called nowadays “sustainable development». Unfortunately, with globalization, this knowledge is under-considered, and disappearing.

Housing culture research and teaching are nearly non-existing, which is a limit to their evolution, the invention of new models allowing a better integration of new technologies, and their development where necessary.

Yet, we have here vast potentialities which are not sufficiently considered in (re)construction programs, when, in spite of external help, more than 90% of post-emergency efforts are locally supported. There are several consequences:

- The local knowledge is depreciated in favor of imported models which are often inappropriate.
- Technical solutions are often privileged though they can’t be duplicated as too expensive or too sophisticated.
- Low-quality imitations or ill-calculated technological mixtures with a weak resistance to natural hazards which are less compared to purely local proposals.
- Beneficiaries are not at the center of the decisional process, yet this is essential if the aim is their autonomy.

Though this fact is being slowly integrated, the increase of emergencies and the pressure coming from the medias make quantity privileged over quality, with solutions said to be “universal” or ready-made, bringing a short-term answer, but which are less efficacious, or even counter-productive on the mid or long run if the chosen standards are inadequate or answering to hopes which can’t be fulfilled.

Some principles to be respected:

To benefit from this potential at the utmost in the case of housing programs, here are several suggestions:

- The population must be at the center of the analysis process of the needs and the local capacities: through participatory approaches, enhancing the people who have local knowledge and practice, strengthening social links and helping everybody to recover his dignity.
- Detect the capacities and the functioning of local organizations leading to resilience strategies and housing protections and integrate these elements when elaborating the programs to be carried on.
- Through successful examples, value and show the possibilities of local materials in the building of quality housing.
- Get into the improvement process of housing, integrating local competences, modern technologies and major risk prevention.
- Be attentive to questions of accessibility, so that duplication is possible for a great number "Give a man a **fish**, feed him for a day. Teach a man **to fish**, feed him for a lifetime"[1]
- Integrate the reinforcement of local capacities and competences, working with the local teaching institutions that will insure a long term effect.
- Make sure that the invested budgets in house-building generate again income generating activities having a maximum impact on the local economy and development.
- Clarify standards guaranteeing quality in the choice of materials and in the process, influencing decision-making institutions helping to the development of responsible managers in the field of construction.

A shared responsibility

The organizations involved in this initiative are committed into promoting and spreading all approaches based on valuing local resources and building cultures in their reconstruction programs.

To be efficient and make these approaches last at a global level, here is their proposal:

- Build up experimental projects.
- Coordinate their actions and create synergies to achieve a better share of the necessary investments to spread this new approach.
- Reinforce the follow up and evaluation of their programs, create documents and share their experiences.
- Re-examine the quality criteria and the success indicators of their ongoing projects.
- Make their results widely known.
- Work on the awareness of their partners and the Medias so that they give a positive image of the local building cultures and those who know them.

<u>The PPT presented during the workshop give some evidence about what is a Local Building Culture.</u>

[1] Confucius


Local Building Cultures
LBC
Local Building Cultures
26th April


Local Building Cultures
Local Building Cultures: A base for sustainable LRKD housing project


Local Building Cultures
Building system and architecture typologies


Local Building Cultures
Same material? ; Different shapes and architectures


Local Building Cultures
Houses
Commercial building
Public building
Related to technical and financial capacities


Local Building Cultures
Result of socio-cultural aspect


Local Building Cultures
Linked to socio economic aspects


Local Building Cultures
Integrate challenges from local environment, even the worst...


Local Building Cultures
Integrate challenges from local environment, even the worst...


Local Building Cultures
environmental
Cultural
social
economical


Local Building Cultures
Not looking at beauty of natural material
Not promoting heritage conservation

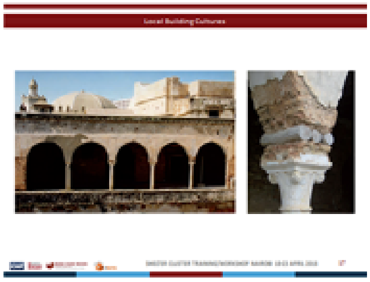

Local Building Cultures


Local Building Cultures
Learning from experience.


Local Building Cultures

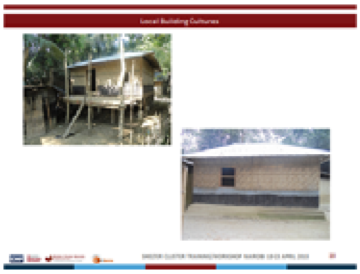

Local Building Cultures

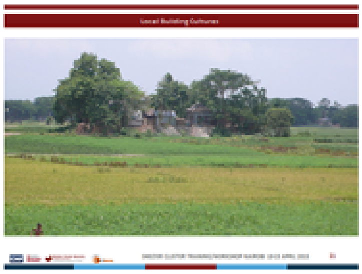

Local Building Cultures


Local Building Cultures


Local Building Cultures


Local Building Cultures


Local Building Cultures


Local Building Cultures


Local Building Cultures
CRAterre
Thank

Linking Relief, Rehabilitation and Development:

After a "natural" disaster, humanitarian aid workers distribute tents and/or implement temporary shelters in affected areas. From that moment onwards, it is important to use materials and construction techniques that will, in adaptation to each context, be viable in terms of implementation and maintenance, while making sure not to break away from local building cultures. It is clear that the imported technologies most commonly used do not meet such requirements.

