

Government Policy and Strategies of Improved Cook Stove for Dissemination in Nepal

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Abstract

Nepal is one of the developing countries with a high level of household energy consumption. This consumption is primarily satisfied through excessive burning of biomass. The biomass consumption has vast implications both for deterioration of natural resources and the work load of rural women and girls charged with the responsibility of cooking in the kitchen.

A considerable number of I/NGOs, CBOs, bi-and multilateral donor organizations have over the years been involved in stove dissemination with varying strategies. The CFDP initiated the big stove programme in early eighties in order to save the depleting forest. The ceramic insert stoves proved inappropriate as it was often breaking in the course of transportation. The technology had no interface with the rural ignorant people. The strategy was to distribute the large number of stoves to meet the target and hence was highly subsidized.

The National ICS Programme, executed by AEPC and supported by energy Sector Assistance Programme Danida, started with a definite policy developing appropriate strategies and flexible approaches involving more women. The programme is supplemented with the information campaign to aware rural people about the benefit of ICS. The emphasis was given on the continuous technical backstopping. The Subsidy less Programme implemented in the middle hill districts with partnership and co-ordination with the DWD, CRT/N and many other district based NGOs and CBOs.

HMG/N gives in its 10th Plan emphasis to further development of alternative energy sources in particular the improved cook stove. Renewable energy should primarily be developed through a decentralized approach assuring local ownership either by community or individuals. Within the current planning period, HMG/N plans for 2,50,000 ICS to be installed. These initiatives will be supported by efforts to involve Research and development Institutions to develop cost effective appropriate models and designs, which could be disseminated in mountains and Terai also.

1. Background

Nepal is one of the developing countries relying heavily on its forest resources to meet its demand for energy. Rural areas account for about 80% of total energy requirements of the country most of which is for cooking. The annual energy consumption of the Nepal is estimated to be 6,864-7,825 thousand tons of oil equivalent. Looking at the total national energy consumption of the last 5 years, the share of the traditional energy is 86-90% and source of the commercial energy is from 10-14%. In the overall energy consumption, 77% energy comes from the firewood, 9% from the agriculture residues and animal dried dung and

remaining 14% energy comes from imported petroleum product, coal and electricity. The annual per capita consumption of the commercial energy is 46 kilogram of oil equivalent. Although the rural area consumes 86% of the total energy of the country, share of the biomass energy is the highest. Renewable energy (Biomass) and imported kerosene are the two main sources of the energy used in the rural areas.

The biomass consumption has vast implications both for deterioration of natural resources and the workload of rural women and girls charged with the responsibility of fuel wood collection. The poor combustion technology of traditional stoves has serious negative impact on the health of rural women and small children as cooking traditionally takes place inside houses with very poor ventilation. The problems related to sustainable and just energy consumption within Nepal are further exacerbated by a high population growth. The energy problem in Nepal can thus be characterised by over-consumption of one of the renewable energy sources (fuel wood) while other sources e.g. hydro power is not yet sufficiently developed in order to address the growing energy consumption needs.

2. The history of ICS in Rural Nepal

The Indian stove models, the Hyderabad and Magan Chulo, were the first Improved Cooking Stoves, introduced in Nepal, during the 1950s. In the 1960s, an agro-engineering workshop in the Department of Agriculture developed a mould-based stove model, which was disseminated through the mid-1970s, a number of NGOs and GOs (Peace Corps, Women Training Centre, RECAST, and UNICEF) were involved in ICS research and dissemination of the Lorena stove model. Unfortunately, lack of funding led to stagnation in stove dissemination. In the 1980s, HMG/The National Planning Commission addressed the fuel wood consumption issues in its sixth 5 year Plan, and together with the introduction of Community Forestry. HMG initiated dissemination of ceramic pre-fabricated stoves, supported by FAO and UNDP. The ceramic inserts proved inappropriate to most areas of Nepal, since they were often breaking during long and complicated transportation in hill areas.

Up to date 95,000 ICS have been distributed or installed at various districts in the country. Out of this, about 57,000 ICS were distributed by the Community Forest Development Projects (CFDP). Apart from CFDP there are other organizations involved in the promotion of ICS. The other organization together promoted about 40,000 stoves in Nepal.

