

INDIAN HIMALAYAS

CONSTRUCTION OF 1,000 PASSIVE SOLAR BUILDINGS

Install energy-efficient technology to domestic and community housing, improving winter living conditions of rural communities in the cold regions of the Indian Himalayas.

OBJECTIVES

- Set up 1,000 domestic and community buildings in about a hundred villages with energy-efficient technology
- Organise civil society in sustainable networks for the promotion of energy-efficient measures
- Facilitate the development of handicraft activities in the wintertime.
- Set up a network of stakeholders to share experience around adaptation to climate change in mountain regions
- Reduce pressure on local resources and climate by reducing energy consumption by 60 percent

BENEFICIARIES

The project is targeting:

- 300,000 people living in Ladakh, Zaskar, Kargil, Lahaul and Spiti in the states of Jammu & Kashmir and Himachal Pradesh
- Local handicraft workers (masons, woodworkers, carpenters and traders).
- Partner NGOs
- Representatives of local communities as well as local and regional authorities

PROJECT BACKGROUND AND ISSUES



In the high valleys of the Himalayas, people live cut off in high altitude wilderness conditions. They experience extreme living conditions including glacial winter temperatures (often colder than minus 25°C) and prolonged isolation (passes are closed six months of the year). There is little vegetation and biomass is sparse.

Lack of firewood and high imported fuel prices have plunged the region into a state of energy vulnerability. Women and children devote about two months every summer collecting biomass residues and dung for cooking and heating. Indoor households temperatures, which are far below standards in winter, provoke unhealthy living conditions and limit the development of economic activities. The daily income of the target group is only around € 0.7 per person.

On the other hand, the region gets an exceptional sunshine (over 300 days a year) which is worth developing.

Several pilot projects have been carried out by GERES since 2000. They all have shown that a 60-percent saving in energy consumption can be achieved by equipping living quarters with basic, reliable passive solar technology combined with thermal insulation. The captured heat is gradually released, improving comfort and increasing the working time period.

In cooperation with local associations, GERES will therefore extend its project of building passive solar houses for another four years.

ISSUES AND EXPECTED OUTCOMES

Social impacts

- Better living conditions
- Improved inside air quality (temperatures increased to 15°C, reduced noxious fumes)
- Significantly improved health conditions (child illness reduced by a third, better hygiene)
- Increased time for schooling and reduced time spent on collecting dung and biomass residues

Economic impacts

- Reduction of energy consumption in domestic and community housing.
- Growth of the handicraft industry: 400 women organised in 30 groups can increase their production tenfold thanks to improved working conditions and training by NGOs.

Institutional strengthening

- Capacity building for the NGO partner consortium to become a reference for the whole Himalayan region (technology transfer)
- Development of sustainable information networks on energy efficiency and adaptation to climate change
- Create a local network of qualified tradesmen in passive solar buildings (mason, carpenters, ...)

Environmental impacts

- Integration of Energy efficiency in 1,000 domestic and community buildings
- Reduced pressure on local resources (2 tonnes of biomass saved per building per year)
- Climate preservation (reduction of CO₂ emissions to mitigate global climate warming)

ACTION PROGRAMME 2008 - 2012

Local partnership

The project is based on a partnership with five local NGOs that combine their specific fields of expertise. This proximity approach is conducive to build relationships and confidence of local communities. It also facilitates the implementation of follow-up and awareness-raising activities.

Organisation of sustainable networks

These advocacy and information networks involve local and regional authorities, NGOs, government,

selected community representatives and the private sector. These groups come together to harmonised field activities and develop local policies. They work along with the government in an effort to gradually switch from a policy of subsidised wood to a policy of investment in energy efficiency.

Support for income-generating activities

The NGOs build capacity of the communities for local economic development, particularly in the handicraft sector (weaving, spinning).

PARTNERS

5 Indian NGO technical partners

- LEDEG - Ladakh Ecological Development Group
- LEHO - Ladakh and Health Organisation
- LNP - Leh Nutrition Project
- SECMOL - Student and Cultural Movement
- STAG: Spiti Trans Himalaya Action Group

Financial partners

- European Union
- Indian Government
- ADEME
- Ensemble Foundation
- Abbé Pierre Foundation
- Synergie Solaire
- Crédit Coopératif
- Lord Michelham of Hellingly Foundation
- Legallais Foundation
- Gaz et Électricité de Grenoble
- MACIF Foundation



Passive solar house in a Matayen village

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