

# Energy Saving in Kabul to Improve Living Conditions and Foster Greener Development

In order to support **sustainable development** and better **adaptation to Climate Change**, GERES activities promote large-scale dissemination of energy solutions and best practices which contribute to **energy savings** in households.



Installation of a veranda by carpenters trained by GERES



Set-up of double-glazed windows by an artisan trained by GERES



Kabul: districts 5, 7 and 8

## Beneficiaries

### Filling the energy gap

**3,100 households** benefit from reduced energy expenditures and increased well-being.

### Strengthening the private sector

**85 micro-entrepreneur artisans** acquire new skills to produce, market and sell energy saving devices.

### Raising awareness on Climate Change

**343 structures** (civil society and local authorities) will develop awareness on energy saving solutions and environment protection.

## Challenges

- ◆ Rapid and unplanned urbanization in Kabul.
- ◆ **48%** of households have difficulties to meet their energy needs.
- ◆ **20% of a household budget** is allocated to **energy**.
- ◆ Widespread poverty : medium-income 1 USD per day and per person.

## Opportunities

- ◆ **Underdeveloped potential for passive solar energy**: 75% of households are eligible.
- ◆ 300 days of sun per year.
- ◆ **Transfer of knowledge and skills solicited by local artisans**.
- ◆ Involvement and capacity-building of Afghan institutions (government, municipality, and civil society).

## Objectives and Solutions

Over its 30 years of experience in cold Asian countries (India, Nepal, Afghanistan, Mongolia, Kyrgyzstan, China and Tajikistan) GERES has developed locally-adapted technologies, and closely supported the structuring of a sustainable private sector allowing a large-scale dissemination of energy saving solutions (passive solar architectures, house insulation and improved stoves).

Currently, GERES aims to enhance sustainable socio-economic development by the following strategy:

- ◆ **Generating demand** for these technologies through awareness-raising events in demonstration sites and access to subsidies.
- ◆ **Developing a lasting demand** among the population will be ensured by the technologies' affordability, and proven social acceptance.
- ◆ **Strengthening small entrepreneurs in the private sector** through technical, business management, and marketing support to respond to the demand in energy saving solutions.
- ◆ **Encouraging the engagement of local authorities and civil society** in energy saving solutions and increase their capacity to adapt to Climate Change.

# Project Cycle (2012-2015)\*

\* A GERES programme has a life cycle of 7 to 10 years divided into a few projects with shorter life cycles (3 years).

**Assessment (2012):** Diagnostic Energy including socio-economic studies and baselines.

**Pilot phase (2012-2013):** Develop and test 8 technologies through research activities, demonstration sites and awareness-raising among the population.

**Dissemination phase (2013-2015):** GERES supports the professionalization of the artisan sector through technical and marketing trainings, quality monitoring activities, and structuring the value-chain. Engagement with local authorities and the Municipality of Kabul.

**M&E / Exit strategy phase (2014-2015):** Socio-economic impacts of the artisan sector and its structuring process. Evaluation of technologies' maturity, further R&D when needed, and planning of next project cycle. Exit strategy for matured technologies.



Awareness-raising event

## Impacts

### Population

- ◆ Reduced energy bills owing to affordable passive solar techniques. This subsequently increases households' disposable income.
- ◆ Improved living conditions owing to increased thermal comfort inside. This positively impacts sanitation and access to education for children.

### Institutions

- ◆ Engagement of the Municipality of Kabul.
- ◆ Raised awareness of the close link between environmental protection and energy saving solutions.

### Entrepreneurs/ private sector

- ◆ Sustainable development of the artisan sector (carpenters, masons, etc.), through technical training support, and structuring the value-chain.
- ◆ Jobs will be created resulting from the sustainable and enhanced economic activity of the artisan sector.

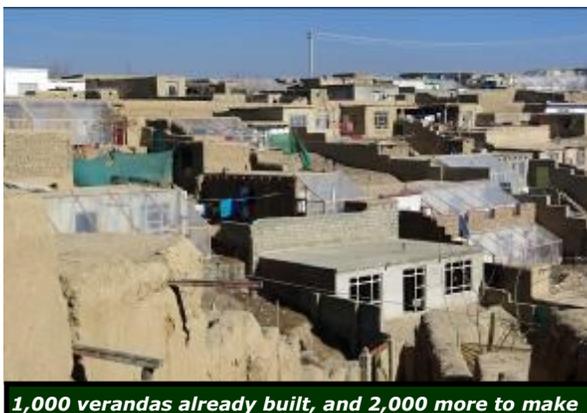
### Environment

- ◆ Diminished environmental degradation as less biomass is needed for heating and cooking, and natural resources are used more sustainably.

### Implementing partners



### Financial partners



1,000 verandas already built, and 2,000 more to make



Improved stove being tested in household

### Benefits of the Passive Solar House:

- ◆ Combines veranda with insulation.
- ◆ An additional warm room in winter.
- ◆ At least 30% reduction of fuel consumption.
- ◆ Reduced pressure on environment: 5,000 m3 of wood annually saved, and 3,000 tons of CO2 not emitted.



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