

## Solar Powered Domestic Waste Dryer

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Kitchen garbage, in general, is getting to be a big problem in urbanized area. Usually, in Sri Lanka municipal councils collect kitchen garbage once a week. Thus, week-long garbage at homes creates a strong unpleasant smell. One of the main reasons for the bad smell is moisture content in the garbage. The purpose of this study is to reduce the moisture content in the kitchen garbage using solar energy. Used coconut pulp is used as the representative for the experiments as it contains a high amount of moisture.

Variation of the moisture content with temperature was analyzed using TGA/DTA analysis. An affordable solar dryer was designed to dry the kitchen garbage before being stored for the weekly collection. There are two compartments in the design, namely, a solar collecting chamber and a sample chamber. Current performance of the dryer shows a temperature of about 60 °C in the sample chamber and it can remove about 20% of the moisture present in the used coconut pulp.

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