

## Making shack dwellings more liveable: addressing weather extremes, lighting and drainage

### Interim measures:

An outline of possible incremental stages and investment required to improve living conditions in a shack dwelling in an informal settlement

Phase 1: Turning the informal into the formal	Materials and design – Assumption 2 x 2.5 m shack with flat roof	Est. Cost
A	Reducing temperature: reflecting radiation. Approximate reduction 2 to 3°C. Plaster outside walls. <ul style="list-style-type: none"> <li>- Damp course sheeting around base of house</li> <li>- Single brick layer around base of house (blocks)</li> <li>- Plaster walls: equal mix of sand (10 bags), mortar (6 bags) and newspaper</li> <li>- Two coats of PVA paint – light colour (25 litres)</li> </ul>	35.00 300.00 300.00 450.00 280.00 <b>1365.00</b>
B	Pitched roof: reducing temperature by a further 2 to 3°C – double roof <ul style="list-style-type: none"> <li>- Wood for structure</li> <li>- Screws (pops) for holding corrugated iron sheets</li> <li>- Corrugated iron sheets (5 x 2.2m x 1m)</li> <li>- Option: could be painted with Argex Range of Expanded Clay: Dekro Paints – will provide a waterproof cover over roof (red/brown colour)</li> </ul>	380.00 40.00 2800.00 350.00 <b>3220.00</b>
C	Ventilation: reduction between 3 and 5°C and linked to solar panel and DC current / battery charger for lights, cell phone charger, radio, small television <ul style="list-style-type: none"> <li>- Air vents (slotted and can be shut closed) x 2</li> <li>- Extractor fan</li> <li>- Solar panel - charger; battery, led lights (x4), wiring, switches</li> </ul>	150. 00 380.00 1200.00 <b>1730.00</b>
D	Insulation and fire retardant on inside (plastered walls) - Effect on indoor insulation and outside radiation is unknown as yet. <ul style="list-style-type: none"> <li>- Plaster walls: equal mix of sand (10 bags), mortar (6 bags) and newspaper</li> <li>- Paint inside walls with PVA</li> <li>- Paint fire retardant on plastered walls and exposed wooden structures (5 Litres)</li> <li>-</li> </ul>	300.00 450.00 250.00 650.00 <b>1650.00</b>
E	Improved drainage: use structure created by bricks at base of the dwelling – becomes the corridor for drainage <ul style="list-style-type: none"> <li>- Create culvert between homes using recycled bricks / blocks to act as formalised drainage corridors</li> </ul>	Freely available material?