

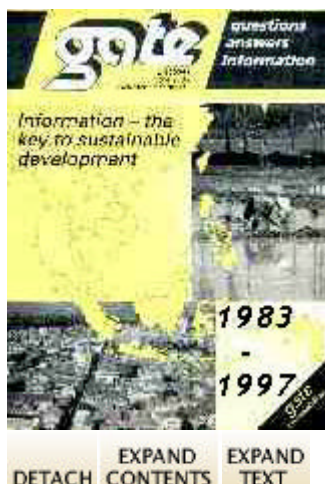
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## Biogas-Investment encouraged with public funds

by Hartlieb Euler and Monika Heilig-Polak

Biogas technology clearly benefits the user: it saves him the cost **of** the energy it replaces and **in** many cases working time as well. The biofertilizer produced **in** the fermentation process is a high-quality fertilizer that costs nothing. Hygiene improves. For women in the developing countries, in particular, biogas technology spells progress - smoke-free kitchens and more convenient cooking. For all these reasons it is often assumed that the **use** rat whose home the biogas plant is built should also bear the cost **of** the plant. Biogas plants are not **in** the same category as roads or public utilities, runs the argument, so why should the state pay for the investment.

**In** fact, however, biogas technology benefits the community as a whole. Sewage treatment protects water supplies and the environment, reduced deforestation helps to prevent erosion, and, **in** addition, biogas technology helps save foreign exchange.

**In** many developing countries, ignorance **of** the benefits to society on the one hand, and a shortage **of** public funds on the other prevent the state from adequately subsidizing the implementation **of** biogas technology.

Levels **of** subsidization differ widely from country to country. **In** the "classical" biogas countries such as India and China most **of** the initial investment for a biogas plant is borne by the state. These are also the countries where the technology is most widespread.

**In** some other developing countries hybrid forms have evolved: part **of** the cost is borne by the plant operator (farmers, institutions, municipalities), and part by the community (state, agricultural organization, project).

**In** industrialized countries, e. g. Germany, the cost is partially borne by the state, by means **of** a range **of** structural instruments - including tax benefits for investments linked to environmental protection, statutory regulations, preferential loans, direct subsidies (30 - 70%) for renewable energies, and promotion **of** research and training.

Less affluent states lack the financial means for such a wide-ranging system **of** incentives. **In** such

countries plant construction tends to be assisted by providing government engineers and masons. But the cumbersome state administrative apparatus often leads to inefficiency, paralyzing the initiative **of** private artisans, business and banks and their willingness to contribute to the investment funds needed.

This is where Technical Cooperation (TC) comes **in**. Its purpose is to involve the various groups **in** order to achieve optimum intermeshing **of** the contributions they can make **in** establishing the technology. TC projects should encourage the willingness **of** operators, mediators (banks, artisans, small businesses) and representatives **of** society (NGOs, farmers' organizations, the state) to invest.

To this end, most TC projects help the state decision-making body to take over and organize this process **of** mediation and cost-sharing **in** the longer term. **In** cooperation with government agencies, a whole package **of** measures have been developed within the framework **of** TC to promote the establishment **of** biogas technology.

Intervention **in** the finance market

Only few farmers or institutions can finance the relatively high initial investment out **of** their own funds. Loans are often beyond the reach **of** smaller farmers **in** particular, because

- the banks are reluctant to do the work involved **in** arranging smaller loans;
- the farmers have no collateral to offer;
- the banks have little or no experience with loans for biogas plants;
- the interest is too high;
- the banks have little or no experience with credit lines for biogas technology.

Assistance measures to counteract this include the following:

- establishment **of** a credit line with a development bank or **rural** organization;
- re-insurance **of** the loan (collateralization);
- contributing to the interest (reduction **of** interest);
- award **of** a single, non-repayable grant;
- drafting **of** guidelines for the granting **of** loans.

Businesses or artisans wanting to construct the plants do not always have the funds needed for transport, tools and preliminary services, either. They too can be helped with the above loan-assistance measures. However, they do not always approach the bank. Should this be the case, they are assisted by supplying tools, equipment and means **of** transport.

Import **of** materials

As a rule, biogas plants are built from locally available materials. Occasionally, however, materials have to be imported, **in** particular accessories such as refrigerators or lamps. Most imported materials and appliances are subject to heavy customs duties. The shortages that this results **in** can be reduced by the following measures:

- government permission to import materials and appliances duty-free; - establishment **of** a store for materials which are only occasionally available;
- centralizing imports **of** materials that are hard to obtain or which it is not worthwhile importing **in** small quantities;
- encouraging local production **of** materials which are **in** short supply; - assistance **in** transporting the materials **in** question.

#### Know-how

Only **in** a few places is the know-how that is needed to build and operate biogas plants available, adequately developed and accessible to potential plant operators. This shortfall is compensated by the following measures: - public relations/advertising;

- training artisans, technicians and engineers **in** plant design and construction:
- training **of** users **in** plant operation and maintenance;
- advisory services, and employment **of** experts **in** government and nongovernmental organizations;
- coordination **of** activities;
- research and development. A goal **of** Technical Cooperation is that project activities should gradually be transferred to government and nongovernmental organizations, private banks and businesses. However, this process does not always develop at the level desired, because the social institutions often suffer from a shortage **of** funds.

The Sun was there before You



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