

Design and Fabrication of a Cost Effective Domestic Autoclave in a Developing Economy

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If autoclaves are affordable and available in most homes in Nigeria, it will encourage waste pre-disposal treatment and promote a healthy environment.

This aim of this paper is to develop an autoclave that combines the benefit of simplicity in operation with low cost and effectiveness to tackle the problems that have militated against availability of autoclaves in most homes and small scale industries in Nigeria.

An efficient and cost effective portable autoclave suitable for sterilization of domestic waste was designed and fabricated to American Society of Mechanical Engineers (ASME) standard specification. Its construction materials were sourced 100% locally, thus leading to 25% reduction in cost compare to the imported brand of the same size. The performance of the machine was evaluated using chemical and spore tests and found satisfactory.

Keywords: Autoclaves, Waste Predisposal Treatment, Healthy Environment.