

In the POC sites in UN House Juba 3; Concern is proposing to carry out a shelter programme to mitigate against the effects of the oncoming rainy season. This will take on multiple components depending on the hazards encountered which vary by site and demographic group. The design and life expectancy of the shelter interventions are determined by UNMISS as only certain materials are permissible and nothing that in any way gives an appearance of semi-permanence; so life expectancy is around 6 months which is the life expectancy of the untreated bamboo and the plastic sheeting. A Hazard Analysis of the site was carried out and the following identified.

The hazards are: -

- a. Storm water runoff will flow through the emergency shelters destroying property and endangering life.



- b. Torrential rain will collect on the flat roofed shelters causing them to collapse resulting in damaged property and endangering life.



- c. Strong winds associated with thunderstorms will lift off the plastic sheeting which is poorly secured which will destroy possessions



- d. Flash flooding in low lying areas and close to dry watercourses will become raging torrents causing erosion and flooding during heavy rainfall. Water runoff is increased due the area being 90% covered by plastic sheeting which minimises percolation into the ground. This will result is endangering life, injury and loss of possessions.



Those most at risk are: -

- a. The vulnerable: - disabled, handicapped, elderly, child headed households and female headed households.
- b. Those living in high risk areas that will be susceptible to flash flooding and soil erosion.
- c. Those who are unaware of the hazards and not risk aware.
- d. Those who do not want to participate in the self-help interventions.

Interventions

Concerns interventions will be coordinated with the Shelter Cluster and the POC CCCM through coordination meetings, community leadership meetings and community awareness sessions.

All of the proposed interventions will involve the beneficiary participation to varying degrees depending on vulnerability and the hazard faced.

1. **Identify high risk areas** where shelters are in need of relocation, this will be done in conjunction with CCCM and WASH actors.
2. **Awareness Raising** of the impending hazards that the occupants of the POC will face in the next few weeks due to the rainy season. This is the 1st season the IDP's will be in this environment and location. This will be done through leadership meetings and community engagement.
3. **Providing Materials to raise floors** for self help to ensure runoff water does not pass through the emergency shelters



Sand bags and marrum for raising floors

Sandbags 45 units per kit @ USD 1.00	45.00
Marrum fill 4m ³ @ USD14/m ³	64.00
Shovel/Jambe	10.00
TOTAL COST PER STANDARD KIT	119.00 excludes machinery when required

4. **Provide Materials to strengthen shelters** for self help to ensure the rainwater runs off the roof and is strong enough to resist wind and rain.



Provision of poles, bamboo and additional plastic sheeting.

Emergency Shelter Standard Kit (household of 5)

Item	Unit cost (USD)	Number in Standard Kit	Total (USD)
Plastic sheet (4x5)	15.00	2	30.00
Rubber binding rope	5.00	2	10.00
Bamboo poles (10)	5.50	2	11.00
Wooden poles	4.00	6	24.00
Hand saw	6.00	1	6.00
TOTAL COST PER STANDARD KIT			81.00

(transport not included)

5. **Provide and erect a robust emergency shelter** for the most vulnerable that will protect them from the impending hazards. This will be facilitated and coordinated through the Protection partners and social responsibility groups as well as the Humanitarian representative in the POC.

Points to consider when positioning doors and ventilation openings: -

- a. the warm winds in March blow from east to west

b. the winds that bring the rains from the Congo blow from west to east



a 13.5m2 emergency shelter for the most vulnerable using the shelter clusters emergency reinforcing kit.

Bill of Quantities

Item	Unit cost (USD)	Number in Standard Kit	Total (USD)
Plastic sheet (4x5)	15.00	2	30.00
Rubber binding rope	5.00	2	10.00
Bamboo poles (10)	5.50	5	27.50
Wooden poles	4.00	4	16.00
Hammer	4.00	1	4.00
Shelter Preparation	12.00	1	12.00
Shelter erection	25.00	1	25.00

TOTAL COST PER STANDARD KIT (transport & raised floor not included) **122.50**

Whilst the above estimates do not include transport either to the site or within the site, to implement the improvement of 2,500 emergency shelters it will require mechanised equipment to deliver the project on time, suggest the use of Bobcats operating in 3 sites simultaneously because they are very versatile and can operate in tight and narrow places.



Bobcats and front end loaders will be used to place the fill material close to the beneficiaries' shelters for the HH to place in the floors.

