

EAST ASIA AND PACIFIC REGION

Social Development Notes

INNOVATIONS, LESSONS, AND BEST PRACTICE

Building on Tradition as the Way to Women's Empowerment in Cambodia

Approximately eighty percent of Cambodians live in rural areas with limited access to clean and affordable water and energy. Thirty-four percent of the rural population lives below the national poverty line on less than 2,367 riels (\$0.60) per day. Even though Cambodia is a low income country, the cost of electricity is one of the world's highest due to limited domestic energy resources. Over ninety percent of energy used for cooking comes from wood and charcoal, contributing to increased deforestation.

Women traditionally shoulder the burdens of collecting wood and cooking in Cambodian society. They spend an average of three to four hours a day on energy-related activities such as gathering fuel wood, boiling water, and cooking. The use of more energy-efficient and renewable energy technologies could significantly reduce the large share of household expenses currently required for cooking and lighting, allowing poorer people to save more money for food, education, and health services. Inadequate access to adequate resources and technologies has entrenched poverty, slowed improvements in health and education, and contributed to environmental degradation and socio-economic inequalities.

Reducing rural poverty in Cambodia will require improving access to clean and energy-efficient solutions as prerequisites to achieving economic, social, and environmental benefits, and for meeting development goals. Renewable and energy-efficient technologies also sig-

Do traditions erode or uphold women's position within a poverty ridden environment? A network of local women from in Cambodia spark rapid change by championing innovative, affordable and energy efficient cook stoves.



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nificantly reduce greenhouse gas emissions, playing an important role in the global fight against climate change.

Simple and cost-effective cleaner energy technologies can make a big difference in the lives of the poor—especially to women and children. However, meeting the needs of poorer communities requires providing services that are practically useful, culturally appropriate, and affordable. This report identified the unique role women play in rural Cambodian households, and describes a pilot initiative to produce ceramic cook stoves with the goal of empowering women, reducing deforestation and pollution, and promoting healthier more vibrant communities.

Strategic Context

Gender relations are steadily changing across Cambodia's rural countryside as a result of globalization and government-led endeavors to enhance women's socio-economic status. At the macro level, the Royal Government of Cambodia (RGC) has promoted a "gender agenda" by: sanctioning opportunities for women's capacity building across sectors, changing social attitudes that discriminate against women and ensuring that women have a right to actively

participate in national development. At the grassroots level, civil society organizations are participating in initiatives to empower the traditional roles of women and transform them into viable entrepreneurs.

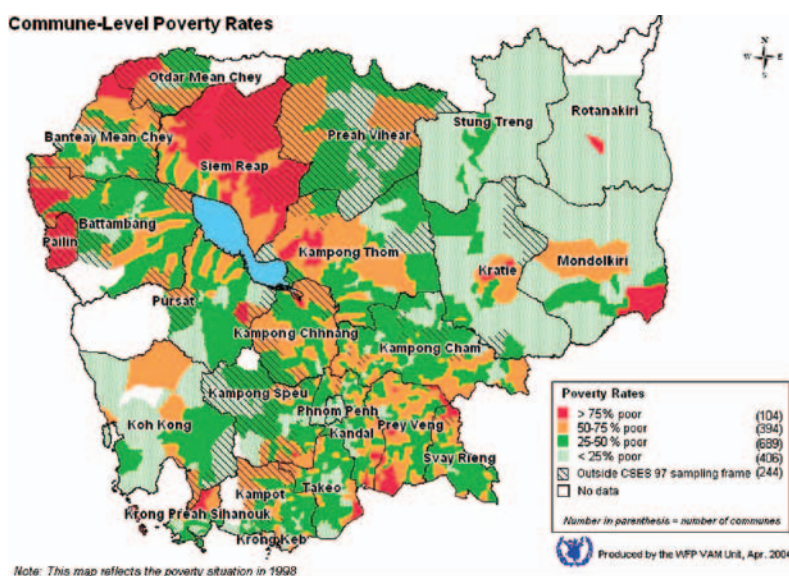
Cambodia is one of the poorest countries in the world with approximately one third of its 13.4 million citizens living on less than fifty cents a day. Four-fifths of Cambodia's population—about 80.5 percent—live in rural areas (NIS, 2008). The large majority of Cambodians in rural and urban areas depend on biomass fuels such as firewood and charcoal for their cooking needs¹ (UNDP, 2008). The overall estimate for Cambodia's rural energy demand in 2010 amounts to around 84,610 Tera-Joule (TJ)—about the same thermal energy consumed by three 1000 megawatt coal fired plants operating around the clock for a year, or the equivalent of burning about four million tons of coal or six billion tons of firewood, of which 88 percent is firewood and charcoal (UNDP-2008). Firewood and charcoal are often considered "traditional fuels", yet they remain the primary energy source for cooking within the home, and are used extensively by industry and the service sector.