Standards have been developed to improve the quality of assistance to affected populations by advocating a thorough analysis of program requirements and a pragmatic assessment of results through quantitative indicators (The Sphere Project, 2004). The danger is to end up with a levelness of responses by applying these standards in the strict sense, and thus reduce the potentials inherent to local dynamics. In the intention to further promote relevant local development, studies on the possibilities of using variable qualitative criteria are available (Groupe URD).

Simultaneously, the scope of humanitarian aid widens towards approaches that emphasize prevention (Disaster-Preparedness Programme, DIPECHO), seeking to bridge the gap between emergency relief and development. The emphasis is not only placed on the “quality of the finished product”, but also the relevance of responses to relocate populations, and this, in light of multiple criteria (resistance to risk, ownership by beneficiaries, cultural continuum, reinforcement of local economy...).

Since the International Decade for Natural Disaster Reduction 1990- 1999, disaster risk reduction has even been recognized by the cooperation sector as a pre-condition for development.

However, the sectorization of funding agencies for aid projects (development, risk reduction, emergency) results in a sectorization of professional aid organizations bringing assistance to affected populations, which sometimes makes it difficult to implement programs based on a global approach to risk management.

The PPT presented during the workshop give example of LRRD approaches.

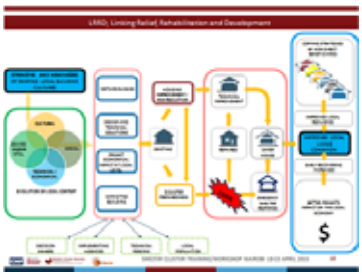

LRRD
Linking Relief, Rehabilitation and Development
26th April


Impact of crisis
But also impacts of external supports
Support vs Risks
Introduction but / and also intrusion of new models
New techniques but / and progressive loss of know-how
Social and economic evolution but/ and risk of injustice...


DEMONSTRATION OF IMPROVED LOCAL HOUSING TYPOLOGIES (SAFER HOUSES)


LOCAL HOUSING REPAIR AND IMPROVEMENT


DISASTER SHELTER RESPONSE PROTOTYPE




CRAterre
Thank

Building Back Safer

The reconstruction phase after a disaster is a valuable opportunity to implement measures to reduce the vulnerability of local populations and their habitat.

The approach adopted by the bodies responsible for organizing relocations has an impact in the long run, not only on the quality of constructions, but also on the lives of communities, restoring their social balance, especially by strengthening their capacities.

To recognize that affected populations are not passive recipients of humanitarian aid, but protagonists, responsible for their own survival and future, endowed with skills and aspirations, may allow the adoption of solutions, materials and techniques that are appropriate to local contexts, and thus, to achieve pertinent and effective results. To consider the reconstruction phase as a process generated "by" the people, rather than "for" the people, can promote the self-determination and autonomy of communities, applying strategies to reduce their vulnerability, and thus strengthen their resilience.

The enthusiasm and appreciation for a reconstruction project depends on its degree of adaptation to the specific aspirations and needs of populations. The adaptation of Man to his environment is connected to his perception of the manifestations of nature, both ordinary and extreme, which led him to play with matter and form shapes, in a quest to find the balanced dynamics adapted to particular situations.

Building cultures are thus permeated by an evolved intelligence, transmitted from generation to generation, according to contextual characteristics, resulting in a multitude of vernacular typologies.

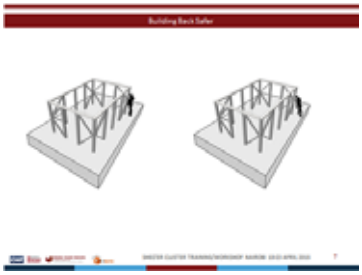
Local cultures can be characterized by social strategies aimed at reducing the vulnerability of individuals and/or by construction strategies aimed at reducing the vulnerability of built structures. Populations have increased their resilience by controlling the use of locally available resources and materials.

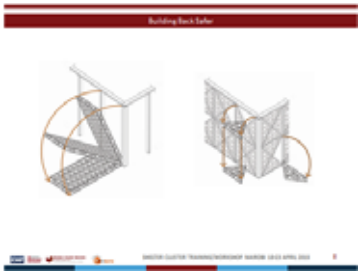
Empirical, but based on centuries of experience and observation, their understanding can adapt to the evolution of contemporary contexts and help to consider viable (re)construction approaches.

