

Cambodia: Efficient cook stoves improve livelihoods



The majority of Cambodians rely on wood to provide domestic energy. This dependence places enormous strain on Cambodia's deciduous forests, and necessitates countless hours of work per week for the women and children whose task it traditionally is to collect the fuel. With deforestation increasing the travel distances, the collection of fuel wood is not only time consuming but also potentially life threatening. There are an estimated four to six million anti-personnel landmines scattered in rural areas remnants of the country's war-torn past. According to the Cambodian Red Cross, over 200 people continue to be killed or maimed by landmine explosions every year. Further threats to health and well-being occur by the burning of the fuel itself. The smoke generated by traditional wood residue can have severe health impacts, prompting high incidences of eye infections and respiratory diseases such as asthma, pneumonia, bronchitis, and emphysema among both women and children in the domestic sphere.

Key Facts

Project type:

Energy efficiency

Project standard:

VCS

Total emission reductions:

77'509 t CO₂e p.a.

Project start date:

January 2003

Project partner:

Papop Renewable Co., Ltd.

Validator:

Det Norske Veritas (DOE)

Verifier:

Det Norske Veritas (DOE)

Sustainable solutions for Cambodian households

With a growing population likely to increase the rate of deforestation and corresponding habitat destruction and species loss, this energy efficiency project offers a means of reducing domestic energy demands. By replacing traditional stoves with more efficient versions, the use of fuel is considerably reduced. The improved efficiency of these stoves also reduces the burden placed upon women and children to collect wood. As a result the risk exposures to landmines are lowered and time is freed up for more productive activities, such as child education. Furthermore, the reduction of hazardous wood smoke resulting from decreased fuel use greatly avoids indoor air pollution. These stoves also contribute economically to the region through job creation in manufacturing, distribution, and sale of the product, and by facilitating the creation of commercial networks and enabling the transfer of a more energy efficient technology. In the absence of the project, deforestation and related environmental degradation would continue at an unsustainable rate.

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Technology brief - how it works

The New Lao stove is a metal covered baked clay construction suitable for burning wood or charcoal. More efficient than traditional stoves, the New Lao stove uses 22 % less fuel and each stove saves 0.4 tonnes of CO₂e per year. This adds up to an estimated saving of 3,300,000 tonnes CO₂e over the project lifetime. Such a substantial reduction in emissions is achieved through a number of improvements in the stove design. A low resting pot reduces the gap between the stove and pot thus limiting the amount of escaped heat, while air holes in the grating allow for maximum air circulation enabling the more efficient burning of fuel. Improved insulation and a refractory liner also prevent heat loss. The metal sheet body cover provides further insulation and improves the durability of the stove. All these alterations serve to make the New Lao stove a more sustainable alternative to traditional cooking technologies.



Sustainability benefits

This project demonstrates how carbon finance can be mobilized to bring substantial benefits to communities and the local environment. In addition to acting to mitigate climate change, this project also contributes further to promoting sustainable development in Cambodia by

- Slowing deforestation, which also results in the prevention of soil erosion, the destruction of natural habitats, and the loss of biodiversity
- Improving living conditions due to reduced emission of unhealthy airborne particles responsible for respiratory problems, particularly among women and children
- Reducing costs and competition for wood, thereby enabling greater access to fuel for the most impoverished areas of society
- Reducing the burden placed upon women and children by the need to collect wood, thereby enabling them to spend more time on other economic or educational activities
- Creating employment and commercial networks through the construction, maintenance, and distribution of stoves
- Demonstrating and disseminating energy efficient technology



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