As Cambodia's rural population continues to increase and poverty remains persistent, it is likely that consumption of firewood and charcoal will continue to increase. The affordability and availability of modern cooking fuels such as liquefied petroleum gas (LPG), butane or propane will remain out of reach for most families. Looking into the future, scaled-up efforts to improve the energy efficiency of biomass use will be critical to developing countries such as Cambodia.

The rapid and pervasive depletion of hardwoods for fuel has rapidly degraded local ecosystems, while also multiplying the time needed to collect fuel—traditionally a women's role in Cambodia. This practice also creates additional negative externalities: burning charcoal in large quantities produces air pollution that threatens the respiratory health within inadequately ventilated house-

¹ According to the UNDP, approximately 90% of rural and 50% of urban-based citizens depend exclusively on charcoal wood for cooking.

Commune-Level Poverty Rates



holds. Since women are responsible for the domestic sphere and primarily responsible for food preparation, they are vulnerable to a number of health risks. The introduction of more energy-efficient cook stoves would therefore significantly benefit women and would provide an opportunity to expand employment across the supply chain, given their traditionally dominant role as clay potters and retailers.

The World Bank's Energy Sector Management Assistant Program (ESMAP) and the Asia Sustainable and Alternative Energy Program (ASTAE) recognized the need for an effective solution to Cambodian women's energy conundrum. ESMAP and ASTAE soon assisted the Government of Cambodia by providing development support to Small and Medium-sized Enterprises (SMEs) engaged in the delivery of energy services in remote and underserved regions of the country in cooperation with Ministry of Industry Mines and Energy. The Neang Kongrey Stove (NKS) has greatly benefitted rural women and has capitalized supply and demand side solutions for rural household energy consumption. The stoves have also provided an easy, cost-effective solution to improving Cambodia's the country's energy sector, but also in its commitment towards attaining gender equity.

Highlights

The National Improved Cook Stove Program developed a cleaner, more energy-efficient and cost-effective cooking device by scaling up production of Neang Kongrey Stoves (NKS) at a retail price of USD 1.50 per cook stove in an environment where women played key roles as producer, advocate, retailer and end user. The NKS cook stoves will therefore provide the fuel for catalyzing women's development transformation across Cambodia.

The Potter's Wheel

The Neang Kongrey Stove was first produced in Kampong Chhnang province, an area famous for local women's production of valuable clay pottery. The NKS were first produced in 2003–2004 at the household level by two dozen women clay potters trained by a national NGO named GERES-Cambodia (Group for Renewable Energy, Environ-



ment, and Solidarity). Of the first group of trained potters, eleven regularly produced Neang Kongrey Stoves in 2008. Clearly more could be done to accelerate this unique technology throughout rural communities.

Shaping the Neang Kongrey Stoves

A pilot project was soon implemented. “*Commercialization and Rural Dissemination Strategies for Efficient Household Cook Stoves*”, launched with the intention to test the community reaction to the Neang Kongrey Stoves and to expand dissemination under a national program. The pilot dissemination project was co-funded by ESMAP and implemented by the NGO ‘GERES-Cambodia’, in cooperation with other five local NGOs—DKC, CADET, CEDAC, AHRDHE, and CCK—in four provinces (Kampong Thom, Kampong Cham, Kampong Chhnang, and Takeo) from April 2008–2009.

Under this effort, a variety of dissemination strategies were operationalized to determine the project's overall effectiveness and sensitivity to community needs. A GERES project, for example, provided over 8,000 Neang Kongrey Stoves (NKS) to the five selected NGOs. NKS retailing points were then arranged at the village level through the networks and relationships of the selected NGOs. NKS cook stoves were delivered to these retail points on consignment and payments were collected by GERES-Cambodia.

Key NGOs identified target villages, promoted mechanisms for determining an acceptable retail price, profit and payment scheme to maximize economic incentives of producing the cooking

stoves Each NGO followed a multidimensional approach in selling the cook stoves. A critical success factor included promoting gender equity in the selection of selection of retailers. Wives of village officials (including the village chief and deputy chiefs), female leaders or members of community-based organizations, female vendors of village grocery shops and individual entrepreneurs were selected to serve as the outlet retailers.