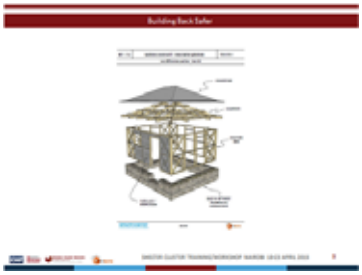
Such approaches, relevant to each specific context, can then become part of a local sustainable development, respectful of the environment.

The PPT presented during the workshop give some example of project that implemented BBS strategies.


Building Back Safer
26th April








Over 165,000 new houses constructed in approved local seismically safer construction technologies


CRAterre
Thank

Introduction to earth architecture

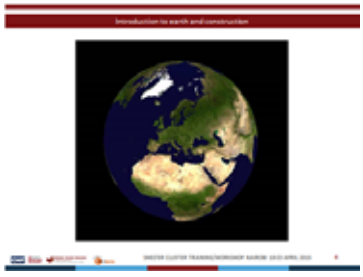
Earth has been used for eleven millennia and today remains the most widely used building material around the world.

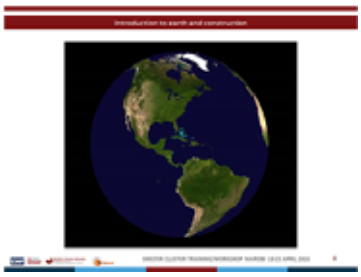
One third of the total human population lives in a building made of earth – more than two billion people in 150 countries.

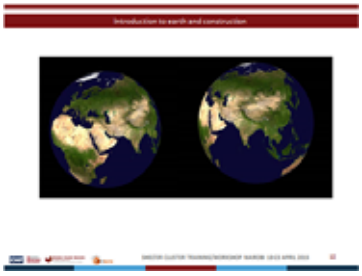
Earthen architectures, simple and monumental, are present in a diversity of contexts and meet a vast array of needs.

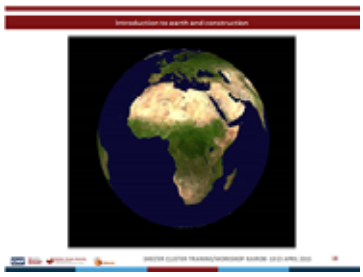
The PPT presented during the workshop give an overview of earthen architecture and its potential


Introduction to earth and construction
27th April











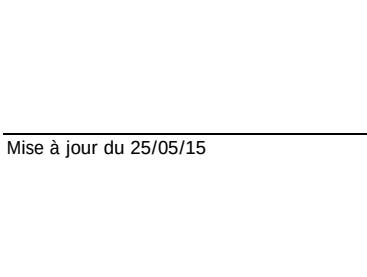
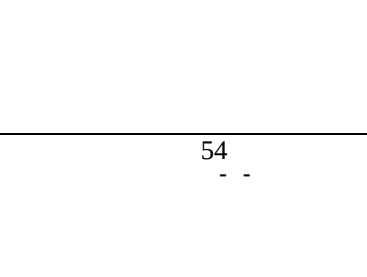








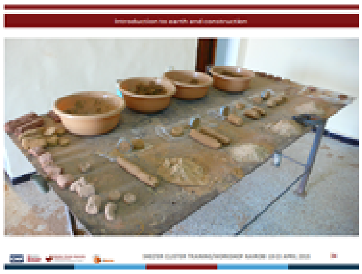


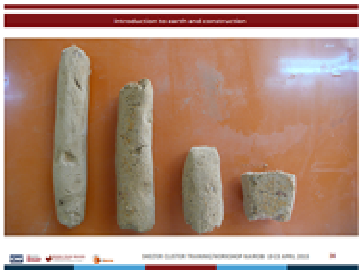

Introduction to earth and construction

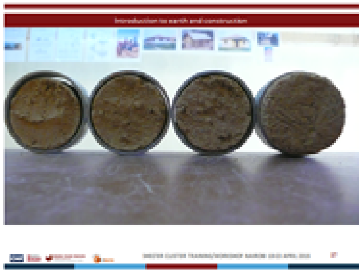

Introduction to earth and construction


Introduction to earth and construction


Introduction to earth and construction


Introduction to earth and construction


Introduction to earth and construction


Introduction to earth and construction


Introduction to earth and construction
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Thank


Earth Architecture
Building Back Safer
26th April


Stone and aggregate locally available
Select stone size
Organize the stone in the foundation





Water resistant / Water absorbent material
Sand / cement brocs...mortar...

