

## Summary

(We need \$35,000 for Workshop, Vocational Center, and an Elderly Home. Land is being given to us for free.)



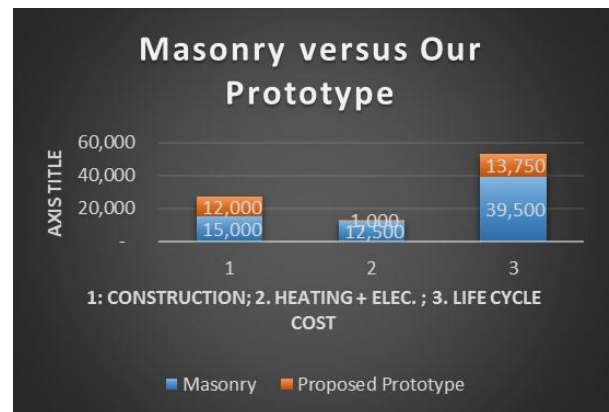
Most people living in poorer and colder regions of the world have homes that have little or no heating during winter months, and rely on fossil fuels for heating and cooling. SARID is trying to introduce sustainable building types and practices in these countries. Buildings that are not dependent on fossil fuel for heating and cooling, instead rely on renewable energy sources, recycle waste, and produce minimum of Green House Gas emissions (GHGe). In 2015 SARID built such a demonstration net-zero building in

frigid Lesotho. The home is warm in winter (naturally heated) and cool in summer. It was built by students and villagers after they were trained over a two-week period. The project cost was reduced through pooled resources, sharing of sweat equity between participants, and use of sustainable and affordable local resources.

The home is insulated, has a low carbon footprint, utilizes solar hot water (SHW) for heating - via perimeter baseboard and radiant floor heating (hydronic). The roof mounted SHW also provides hot water for a shower, utilizing an under floor hot water (HW) tank and a heat exchanger (UHE). The walls are insulated with waste rigid Styrofoam (EPS) lunch boxes (LB), sandwiched between two layers of poured in situ concrete wall. The homes were built by villagers and students after they were taught over a two-week period. Electricity is provided with solar PV (SPV) - which charge 12v rechargeable batteries - which provide electricity for 5v clustered LED bulbs. The home is built using reusable forms, two people can lift it, which can be used to build hundreds of homes - and pays for itself after construction of a few homes.



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SARID is now trying to setup an infrastructure involving workshops, vocational center, educational manuals and videos, and a small prototype structures in order to encourage capacity building through self-reliance. These pictures are from the elderly home we have built in 2015. In 2016 the structure was a finalist, and winner of “**Impact**” and “**Novelty**” in a global contest, “**Buildings**” category, organized by MIT’s Climate

CoLab. Some of the judge's comments in the final evaluation were as follows:

- *Great example of how a high performance building can be accomplished using a low tech approach.*
- *The proposal goes beyond looking at just the technical challenges alone, and outlines a clear plan for putting together a process that looks at the issue in a holistic fashion.*
- *Great combination of innovative use of resources along with a highly developed program and understanding of what it will take to make it happen.*
- *Creative use of waste materials (especially foam plastics) and targeting of a growing niche market with an energy efficient lower priced home. Approach also seems suited to charities and aid organisations for housing and other buildings, eg health care. Disaster resistance also valuable.*