OVERVIEW OF THE THEMATIC SESSION AND KEY RESULTS

This thematic session was designed to have three major components. An initial overview presentation by Capener and El-Hawagi highlighted the vital role played by social and cultural factors in determining biogas project success. Subsequent corroboration by specific biogas work in Rwanda and Sri Lanka provided additional examples of the effects of cultural and social patterns on all aspects of biogas system elements, including technology design. The third session component was a small group exercise to determine major constraints and facilitators that affect successful project implementation of four different scales of biogas systems.

GOAL AND DISCUSSION DESIGN

The goal of the session was to elicit from conference participants a consensus of constraining and facilitating factors in biogas implementation in order to identify areas where greatest effort could be applied to maximize the potential of anaerobic digestion. It was presumed that for a given scale of digester, constraints might tend to cluster in certain categories.

To encourage active discussion and to determine if any consensus could be established among participants, the participants were divided into eight working groups. Participants selected in advance the biogas system scale of most interest to them within the following categories:

- Small individual household system,
- Multi-family communal system,
- Public municipal system, and
- Private commercial system.

Leaders and recorders were chosen and instructed on the style of the discussion groups. Each group used a form prepared by organizers (see the Annex), which listed user needs that can be met in some degree by projects employing anaerobic digestion. The form also provided a set of illustrative constraints and facilitators.

Participants were expected to analyze—based on their own experiences with the technology at the given scale—where most constraints seemed to inhibit meeting targeted needs. Any areas of facilitation were also to be noted.

Conference organizers attempted to identify for decision makers considering biogas implementation those relevant system elements requiring the most attention during implementation.
GENERAL OBSERVATIONS

Participants met in eight smaller groups. Four groups concentrated on individual family units, two on private commercial units, and one each on multi-family communal and public municipal units.

Dynamics of these groups varied considerably. One group would not use the illustrative form. Several groups misunderstood the task but had lively discussions. Several groups worked through the process in completely different ways, but were able to present a consensus on the major constraints impeding biogas implementation.

As individuals, some participants were annoyed by the proposed activity because they could not see the value of it or they were not convinced that constraints from social/cultural factors are important. Other participants became intrigued with the process.

RESULTS

The thematic paper and the two corroborating presentations stimulated the thinking and interest of the members of the conference to a considerable degree. Several major issues raised by the speakers carried the problems of biogas development beyond technology questions.

The major point raised was that biogas as a tool of intervention has to fit the natural local system in which it is placed. The more local system activities that biogas contributes to in a positive way, the greater will be its goodness of fit with the local system. The case of the small farm household digester was used as an illustration. The point was demonstrated that when biogas contributes positively to processes like waste handling, energy, land fertilizer generation, labor, health and sanitation, and greater social prestige, the chances for its acceptance are enhanced exponentially.

Another major point was that different types of biogas installations will call for different patterns of management and operational supervision. The family household digester will use the family members as managers and laborers in a closely integrated kinship pattern of interaction. On the other hand, a multihousehold communal system will require a more formal managerial style with a clear separation between supervisor and laborers in order to establish and monitor performance since all involved do not occupy the same household. Important differences in motivation, incentives, and direct rewards for performance characterize these two patterns of administrative organization. The inappropriate management of digesters was identified as a primary reason for failure of biogas systems.

A series of other key points were identified that impact heavily on successful biogas development. These were as follows:

1. Cultural and traditional patterns were highlighted for the powerful influence they exert on the goodness of fit of biogas. Most important were the customary beliefs and attitudes about the proper place of animals in farming and household systems, housing arrangements for animals, the handling of cow dung, definitions of women's and men's work with animals, and making use of the beneficial output of a digester.