3. Present Status of ICS in Nepal

Despite more than forty years of ICS programme development implementation and research, ICS programmes in rural Nepal have been of limited success. Presently, some national and international organizations are still rather reluctant to enhance ICS programmes, and ICS related activities are given relatively low priority by development planners, managers and practitioners as well as by the rural communities themselves.

However, ICS development have had a come back on the development agenda among NGOs in Nepal, and there is now consensus about the importance of ICS and the need of a new innovative approach to ICS dissemination, among potential stakeholders. Generally, the attitude and approach to ICS implementation has changed over the years from a supply-oriented, quantitative 'hardware' oriented approach, to a more demand-oriented, qualitative 'software' –oriented approach.

HMG gives priority to a national ICS programme. AEPC came in the picture as Various NGOs/INGOs felt need from a national body being overall responsible for ICS co-ordination and dissemination. Hence, AEPC was mandated to work in ICS when the Danida's Sectoral programme for Energy came in 1999.

4. Past Experiences of the Programme

In order to be able to learn from the experience with ICS in Nepal, and to build a new framework for ICS programme, it is important to understand the various and complex reasons why ICS projects in rural Nepal have had so limited success in the past. Of the many reasons, the following are the most important:

- ↳ A top-down and supply oriented approach
- ↳ Lack of clear-cut policy regarding ICS promotion
- ↳ Inappropriate subsidy policies
- ↳ Inappropriate dissemination practices
- ↳ Ignorance of people's felt needs and aspiration in terms of ICS demand.
- ↳ Passive participation or almost no participation of women in the programme
- ↳ Lack of technical capacity among installers
- ↳ Lack of technical supervision and follow-up from implementing agency side
- ↳ Inappropriate ICS models with high external input
- ↳ Lack of use oriented training in use and maintenance
- ↳ ICS did not satisfy users energy needs as compared to the traditional fireplace.

5. HMG/N Policies in ICS

Alternative Energy Promotion Centre with the support from Energy Sector Assistance Programme (ESAP, Danida) carried out detail study in the field of ICS in Nepal for almost one and half year before implementing the programme in mid-2000. The study helped to formulate the policy for sustainable dissemination of ICS in the middle hills of Nepal there by developing the appropriate strategies. The following are the major policies;

a. No direct subsidy

The ICS is cheap technology, which can be built on site by readily available materials. It could be installed with the local promoters, trained by the Technical Service Provider. The HMG/N has taken the policy not to provide subsidy to the end-users. From the sustainable point of view the subsidy in the ICS did not create household ownership in the programme. To discourage the subsidy the emphasis would be given to the Information Communication and Educational (IEC) material, which would go together with the social mobilization by the women workers of DWD.

b. Partnership and Co-ordination

The Policy was also taken to implement the programme through NGOs, other GOs, INGOS, CBOs, FUGs, and local NGOs. AEPC would be responsible for overall monitoring and supervision. AEPC co-ordinate and lobby with the organizations who are still dissemination ICS as an integrated programme. AEPC would also serve as a platform to attract the donors.

c. Involve more Women

The women are the household manager of rural energy. They are mostly involved in the rural household works. The National ICS programme is primarily a women's programme and mostly women would be benefiting it. The Programme is also implemented jointly through Centre of Rural Technology (Technical Service Provider) and Department of Women and Development. The involvement of DWD in the programme assures the effective participation of the women at all steps. There are also criteria for selecting 50% women promoter.

6. Strategies

AEPC/ESAP developed flexible approaches for the implementation of the programme through the NGOs, GOs, CBOs and local NGOs. The first phase of the programme (upto 2004) is mainly the pilot testing of different approaches. The appropriate approaches would be preferred for the mass scale up in the second phase of the programme.

a. Capacity Building Strategy

The key to sustainable ICS dissemination is at this stage of experience believed to be the ability to create and consolidate the institutional and technical manpower with the rural communities, allowing these to continue ICS dissemination after withdrawal of external support. The local people, preferably women, would be trained as promoter who creates demand and receives the payment after installing the stoves. It is likewise crucial to promote and disseminate a range of different, affordable and culturally acceptable ICS to communities.