Interventions by Location and Type (costs exclude machinery and on site transport)

Intervention	POC 1	POC 2	Total	Rate	Total USD
Raising floors	1700	800	2,500	119.00	297,500
Shelter reinforcing kits	1500	700	2,200	81.00	178,200
Vulnerable Emergency Shelters VES	200	100	300	122.50	36,750
				Total	512,450

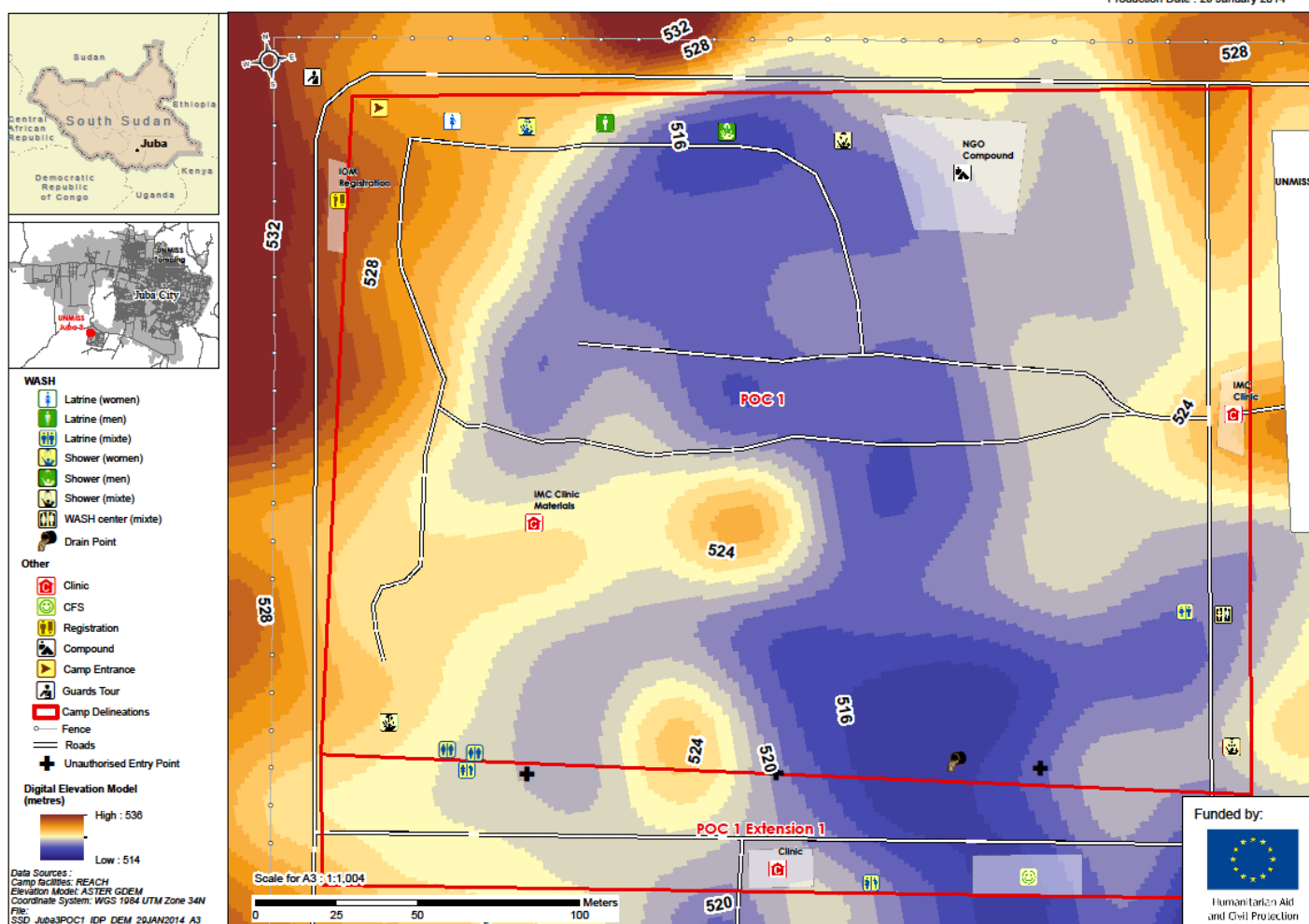
Programme of Activities

Activity	March				April				May			
Planning & Preparation	X											
Beneficiary Identification	X	X	X									
Creating hazard awareness	X	X	X	X	X	X	X	X	X	X	X	X
Preparation of ES Kits for vulnerable	X	X	X	X	X	X	X					
Erection of ES Kits for vulnerable		X	X	X	X	X	X	X	X			
Assisting in relocation of those HH in High Risk areas		X	X	X	X	X	X	X	X			
Provision of floor raising materials			X	X	X	X	X	X	X			
Distribution of shelter reinforcement kits			X	X	X	X	X	X	X			

Identified High Risk areas (dark blue) but not exclusively

SOUTH SUDAN - UNMISS Juba 3 Site - PoC 1 and Extension 1 - Assets and Infrastructure

For Humanitarian Relief Purposes Only
Production Date : 29 January 2014



Points to Note

The WASH agencies are proposing with the assistance of UNMISS Engineering to construct an open ditch running approximately North to South to allow the quick release of storm water out of the POC. This will need considerable working space and cause major disruption during the construction phase. Given that some of the existing culverts are under designed and silted up there will be the possibility of flooding.

- a. All areas below the 516 contour will flood even if only for a short time so all shelters in these areas must be relocated
- b. Shelters in the zone between 516 and 517 contour may need special elevation to reduce the risk of flooding
- c. Other dry watercourses exist and are not indicated on this map but will be identified on site.