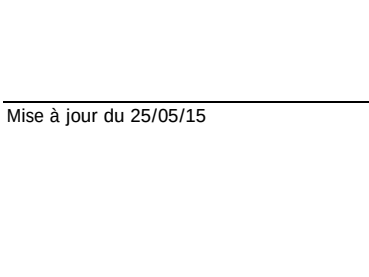
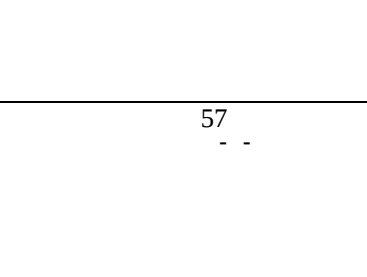
















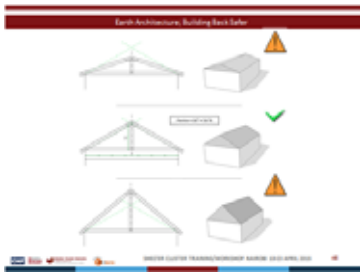




Thank


How to properly anchor the shelter when the soil is rocky ?


How to improve the roof resistance to strong wind




How to improve the roof resistance to strong wind


How to improve the roof resistance to strong wind


Family rooms separation walls


What is good ventilation


What is good ventilation

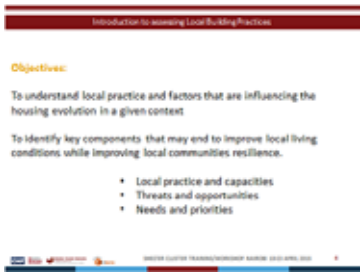

What is good insolation?


Termites?


Introduction to assessing Local Building Practices
Introduction to assessing Local Building Practices
28th April


Introduction to assessing Local Building Practices
WHY, And to do WHAT?


Introduction to assessing Local Building Practices
A participatory approach to co-develop projects


Introduction to assessing Local Building Practices
Objectives:
To understand local practice and factors that are influencing the housing evolution in a given context
To identify key components that may end to improve local living conditions while improving local communities resilience.
Local practice and capacities
Threats and opportunities
Needs and priorities


Introduction to assessing Local Building Practices
Resources
Local capacities
Strengths and weaknesses
Priorities


Introduction to assessing Local Building Practices
House


Introduction to assessing Local Building Practices
Behaviours
Human and natural resources
Natural and built environment
Architecture
Risk and vulnerability


Introduction to assessing Local Building Practices
Site / Weather / Population / Livelihood


Introduction to assessing Local Building Practices
Urban / Rural - Land tenure - Infrastructures


Introduction to assessing Local Building Practices
Protection practice / Resources management


Introduction to assessing Local Building Practices
Local architecture


Introduction to assessing Local Building Practices
Difference in the same site


Introduction to assessing Local Building Practices
How does people use the different spaces


Introduction to assessing Local Building Practices
Equipment, Watsan


Introduction to assessing Local Building Practices
Ventilation/ Lighting / Small details


Introduction to assessing Local Building Practices
Building details and typologies


Introduction to assessing Local Building Practices
Weaknesses and local solutions


Introduction to assessing Local Building Practices
Strength and local good practice


Introduction to assessing Local Building Practices
Construction products and processes


Introduction to assessing Local Building Practices
Houses evolution


Introduction to assessing Local Building Practices
Individuals / Groups / Community / CBO / VBO / Organisations....


Introduction to assessing Local Building Practices
Participatory approach
Adaptation / Flexibility


Introduction to assessing Local Building Practices
PARTICIPATION ?


Introduction to assessing Local Building Practices
PARTICIPATION ?


Introduction to assessing Local Building Practices


Introduction to assessing Local Building Practices
Moderation
Question / Actions
Co-monitoring


Introduction to assessing Local Building Practices
Ask questions BEFORE to give any answers.
Moderate the debate to get the answer from the local partners


Introduction to assessing Local Building Practices
Observing + Asking + Checking
What? Why? How? Who? When?


Introduction to assessing Local Building Practices


Introduction to assessing Local Building Practices
Mapping
CARTOGRAPHIE


Introduction to assessing Local Building Practices
Implementation Steps
Before
On site
After


Introduction to assessing Local Building Practices
Before
On site
After
Define the objectives
Documentation
Identify key resources persons
First contact and introduction visit
Develop appropriate tools
Action plan


Introduction to assessing Local Building Practices
Before
On site
After
Meeting with the community
Mapping
Site visit
Documentation of local architecture
Meeting with local artisans
Meeting with others stakeholders involved in the building sector


Introduction to assessing Local Building Practices
Before
On site
After
Analysis and reporting
Wrap-up with local stakeholders
Co-improve on the proposal
Finalisation


Introduction to assessing Local Building Practices
Reporting


Introduction to assessing Local Building Practices
Reporting


Introduction to assessing Local Building Practices
CONCEPTION
ANALYSE
CONSTRUCTION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Thank