

CODE		SOMBOSNRC2011HYBRID	
Country	Somalia	Rural/Urban setting	Urban
Location (Specify)	GALKAYO	Material source	Locally available and locally purchased
Type of shelter	Transitional shelter	Main structural materials	White wood
GPS Longitude (...° ...' ..." N/S)	MUSTAQBAL IDP SETTLEMENT	Main cladding materials	CGI sheets
GPS Latitude (...° ...' ..." E/W)	MUSTAQBAL IDP SETTLEMENT	Hazard resistance (EARTHQUAKE)	▲▲▲
Year of Construction (YEAR)	2011	Hazard resistance (WIND)	▲▲
Anticipated life span	1-2 years	Hazard resistance (FLOODS)	▲
Climate type	Dry Arid	Hazard resistance (FIRE)	▲▲▲
Disaster	Conflict related IDP	PICTURES UPLOADED	YES
Time to build (man-days)	2-5 man days	BOQ UPLOADED	YES
Number of Rooms	1	DRAWINGS UPLOADED	YES
Labour method	self-help/contract	SATELITE PICTURES UPLOADED	NO



PICTURE OF PROTOTYPE



PICTURE OF POSSIBLE UPGRADE



NR	CAD INDICATOR	RESPONSE	NR	CAD INDICATOR	RESPONSE
102	Size of built area (m ²) per unit	12.96	130	To which degree does the construction principles, tools and materials need specialist support during construction	2
107	Cost per unit (apprximately in USDollars)	405	131	To which degree can maintenance be done by beneficiaries themselves (knowledge, tools, affordable materials,...)	4
108	Cost of building material per unit (approximately in USDollars)	375	133	To which degree does the design or specific technical components reduce the smoke hazard in the unit (ventilation)	2
109	Cost of labour per unit (apprximately in USDollars)	30	138	Are the shelters natural disaster resistant - Y/N	NO, but smaller improvements have been incorporated
117	% of beneficiaries assessing (survey) the unit as supportive for their needs	SURVEY NOT DONE	140	To which degree the shelter and the neighbourhood design considers different roles or gender typical activities and needs.	NEED TO REVISE HOW TO DISCUSS THIS INDICATOR
119	To which degree (survey) were beneficiaries satisfied with their opportunity to contribute to the design/planning of the project	3	143	% of the construction labour provided by the beneficiaries as their contribution (free of charge).	20%
123	Total size of plots (m ²) allocated to all units	DIFFERENT DEPENDING ON LOCATION, AVERAGE 20m ² per plot	144	% of the construction labour contracted to beneficiaries/community (contracted and paid labour)	100%
125	Inside minus outside temperature (average dag)	NO MEASUREMENT DONE	145	% value of beneficiary contribution	5%
126	Inside minus outside temperature (average night)	NO MEASUREMENT DONE	146	% of the total construction material produced by the beneficiaries/community and purchased by the project	NEED TO REVISE HOW TO MEASURE THIS INDICATOR
129	Can the units be accessed by persons with disabilities without help from others (universal design) Y/N	YES	152	To which degree were Livelihood aspects specifically addressed by the project	NEED TO REVISE HOW TO MEASURE THIS INDICATOR

