



## Evaluation of plant generated electricity using succulents *Aloe vera* and *Musa barbandensis*

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**Abstract :** *The present investigation was aimed at producing electricity from Aloe vera plant and Musa barbandensis plant using different pairs of electrodes (copper, zinc, calcium and iron). It was found that copper- zinc electrodes produced the highest voltage (0.94V). This was followed by copper- iron (0.59V) and copper-aluminium (0.56V), electrode respectively. The aluminium-zinc electrode produced the lowest voltage (0.43V). Similar trend of voltage output was obtained from banana tree when used as the energy source. Copper-zinc electrode produced (0.91V), copper-iron (0.5V), copper-aluminium (0.46V) and aluminium-zinc (0.38V), respectively.*

*Hence, it was found that Aloe vera produced the highest open circuit voltage with copper-zinc as electrodes as compared to banana tree. This results show that a combination of electrodes and the type of plants play important role in determining the harvested voltage output.*

**Keywords:** Electricity from plants, *Aloe vera*, *Musa barbandensis*, electrodes.

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### Introduction :

Over the past centuries, world economic growth has been hampered due to the ever-expanding use of hydrocarbon energy sources such as petroleum, coal and natural gas. Petroleum oil, gas and coal are non-renewable energy resources that will cease to be available in the future. The ever rising cost of fuels not only causes inflation but also hinders the economic growth (IMF Research Department, 2000). If price continues to rise with increasing demands, this will consequently negatively affect the trade and poverty (Winters et al., 2002).

Plant-based energy generation is a method that harvests electrical energy from living plants. The use of living Plants to harvest energy is environmentally friendly and cost effective.