



150,000 Debesai Ghebrehiwet's 'Adhanet' Stove Distributed in Eritrea

14 July 2017 - 150,000 fuel efficient customised stoves (Adhanet Mogogo pictured) distributed in the past 11 years since the programme was launched in 2006.

The stoves have directly impacted on the lives of 600,000 people out of Eritrea's 3.5 million population, saving thousands of tonnes of CO2 emission.

Debesai Ghebrehiwet Andegergish, a renewable energy specialist and Director of the Energy Research and Training Center in Eritrea has vowed to make his nation "green again". He holds a Masters degree in wind and solar energy from Odenburg University in Germany and another degree in physics. He became the director of the Ministry of Energy and Mines Energy Research Training Center in Eritrea when it opened in 1992, at the end of the war, with the intent "to introduce renewable energy technology in Eritrea."

Studying the Eritrean energy crisis, Debesai concluded that a key source of its energy problems did, in fact, stem from the Mogogo stoves that for centuries had filled local homes with smoke and soot.

According to Debasai's research through the ERTC, it is believed that Eritreans burn about 700,000 tonnes of firewood each year, about half of the total amount used nationally, in cooking injera, alone.

Intent on creating a solution, Debesai used his knowledge and expertise to design and create what may finally bring relief to rural Eritrea's ever-alarming energy crisis.

The solution: a new and improved Mogogo stove, offering a fuel-efficient, smokeless, earth-friendly design.

Scientific studies have shown that a stove will save about 5 tonnes of CO₂ emissions over the life time of the stove by reducing the amount of timber burned.

Debesai's stove design is three-in-one, offering three separate compartments for cooking the main elements of Eritrean cuisine. One compartment offers a plate and a fire box for the beloved Injera, another for cooking kicha, and a third for cooking the traditional sauces.

The stove has a chimney and a valve to redirect smoke outside the house, and to control airflow, promoting health benefits for those using the stove, and to those exposed to its smoke.

Debesai's invention, alone, has the potential to reverse the nation's deforestation crisis. The new Mogogo can burn a combination of dung and wood, reducing the need for firewood for fuel by as much as 50%, as research has shown the stove to be three times as efficient as typical traditional Eritrean wood stoves.

Adhanet (saviour) stoves have an extensive coverage - over 92% - in the Maekel region alone. Women and their families are the prime beneficiaries of the development intervention in rural areas. The targeted areas have witnessed the practical benefits gained from efficiency and affordability of energy for household cooking; improvement of health status linked to eyes, respiratory systems and general hygiene of the households, whilst saving bulk quantities of biomass. This indicates an improvement to the livelihood and sensitisation to the environment by small holding farmers in the rural areas.