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Studies of energy efficiency in domestic stoves in Maputo province

Abstract

Cooking for most household in Mozambique is basically fuelled by burning wood. Open fire places are most common traditional technology used by majority of people in Mozambique. One of the problems of cooking over in open fire place is the increased health problem caused by smoke, particularly lung and eye ailments. Replacing the traditional three-stone fire-place with chimney for venting the smoke out of the house can dramatically contribute to the improvement of family's health.

Other problem for cooking on open fire is the energy losses during cooking of food . The major energy losses are heating of excess air, heat carried away by the combustion products, heat transmitted to the stove body and floor for the case of fixed stoves, and the chemical energy in charcoal residue. The energy loss due to the evaporation of cooking water is also significant.

Other factor, is the Population pressure in developing countries is considered the main cause of deforestation due to dual needs of food and fuel. This has led to a shortage of firewood (for cooking) which affects in particular the rural poor areas. Strategies for sustainable use of firewood and demand reduction would be to study of energy efficiency for different kind of stoves. Because traditional stoves are widely perceived as being inefficient.

The aim of this study is to assess the efficiency of the Wood fuel stoves improvement and traditional in comparison with the open fire in the typical domestic setting of rural area in Mozambique, mitigate the environmental impacts of wood fuel stoves of different types, its whether mobile or fixed and to assess the advantages and disadvantages of wood fuel stoves.