DESIGN SPECIFIC	<p>Shelter Description (brief description of materials used, foundation technology, base structure, stability aspects/bracing, technology used,...)</p>	<p>The prototype is built out of a white timber frame (built out of 6 panels and one central support), covered with plastic sheeting and walls covered with CGI sheeting for protection issues. One door and two windows are made out of CGI. All materials used are cut as economically as possible to ensure that they can be easily re-used for later purposes (CGI sheets are uncut, timber is mainly cut in lengths of 3.6m). The height of the walls of the shelter are half of the size of the timber that is purchased. There is no foundation or concrete slab as the IDPs preferred having more CGI sheets than cement bags. The earth floor can also be wetted which reduces the heat inside the building.</p>	
	<p>Durability and Lifespan (treated materials, control of quality of materials, degradability of materials...)</p>	<p>The wood is not treated, but there are no major problems with termites in the area. As the climate is very dry, the wood will have a long time-span and can be re-used in upgrading projects. The wood is imported and of good quality. The CGI sheets are galvanised and are temporary connected to the wooden structure. A big portion of the plastic sheeting is covered by the CGI sheets, protecting it from UV degradation and from ripping.</p>	
	<p>Live-ability/Confort (ventilation, thermal capacity, ...)</p>	<p>The hybrid shelter has two windows and one door. The two windows are put on opposite walls to increase cross ventilation. At the top of the gable walls, there is a space for ventilation. As the height of the shelter is low and the openings are often ceiled, the shelter can easily heat up. Improvements can be done by insulating the roof with local materials (hessian sacks, reed-mats,...)</p>	
	<p>Notes on possible upgrades (adding new materials but reflect on performance, internal partitioning, extensions, re-using the materials, speed of construction, where appropriate, improving performance, cost-analysis, ...)</p>	<p>The shelter has a similar budget as the high-weight tent construction and uses mainly local purchased materials. This ensures that the speed of implementation is very high. The materials could be re-used to upgrade this shelter to a CGI shelter. All materials can be easily dissembled and re-assembled in a different design. The spaces which are not covered by CGI sheets can easily be closed with other local materials. Improvements can be done by insulating the roof with local materials (hessian sacks, reed-mats,...), but it is important to mention that only light-weight materials can be used otherwise the structure needs to be re-inforced. Improvements could be done to tighten the structure more to the ground (other foundation techniques).</p>	
	<p>ECOLOGY (use of water, use of materials, necessary precautions to take...)</p>	<p>The design of the shelter has been made to use the wood as economical as possible. The CGI sheets are un-cut and can easily be re-used or sold. There is no need of water in the design.</p>	
	<p>PROTECTION issues (personal safety and protection, fire-safety, ...)</p>	<p>the shelter provides improved protection as 80% of the walls are reinforced with CGI and 100% by plastic sheeting. The IDPs mentioned that this kind of shelter provides more safety than other solutions as it is reinforced with iron sheeting and secondly that the materials have a good value in time (especially the wood). They can easily improve and strengthen the structure with other local materials. As this shelter option also provides doors and windows, it is easily lockable and provides good security even if they leave the shelter.</p>	
INTERIOR PICTURE		PICTURE OF DETAIL	
			
CONTEXT SPECIFIC	<p>Shelter Performance Summary in specific context (speed of construction, where appropriate, improving performance, cost-analysis, improvements to be done, reflect on hazards like floods, earthquake and high winds...)</p>	<p>The wooden frames are braced to ensure that they can resist higher winds, which is of major concern for the area. There is no foundation and therefore the shelter is not elevated and prone to flooding. The structure is anchored to the ground with 6 iron pegs (40cm in the ground) to ensure no up-lift. As the shelter breaths naturally, the up-lift is less. Nevertheless, if extra insulation materials are added, it will be important to improve the anchoring to the ground. As the shelter is covered with iron sheeting, it is more fire proof than the tent or buuls.</p>	
	<p>Implementation methodology and LIVELIHOOD opportunity (capacity of the organisation, capacity of the beneficiaries, political hesitance,...)</p>	<p>self-help/contract</p>	<p>All materials are bought locally, except for the plastic sheeting. In this project, the local materials are bought in bulk and trainings are given to skilled laborers on how to construct each unit. The beneficiaries are only integrated in the setting out of the shelter and preparing the ground-area (taking away stones, flattening the surface,...)</p>
	<p>BENEFICIARY ACCEPTANCE (cultural acceptance, land-tenure, possible harm that can occur,...)</p>	<p>A focus group discussion was held with the community after the pilot project to make further improvements and to capture the level of acceptance by the IDPs. The IDPs mentioned that this kind of shelter provides more safety than other solutions as it is reinforced with iron sheeting and secondly that the materials have a good value in time (especially the wood). They can easily improve and strengthen the structure with other local materials. As this shelter option also provides doors and windows, it is easily lockable and provides good security even if they leave the shelter. The IDPs mentioned that they could contribute to the preparation of the plot, helping to put the frames together, attach the plastic sheeting, elevate the area with earth and strengthen the structure with local materials. They would need help from skilled fundis to build the structure and bracing.</p>	
	<p>Market analysis (availability, price, quality, speed,...)</p>	<p>Prices on the local market in Puntland/Somalia are much more expensive as everything needs to be imported. Nevertheless, the materials used are all available in large quantities. The price would be cheaper to buy internationally but importing the materials into Somalia would be very difficult and time-consuming.</p>	