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# DEPLOYMENT OF SOLAR LIGHTING SYSTEM IN RURAL GHANA CASE STUDY OBODANASE, EASTERN REGION, GHANA

Presented by

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## POTENTIAL OF SOLAR ENERGY

**Ghana receives 1.6–2.1 GWh of solar energy per year**

In spite of this high potential, solar energy technologies are not widely deployed in the Ghanaian society. This primary reasons being the high initial cost of installation involved and also lack of understanding of the long term economic benefits.



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## THE UNESCO/CSIR-IIR COLLABORATION

CSIR-IIR collaborated with UNESCO Accra office to deploy solar Lighting systems to Obodanase, a deprived rural community in the Eastern region.

As part of Science, Technology and Innovation (STI) promotion; to promote the use of solar lighting systems in rural households in Ghana and thereby to contribute towards poverty reduction and increase in literacy rate



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## OBODANASE

1. Farming community– cocoa, plantain, cassava, etc
2. Distance from the nearest grid (8km).
3. Has a nursery and primary school.
4. Presence of teachers flat–no habitation.
5. Four different churches
6. Spend GH¢1.70 in traveling 8 km to charge a cell phone at GH¢0.50.





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# SENSITIZATION AND EDUCATION

Candles

Kerosene fuelled hurricane lamps

Battery powered torch lights

Generators with AC light bulbs

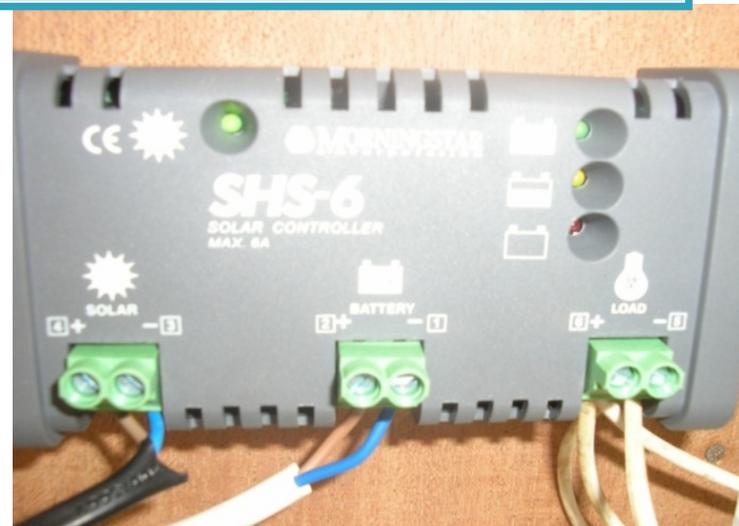
SLS with DC light bulbs



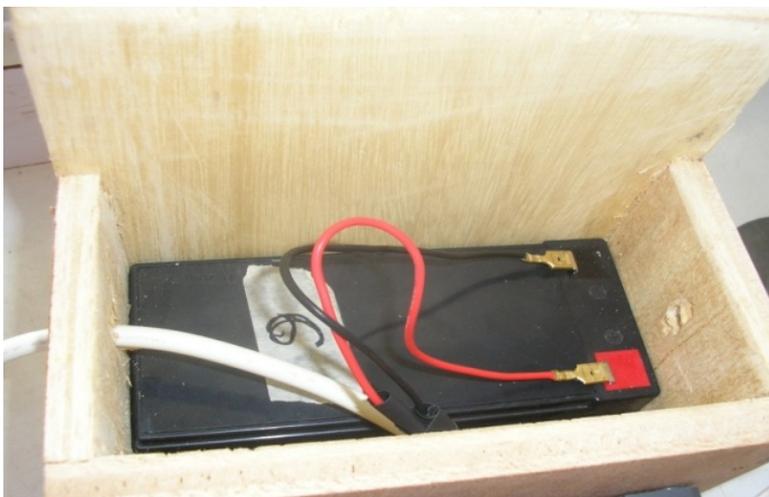
# SOLAR LIGHT SYSTEM



2 X 10W Solar panel



12V-6A Controller



12v-100Ah Deep Cycle Battery



12V-11W DC CFL



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# INSTALLATION AND TESTING



1. Commercial area
2. Primary school
3. Teacher's flat
4. Church of Pentecost
5. Presbyterian Church
6. The Chief's house
7. Chief Farmer (opinion leader)
8. Three (3) sets by lottery



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## CONCLUSION

- The people prefer the energy saving light over candles or hurricane lamps, etc.
- The pupils had started learning during the night.
- Family meetings, small group discussions are now done in houses of the beneficiaries.
- Attendance to evening programmes at church had increased.



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## CONCLUSIO

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❑ Over 60 % of the people interviewed two weeks after installation were willing to contribute in two installments of GH¢200.00 for same facility.



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# Thank You