

**ASSESSING THE POTENTIAL OF SOLAR  
ENERGY UTILIZATION IN  
CENTRAL TANZANIA**

By

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**REG # I45/84348/2012**

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Project submitted in partial fulfillment for the award of Postgraduate Diploma in Meteorology in the Department of Meteorology, University of Nairobi.

**May 2013**

## **ABSTRACT**

Solar energy is the energy direct from the sun. Central Tanzania is a very vulnerable area in the face of climate change, already seeing great droughts leading to recurrent hydro-power crisis and agricultural problems. So through different technologies solar energy can therefore be harnessed for thermal use and for electrical generation purposes. This technology can be harnessed through Active\_solar techniques\_using photovoltaic panels, pumps, and fans to convert sunlight into useful energy as well as Passive solar techniques which\_include selecting materials with favorable thermal properties, designing spaces that naturally circulate air, and referencing the position of a building to the sun.

Solar radiation data, sunshine hour's data and cloud amount data for both Dodoma and Tabora was obtained from Tanzania Meteorological Agency (TMA) and was from 2002 to 2012.

The methodology used in this study included the calculation of missing data by arithmetical mean method, homogeneity by single mass curve and trend by time series.

The study indicated that solar energy viability is more efficiency from May to Nov, at this period cloud amount are few, solar radiation is low and sunshine hours are high. During this period sunshine rays are in high amount and almost found throughout .Residence can turn up on using this energy since is highly reliable and requires little maintenance.