

**Technical Assistance:** Evaluation and Development of Solar Cooking Technologies Manufactured and Assembled Locally in Mali

**Location:** Banamba (rural) and Commune V Bamako (urban/peri-urban), Mali

**Solution:** Locally Manufactured and Assembled Solar Cooking Technologies

**UNEP CTCN grant:** USD 194,500



Women testing the solar cooking technology in Mali © Togo Tile

Mali faces a growing energy crisis as deforestation accelerates due to high reliance on biomass for cooking, particularly in rural areas. Women, who are primarily responsible for cooking, must travel increasingly longer distances to collect firewood, exposing them to dangers in areas with growing insecurity. The urban population also depends on wood and charcoal, placing an economic burden on households. This project introduces locally manufactured solar cooking technologies as a sustainable, cost-effective solution, in two pilot areas.



## Objectives

The project aims to reduce reliance on biomass for cooking by introducing solar cookers. These devices will help households reduce fuel cost, improve health, and mitigate the environmental impacts of deforestation.

- **Reduction of biomass dependency:** Introduce solar cooking technologies to cut down on firewood and charcoal use.
- **Improvement of livelihoods:** Provide an income-generating opportunity for local manufacturers and artisans through the production and maintenance of solar cookers and heat retention baskets.
- **Empowerment of women:** Reduce the time spent collecting firewood, which disproportionately impacts women. Support gender equity through participation in the solar cooking value chain.



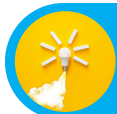
## Climate Impact

- **Reduced deforestation:** Solar cooking technologies reduce the need for firewood and charcoal, helping conserve local forests.
- **Reduced greenhouse gas emissions:** By substituting biomass with solar power, the project cuts down on carbon emissions associated with burning wood.
- **Energy security:** Solar cookers provide a sustainable, renewable energy source, reducing the pressure on forest resources in the face of climate change.



## Security Benefits

- **Mitigating resource-based conflicts:** By reducing competition for scarce firewood, the project will ease tensions over natural resources in rural communities.
- **Improved safety for women and girls:** With less need to travel long distances to collect firewood, women and girls are less exposed to violence or attacks in unsafe areas.



### Social Impact

- The project directly targets 625 beneficiaries, mostly from rural households in Banamba and peri-urban households in Commune V of Bamako, where women and girls spend hours collecting firewood.
- By reducing reliance on biomass, the project will not only improve health due to decreased exposure to smoke but also free up time for education and income-generating activities, particularly for women.
- Additionally, the local production of solar cookers will create new economic opportunities within these communities.



### Food Security

- **Improved household savings:** Solar cookers reduce fuel costs, leaving more resources for food and other essentials.
- **Healthier cooking environment:** By eliminating smoke from traditional wood-fired cooking, households will benefit from cleaner indoor air, reducing respiratory illness.



### Climate Technology

- The project deploys solar thermal cookers and solar PV cookers, along with heat retention baskets, all of which are locally produced and assembled.
- This technology provides a clean and renewable alternative to biomass-dependent cooking.



### Replication Potential

- The project's success in the two pilot communities can be scaled up across other regions of Mali where deforestation and reliance on biomass for cooking are serious issues.
- The local manufacturing model ensures the sustainability of the intervention by building capacity within communities, reducing reliance on external resources.

