

Energy Efficiency in Lighting, Egypt

Themes

- ★ Energy Efficiency
- ❖ Financing Mechanisms and Private Sector Involvement
- ❖ Technical Capacity Development
- * Poverty Alleviation (MDG 1)

PROJECT DATA

Name: Efficient Use of Energy
Implementing Organization: The Friends of the Environment and Community Association in El Gharbia (CBO)
Location: El Gharbia Governorate, Egypt
SGP contribution: \$22,353 (\$159,533 total for seven similar grants on energy efficiency)
Start Date: December 2001

ENERGY OVERVIEW

Energy Resource: grid electricity generated by fossil fuels
Technology: efficient light fixtures
Application: lighting
Sector: domestic, public
Efficiency improvement: 75-80% increases in efficiency compared to regular locally available lighting equipment

BACKGROUND

During the 1980s and early 1990s, Egypt rapidly expanded its access to fossil fuel energy sources, and became an oil exporter. The heavily subsidized prices for energy in Egypt made it one of the most inefficient users of fossil fuels in the world. In the 1990s, policies began to be implemented to raise prices of energy to reflect real costs. Nevertheless, there is still significant scope for efficiency improvements both in the generation of electricity and its use. A large GEF project implemented by UNDP in Egypt focuses on improving demand-side efficiency, especially in lighting equipment. One of the goals is to improve energy efficiency in all Egyptian governorates, and in doing so reduce lighting costs as well as fossil fuel use. Small grants to seven communities through SGP are designed to help facilitate community involvement in the effort. There is currently very inefficient lighting in homes with electricity as well as community areas. Efficient bulbs and ballasts can save 75-80% in electricity, and therefore in electric bills, but the initial cost of the equipment poses a barrier for low-income households.

PROJECT DESCRIPTION

Overview

This project promotes the use of efficient lighting equipment by training young people to maintain and install the equipment, demonstrating the benefits of efficient lighting in public areas, and lowering financial barriers to the domestic use of efficient lighting equipment through a revolving loan fund.



Energy efficient lighting installed and maintained by local youth (El Gharbia Governorate, Egypt).

Implementation

Staff members of the large GEF energy efficiency project have supported a workshop to build the capacity of 25 NGOs nationwide to support energy efficiency activities. In conjunction with this GEF effort, SGP has approved projects to promote energy efficiency in seven different communities, with a total value of \$159,533. In the El Gharbia project, the grantee, The Friends of the Environment and Community Association, has entered into agreements with the Delta Electricity Company and the local company making light bulbs to train young people in installing and maintaining energy efficient lighting equipment. So far, 40 young people have been trained. The project has organized six exhibitions of the equipment in awareness seminars for the community. Working closely with local municipalities, the project has selected seven public buildings as demonstration sites and equipped them with the efficient lighting equipment.

Environmental Benefits

Global: Through improved lighting efficiency, the use of fossil-fuel generated electricity is reduced. So far, the project has mostly focused on training technicians and installing equipment in a few demonstration sites, so actual reductions are not significant yet. The new equipment is estimated to offer a 75-80% efficiency improvement.

Livelihood Benefits

Savings: The major livelihood benefit is the savings in electricity costs generated by improved lighting efficiency. This benefit has not yet been realized by the project, since the high initial cost of the equipment must first be addressed. However, savings over time in electricity bills could be significant.

Employment: The project helps provide employment opportunities for local young people by training them in equipment maintenance and installation.

National Benefits

Municipalities and governorates in Egypt could save significant amounts in electricity costs for public buildings if these lighting fixtures were widely installed, while also reducing greenhouse gas emissions related to electricity generation using fossil fuels.

Beneficiaries

Primary beneficiaries of this project are the young people trained as technicians, who gain skills that can help them to find employment in an area where unemployment is widespread. Municipalities are benefiting from the small number of demonstration sites in electricity savings, and domestic users will save on electricity bills once financial barriers to the purchase of the equipment are reduced.

Capacity Development

Training for young people in maintaining and installing energy efficient lighting equipment has been the major capacity development activity in this project.

Partners

This project integrates several important partnerships.

Large GEF project: Links with this effort have helped the grantee gain experience in energy efficiency issues. GEF project staff have provided training and links with other similar efforts in other communities.

SGP: SGP's role in partnership with the large GEF project has been critical. SGP brought connections with local NGOs and CBOs to the table, and these benefit the large GEF project by enabling it to involve communities in a meaningful way.

Private companies: Companies have supported trainings programs for young people, who are now able to provide critical maintenance and installation services. Without this support, expansion to the domestic market, or even widely in the institutional market, would be difficult due to the lack of available maintenance and installation assistance.

Local governments: Close collaboration with municipalities has enabled the grantee to start demonstrating the technology locally in public buildings. This will be critical for expanding the use of the equipment in other public settings, and for convincing local governments that real savings can be gained from using this equipment.

LESSONS LEARNED

Environmental Management

This project provides an example of the opportunities for energy efficiency improvements that may exist in many countries. It also demonstrates the role that communities and NGOs can play in helping to disseminate new technology and demonstrate the immediate benefits it has to offer – in this case, savings on electricity bills – which is essential to ensure widespread adoption.

Barrier Removal

Information/Knowledge: One of the project's major impacts so far has been expanding the knowledge about the equipment among local governments and other interested parties, via demonstration sites as well as through exhibitions. The possible role of NGOs in helping achieve widespread awareness is one of the important lessons this project has to offer.

Technical: The project has helped reduce technical barriers by training young people to maintain and install the equipment.

Financial: The project plans to address financial barriers by establishing a revolving fund. However, there is no information about whether or not this has yet been implemented, and if so, what impact it is having on the ability of households to afford this equipment.

Scaling Up

This project is one of seven SGP-funded projects connected with this large GEF project. Thus, there is scope for applying the learning from this SGP project to the other ones. However, learning and transfer of lessons might have been greater if all seven projects were not launched at once. Perhaps funding several initially, learning from those, and then funding additional ones if necessary is another approach to consider when seeking to link with large GEF projects.

SOURCES CONSULTED

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UNDP Egypt Office. "In Fact: Energy Efficiency Improvement and Greenhouse Gas (GHG) Reduction." Updated July 2003. Available at:

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Emad Adly, national coordinator, GEF Small Grants Programme, Egypt. Email communication, October 2003.