Among the four types of retail outlets selected, village grocery stores stood out among the three other outlets in terms of sales and visibility. These grocery stores were not only the nucleus of village activity—where women were the primary and regular visitors—but also stations for demonstrating the efficiency of the NKS cook stoves. According to a female grocery seller in Kampong Siem, *“In this village, the villagers do not have the stoves. They just use three stones for cooking. I use two NKSs here (in front of the shop), so when the villagers come to buy something at my shop, they can see that it saves firewood and time and then they buy it”.*

Female heads of village development committees (VDC) played important roles in disseminating the NKS campaign, through cooking demonstration, participant discussion and differed payment schemes in their respective neighborhoods. Village Development Committee members also discussed how a deferred payment plan could allow anyone to purchase a stove. These efforts greatly increased the use of stoves across villages with similar information efforts.

From Vision to Reality

Before the NKS stove project could be fully implemented, a key roadblock remained: quality

control. The limited availability and inconsistent quality of NKS was well noted during the pilot project. This was due to production capacity limitations of the NKS producers and their traditional stove production techniques. As a result, ASTAE for GERES-Cambodia raised funding to develop a Model Production Facility to increase production capacity and upgrade the overall quality of the stoves. A production facility in Banh Shhkoul Village in Kampong Chhnang province soon served as a model to promote production and supply of NKS cook stoves to rural areas.

Given the overall goal to enable more traditional stove producers to learn how to produce higher quality NKS cook stoves, GERES-Cambodia initiated a training program with technical assistance funding from ASTAE. The training announcement was received with much interest by the rural women. A training and production strategy was later redesigned to address the high level of interest from rural women, in contrast to the original plan of training ten women to produce stoves in the facility. In an effort to ensure equity in access to training, women were selected through lucky draws and were paid a daily training allowance to maintain the economic balance

while away from paid work. Once training was completed, the trained women were permitted to mold and form the stoves at home and get paid against the number of stove parts delivered to the facility.

Achieved Gender Outcomes

During FY10/11, the Gender Action Plan Fund (GAP Fund) provided support to assess the role of gender in development and to provide recommendations to integrate gender into the organi-



At her business in Kampon Chhnang, Cambodia, Kheang Son processes bamboo sticks which she sells to furniture makers in Thailand and Holland. As a result of her mother's success, her daughter, pictured here, is now studying English and tourism in Phnom Penh. Photo by Karl Grobl. Asia Foundation, 2010

zational and management structure of national programs. The assessment noted a series of gender-specific outcomes that focused especially on women's economic and social empowerment. A number of achievements identified below are based on assessments by the GAP fund and Project Task Teams, and include recommendations from an April 2009 workshop held in Phnom Penh.

Empowerment

Increased Economic Power: Cambodian women's typical role as producer and retailer provides opportunities for income generation and increased income due to opportunity for profit maximization through a efficient supply chain.

Time Savings: The option to produce cook stoves at home provides women with a flexible working schedule that allows them to attend to household chores while also producing stoves for local consumers. The reduction in time spent collecting firewood across increasingly large distances creates time savings that can be readily invested in other pursuits. .

Increased Voice: Training and skills development from producing cook stoves creates stronger bonds between women in local community organizations and facilitated greater voice in community decision making.

Strengthened Social Capital: Sharing knowledge, experience and support during the production of cookstoves provides opportunities to strengthen women's social capital.

Healthier Homes: Reduced indoor air-pollution improves respiratory health, and immediately offsets adverse health impacts of charcoal-based cooking on women and children.

Innovation

The Neang Kongrey Stoves project highlights two key innovations:

- First, the experience provides a tested innovative approach of how building on traditions can promote women's empow-

erment even in impoverished and and post-conflict environments. In this context, the traditional role of Cambodian women as potters and food vendors has been capitalized to support socio-economic empowerment by giving them the key role as promoters of cost effective energy efficiency and stewards to improvements in household welfare.

- Second, by instituting training as an integral component to the NKS cook stoves initiative, women become analysts and monitors of tangible outcomes of the NKS cook stove dissemination.

Sustainability

- The pilot initiative is embedded within a community-owned economic pattern, where women's traditional roles become part of the story.
- A proposed women-producer association management structure for the NKS-Facility is an effective tool to create a strong stove production community which will in turn contribute towards a larger and closely linked community of low cost energy efficient cook stove users.

These examples provide an entry point for sustainability, but scaled-up efforts will require a strong institutional structure and a sector-wide development approach that covers a broader supply-chain. Future efforts can hopefully benefit more provinces, communes and villages while also increasing the percentage of households using improved cook stove technology

Further Reading

Cambodia: Improved Cook Stoves Project (P113090)

Cambodia: Rural Energy Strategy (P114368)

Improved Energy Technologies for Rural

Cambodia: December 2009

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