6

OPTIONS FOR THE FUTURE

In future, in order to be more effective the ICS programme needs to be strengthened in four major areas - research and development, programme management, institutional arrangements and policies and programme improvement. Policy decisions and course of action under each area are suggested below.

Cooking-stove Research and Development

Both chimney and non-chimney cooking-stoves should be designed for both cooking and space-heating and for use with a variety of biomass fuels. The design should be such that the cooking-stove plays an important role in maintaining clean and improved combustion.

Non-chimney stoves can be useful in the *Terai* Region where they can be used in thatched houses, as well as in the mountains where space-heating is needed. The stove should be made in such a way that the chimney can also be fixed on afterwards, if necessary, with only minor on-site modifications. This will also help to increase the present rate of production by a factor of 2.5.

In order to facilitate the use of different sizes of cooking pot, the ring should be shaped as an inverted cone so that it can hold various sizes of pot.

More research work is needed to improve/modify the traditional stove, ceramic stove, and even the *Tamang* Stove; they should be easier to construct, have mud-block chimneys, better combustion or clean combustion, and they should be fuel efficient.

Extensive field work should be carried out on stove testing, modification or optimisation of design on-site, and development and distribution strategies. Distribution can be improved by identifying priority zones where fuelwood scarcity is acute. The ultimate objective is to create a self-sustaining process of distribution.

The Government should provide for core and organisational support to R & D institutes as well as to distributing agencies, particularly the NGOs and voluntary organisations such as the Women's Organisation.

Cooking-stove Programme Management

In the previous stove programme, mass-scale distribution was conducted by the District Forestry Offices. Most district office employees, including district forestry officers, felt that they did not know sufficient about improved stove technology for effective implementation of the programme. The same opinion is shared by other organisations where there is a lack of manpower and skill development. Training is needed for research, production, promotion, marketing, and management at various levels.

The ICS should be built by using moulds. This will help to produce standardised stoves that are laboratory approved and to maintain critical dimension. Use of locally available materials such as clay, stone/brick, and plant fibres as well as modification/improvement of the existing local stoves should be given more emphasis.

Testing and certification should be done prior to the distribution of ICS. In this case, RECAST can test the efficiency and certify the cooking-stoves.

Training should be given to local people in stove construction and promotion. The emphasis should be on women who are the ultimate users of ICS. The programme should include pilot project planning and management, impact assessment, and monitoring and evaluation of field programmes. It should also initiate private and market-oriented production of ICS in the future.

A regular monitoring and review system is necessary for the effectiveness of future efforts.

Institutional Arrangements and Policy

There should be clearly defined roles for government lead agencies and supporting agencies. As suggested in the national seminar on ICS in 1988, RECAST should play a lead role in the R & D work and the Ministry of Forest and Soil Conservation should be the lead national agency for the distribution of ICS. During the Fifth Energy Workshop, 1985, the role of WECS was identified as a national coordinator of ICS programmes. In order for WECS to fulfill this role, interagency cooperation and support, as well as coordination among policy-planners, decision-makers, and researchers is necessary.

The Stove Research and Development Action Plan (SRDAP) Committee, which was formed within RECAST and which is open to those involved in cooking-stove promotion, needs to be strengthened by provision of financial support. This committee is supposed to identify research needs and operate in close cooperation with implementing agencies.

ICS design, development, and field observations should be published in a newsletter, either separately or in an alternative energy newsletter, through a proper institution or the SRDAP Committee. For this, financial resources should be allocated.

Considering the topographical conditions, the transportation of ICS from one place to another is quite hazardous. Emphasis should be given to the production of ICS from locally available materials by using moulds and maintaining standard dimensions. Nepal Fuelwood Corporation (NFC) should provide short-sized logs. The use of short logs will improve energy management during cooking.

Women should be actively involved in stove energy programmes and receive training on distribution and on extension methods.

Programme Improvement

Based on the above discussions, it can be seen that the process for the development and sustained adoption of ICS is not short-term in nature. There is a need to gradually build up field experience, manpower, and continuous support over a number of years. A quick result with high impact, and/or an easy clear-cut solution, has not been experienced so far in any country using

ICS Technology.

The ICS Programme is really challenging but so far the focus has been only on fuelwood conservation. Through the introduction of ICS, other rural development aspects should be integrated into the programme; for example, kitchen improvement, sanitation, women's upliftment, income-generation, biogas, and agricultural processing. Experience gained from the SFDP and the PCRW projects of the ADB/N and WDD should be taken as an example. RECAST, in collaboration with the Women's Development Unit of Panauti, is implementing a similar type of programme with support from FAO's Regional Wood Energy Development Programme (FAO/RWEDP) Bangkok, and UNICEF, Nepal.