Successful pilot programme in Rwanda

Rwanda is the first African country that has started the implementation of a national biogas programme under the Biogas Africa Initiative.

Based on an assessment conducted in March 2005, the Ministry of Infrastructure of the Republic of Rwanda (MININFRA) and SNV signed a Memorandum of Understanding in October 2005 on the set-up and implementation of a National Domestic Biogas Programme (NDBP) in Rwanda. As a first step, an implementation plan for the NDBP was developed with the overall objective to establish a sustainable and commercialdomestic biogas sector in Rwanda, resulting in the reduction of biomass resource depletion while providing a significant improvement in the quality of life of the families concerned. One of the specific objectives of the plan is to increase the number of family sized, quality biogas plants with 15,000 in the country by the end of 2011. A newly established agency in Rwanda, the National Energy Development Agency (NEDA) will be implementing the programme.

For a quick start of the programme, MININFRA made available a seed fund for the installation of 150 demonstration plants in four potential districts. The Directorate General for International Cooperation (DGIS) of the Netherlands Ministry of Foreign Affairs has provided a financial contribution to NDBP through the Energising Development programme executed by the German Technical Cooperation (GTZ).

In May 2007, the first masons, supervisors and trainers were trained by the SNV Asia biogas advisor in cooperation with a technician of the biogas programme in Nepal. By the end of 2007, about 100 biogas plants will have been installed.

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Biogas for Rwanda's BOP

By Courtland Walker
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Institute in Rural Power Outreach

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Rural areas may soon overcome power shortages after the Institute for Scientific Research and Technology (IRST) extends its biogas development project.

"If we developed biogas, the country would be relieved of rural energy shortage problems," said Ntaganda Jean, a technician at IRST.

The institutes' biogas project is meant to be an alternative source of energy to replace crude methods like wood cutting which degrade the environment, according to the official. Ntaganda made the remarks during a recent research exhibition held at the IRST premises in Butare, where he said exploiting biogas would boost rural electrification and reduce the pressure humans exert on natural resources.

The biogas project targets people in communities such as imidugudu, military camps, schools, hospitals and prisons. The areas already identified to benefit in the pilot project include Umutara, Bugesera cattle keeping zones and other congested human settlements due to the ready supply of the biogas raw material (cow dung) already in the areas.

"As the situation stands, Rwanda's hydro power is continually becoming unreliable due to the declining water levels in most rivers. We need to tap power from other alternative sources like biogas that is affordable, cheap and abundant," the biogas technician observed.

He, however, decried the poor attitude Rwandans have of biogas as a source of energy that is multipurpose. I presume that many people have a false assumption that the biogas extraction process is expensive or they completely lack information," Ntaganda observed.

IRST has already provided biogas energy to the newly launched Gitarama Technical School. The institute plans to install about 1,500 bio- digesters in imidugudu settlements by the year 2009.

One bio-digester costs between Frw 60,000-700,000 and it can serve about five families with power which can last for 20 years.

In comparison with other power sources, 5100 Kcal of biogas is equivalent to 3.6 Kg of firewood usage, whereas 5100 Kcal of biogas can replace 1.5 Kg of charcoal consumption.

According to IRST research, 13kg of dry cow dung consumption is equivalent to 5100 kcal biogas usage per family whereas 1Kcal biogas consumption is equivalent to 1.25 electric power consumption.

IRST research indicates that in a day, one cow can produce 9-10 Kilograms of cow dung worth 59% of biogas supply for a relatively small family, whereas 8 kg of hen droppings can produce 2.2 volumes of biogas.

It was found out that human bi-products are the effective ingredients for biogas production. 0.5 kg of human bi-products produce 68% methane gas content which is used for biogas production.

"Through bank loans, rural people would be able to get money to buy some of the equipment. As technicians, we would help and teach the people how to install the bio-digesters. But to our surprise, there are few people seeking for our services," observed one IRST technician.

To solve this problem, IRST carried out an Open Day event to provide information to the public about the institute's activities.

During the event, the rector of the National University of Rwanda, Prof Chrysologue Karangwa, attacked researchers who fail to provide research information for the benefit the public.

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