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New Energy Sources To Protect The Environment

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A TECHNICAL college in Swaziland is using energy from the Sun to heat water for students living in its hostels. Some schools and community health centres in rural areas have installed lighting and refrigeration systems using the same source of energy.

They have been joined by selected household which have acquired solar systems for hot water and lighting as well as to operate radios and other equipment.

These initiatives are part of a pilot project which aims to provide the Southern African Commonwealth country with alternative sources of energy. If successful the project will particulary benefit communities in remote and isolated rural areas without electricity.

Swaziland, blessed with a sunny climate, is mountainous in nature which makes it difficult to supply electricity to these dispersed communities. Solar power offers them a viable alternative.

Another objective of the experiment is to protect the environment. This is threatened by the cutting down of trees for fire-wood, traditionally used for cooking by villagers.

To arrest deforestation Swaziland has established nurseries in rural areas which supply cheap seedlings to encourage people to plant trees.

The kindgom is busy developing a cost-effective strategy to use solar energy as well as biomass and hydro and wind power to meet its energy requriements.

Helping to develop this environment friendly strategy is the Commonwealth Secretariat whose Export and Industrial Development Division (EIDD) has been working closely with the Ministry of Natural Resources, Environment and Energy in the capital, Mbbane.

EIDD, whose activities are supported by the Secretariat's operational arm, the Commonwealth Fund for Technical Co-operation (CFRC), is experienced in renewable energy technologies.

It has assisted several similar projects in Commonwealth countries of Asia and the Pacific, including solar crop drying in Sri Lanka, micro hydro power systems for Samoa and solar water heating in Solomon Islands.

The division has now produced a renewable energy action plan for Swaziland. This followed a series of visits by an EIDD team to take stock of the energy situation and to discuss the country's requirements with the Ministry of Natural Resources, Environment and Energy.

The team exchanged views with the Swaziland Electricity Board, non-governmental organisations and the private sector to determine the general status of energy usage and to see how renewable energy might play a future role.

It conducted a survey of homesteads and farms to gauge the potential demand for renewable energy and to identify viable alternative sources for the benefit of these communities.

It examined existing renewable energy projects and investigated funding possibilities for work to be recommended.

The team, which included Mr. Joseph Musisi of Uganda, a senior project officer in the division, produced the action plan to be undertaken over three years.

The plan's activities will be coordinated by a new unit within the ministry. The unit will oversee the five main areas of work outlined in the plan: rural electrification, quality assurance of renewable energy technologies, biomass, small hydro power and solar and wind energy.

Swaziland (Population:880,000) is the smallest country in the Southern Hemisphere, surrounded on three sides by South Africa and by Mozambique on the other.

It is one of five national monarchies within the 53-member Commonwealth; the others are Brunei Darussalam and Malaysia in Asia, Lesotho in Southern African and Tonga in the South Pacific.

Swaziland meets its fuel and energy needs through electricity, coal and petroleum products. The types of energy used reflect the socio-economic conditions and rural-urban population divide.

Most of the coal and electricity is used by industrial consumers, companies and people living in urban areas. The majority of rural household on the other hand meet their energy requirements from fuelwood to the detriment of the environment.

Supplying electricity to rural communities is a costly business. Extension of the mains grid over difficult terrain in uneconomic for small power loads and the use of diesel generator sets relies on fuel supplies and maintenance skills not readily available in villages.

It is therefore vital for Swaziland to look at renewable energy sources, said Henry Shongwe, senior energy officer in the ministry.

He said solar-powered equipment and wind based systems had already proved their worth and were commonly used in many other countries. There was no reason why they should not prove effective in Swaziland.

Alternative technologies, he pointed out, could be used for crop drying, water heating, lighting and food preservation. Photvoltaic technology could be used for pumping water and powering home equipment such as radios.

Mr. Shongwe, 39, described the action plan produced by the EIDD team as excellent and said: "This is just what we wanted...they did a very good job. Their report is providing valuable inputs to our strategy."

EIDD is now helping the ministry develop an investment programme to put the plan into practice.

The division will assist in the identification of suitable sites for, and installation of, such things as windmills and biomass digestors. It will also help design and fabricate or assemble some of the equipment to be produced locally.

(Commonwealth Feature)