b. Information and Awareness Strategy

It is also believed that an Information and Education Campaign taking its point of departure in the immediate felt physical and to a certain extent economical problems as experienced by rural women in particular and rural people in general will contribute significantly to the interest and willingness to pay for the installation of ICS. In order to achieve this, it is paramount to involve the local communities and the end users in the Information Campaign activities and dissemination process at an early stage. The strategy would be taken to inform and aware rural people about the benefits of the technology through Information and Awareness Campaign. Apart from this the local information campaign would also be encouraged in the district level.

c. Dissemination Strategy

Experience indicates that the most crucial factor in achieving any technology's potential efficiency, is the interaction between the user and the technology. The practice of cooking over fire is as ancient as mankind itself. Changing daily habits and religious beliefs developed over generations is not an easy task. Therefore it is paramount that substantial efforts be directed to the training of Promoters and making the technology as user-friendly as possible. The programme would be implemented by NGOs and GOs and CBOs who would be also responsible for, trainings, technical backstopping, monitoring and supervision of the programme together with the promotion of stove with the effective information campaign.

7. Biomass Energy in 10th Five-Year Plan (2003/2002 to 2007/2008)

The HMG/N gives in its 10th plan emphasis to further development of alternative energy sources in particular the improved Cook Stoves and biogas. The strategy for the government's policy focuses on the potential of renewable energy sources to improve the living standards particularly of the rural population. Renewable energy should primarily be developed through a decentral approach assuring local ownership either by community or individuals. The strategy aims at stimulating renewable energy promotion through

the private sector – balanced through e.g. establishment of consumer groups. The Government plans to establish a rural energy development fund, as well as to work for further strengthening of the institutional structures supporting the development of alternative energy.

More specifically in relation to biomass related energy problems, HMG/N plans to further strengthen the production use of waste material such as agricultural residue, to increase research in bio oils and to further speed up the dissemination of ICS. Within the current planning period, HMG/N plans for 2,50,000 ICS to be built. These initiatives will be supported by efforts to involve Research and development Institutions to develop cost effective appropriate models and designs, which could be disseminated in mountains and Terai also.

8. Conclusion

In the past, ICS programmes have limited success mainly because stoves were ineffective and inappropriate, not need based and did not satisfy all people's primary energy needs, as compared to the open fire. Expectation to the ICS was too high, and /or the ICS were promoted on the wrong concepts and ideas, if promoted at all.

Rural energy/ fuel wood deficit and scarcity is one of the many poverty problems in rural Nepal caused by a growing population competing for resources in a fragile environment resulting deforestation and forest degradation. Only forest conservation, plantation and community forestry programmes will ensure sustainable access to fuel wood in rural Nepal. Alternatives to wood and biomass based energy is unrealistic to the large majority of household, for various economic and financial reasons. Therefore, a more efficient utilization of existing and future biomass resources is the only option if a severe energy crisis, with all its negative consequences to women and children in particular, shall be avoided.

ICS have a potential for a more efficient utilization of wood/biomass resources, thus for saving wood and still fulfill people's energy need for cooking purposes, the most important energy need. Moreover, ICS have potential for improving the indoor environment and most rural women suffer from, and for decreasing women and girls work loads. There is thus a rational for an ICS component in energy, community forestry and health programme that are gender sensitive.

Evidently, this and people's other strategies for coping with the limitations of the ICS reduce the potential positive impact on energy scarcity, indoor environment and health to be gained from the ICS.

However, the aggregate of many households' wood savings, even small quantities, during some months of the year, will make a significant contribution to achieving a sustainable energy situation in rural Nepal. And some smoke reduction and a cleaner kitchen during some month of the year is better than none.

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AEPC	Alternate Energy Promotion Centre
CF	Community Forest
CFDP	Community Forest Development Programme
CRT/N	Centre for Rural Technology/ Nepal
CBOs	Community Based Organizations
DANIDA	Danish International Development Assistance
DWD	Department of Women and Development
ESAP	Energy Sector Assistance Program
FAO	Food and Agriculture Organisation
GO	Government Organisation
HMG	His Majesty Government
ICIMOD	International Centre for Mountain Development
ICS	Improve Cooking Stove

IEC	Information Education and Communication
INGO	International Non Governmental Organisation
NEFEJ	Nepal Forum for Environmental Journalist
NGO	Non Governmental Organisation
RECAST	Research Centre for Applied Science and Technology
UN	United Nation
UNDP	United Nation Development Programme
UNICEF	United Nations' Children's Fund
VDC	Village Development Committee