

**Presentation of Successful Practices
in Nepal: Improved Water Mills,
Improved Cook Stoves and Biogas
Programmes for Poverty Reduction**

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http://www.inforse.org/europe/conf07_UN_CSD.htm

CRT/N - An Introduction

Establishment

- ❖ Initiated as a private sector organization in 1989
- ❖ Registered as National NGO in 1999

Aims and Objectives

Promote and disseminate environmentally sound appropriate rural technologies in response to the basic needs of rural people and creating opportunities to upgrade their livelihood.

Operational Mechanism

- ❖ Promote application of environment friendly rural and appropriate technologies
- ❖ Conduct orientation, demonstration, exhibition and exchange visits
- ❖ Support capacity development of service providers/partners and rural communities
- ❖ Conduct applied research, policy reviews, program development and impact assessments
- ❖ Facilitate national, regional and international networking
- ❖ Collaborate with partners in program implementation
- ❖ Undertake joint ventures

Networking and Membership

Networking:

- ❖ International Network for Sustainable Energy (INforSE), Denmark
- ❖ International Network on Gender and Sustainable Energy (ENERGIA), Netherlands
- ❖ Asia Regional Cook Stove Program (ARECOP), Indonesia
- ❖ Greenhouse Gas Technology Information Exchange (GREENTIE), UK


Membership:

- ❖ The World Conservation Union (IUCN)
- ❖ The World Council for Renewable Energy (WCRE), Germany

Rural Energy Consumption Patterns

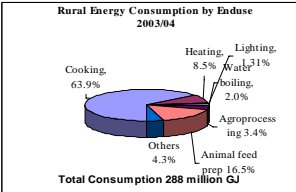
Households – largest energy consuming sector

- ❖ Cooking dominates end use 72 % total HH energy supply is met by fuelwood & crop residues, animal dung



- ❖ Lighting - about 1.5 % of total rural energy use supplied largely by kerosene, about 10% only have access to electricity

Rural Energy Consumption by Enduse 2003/04



End Use	Percentage
Cooking	63.9%
Heating	8.5%
Lighting	1.31%
Warping	2.0%
Agroprocessing	3.4%
Animal feed prep	16.5%
Others	4.3%
Total Consumption	288 million GJ

THE RURAL ENERGY FACTS

- [The Kitchen](#)
- [The Energy Source](#)
- [The Implications](#)

Promotion of Renewable Energy Technologies (RETs) for Poverty Reduction

Improved Water Mill (IWM) Program

Improved Cook Stove (ICS) Program

Biogas Program

Improved Water Mill Program

Background:

- ❖ About 30000 Traditional Water Mills (IWMs) provide energy services to the hills and mountain communities
- ❖ CRT/N implemented IWM Program since 2003 with Nepal Government and Netherlands Government support



Improved Water Mill Program

- ❖ About 2600 water mills are improved with about 4.0 MW for various end-uses serving about 130,000 households
- ❖ Creation of additional income and employment opportunities to the village communities contributing to reduction of drudgery
- ❖ Recognizing its contribution, the Program selected as one of the finalists for UK based Ashden Award for Sustainable Energy, 2007

Objectives of IWM Program

- ❖ To improve the living condition of rural households especially of the traditional water millers and women users
- ❖ To improve the sustainability of the sector as a whole by planning and implementing activities at macro (Institutional strengthening), meso (Company support), and micro (support to water millers associations) level

Improved Water Mill Program (Case 1) continue.....

Approach:

- ❖ Capacity development of water millers and establishment of Water Millers' Associations
- ❖ Strengthen capacity of program partners and local service providers
- ❖ Maintain quality and standards of equipments and services
- ❖ Diversification of miller's services
- ❖ Interlink with rural development program for technical and financial services
- ❖ Promote private-public partnership and rural enterprise development



Improved Water Mill Program (Case 1) continue.....

Opportunities:

- ❖ Out of 30,000 traditional water mills, about 3500 have been improved leaving huge potential for improvement
- ❖ Clear link to poverty reduction target of the PRSP and directly contributes to MDGs
- ❖ Systems are in place, local capacities are built for productive activities (energy, market, poverty reduction)
- ❖ Potentials for CDM
- ❖ Replaces high priced diesel run mills and contributes to reduction of carbon emission
- ❖ Possibilities of increasing benefit to a wider population



Diversified use of Improved Water Mill



Improved Cookstove Program(Case 2)

Background:

- ❖ The National Improved Cook Stove (ICS) Program initiated in 2000 with support from Government of Nepal and Energy Sector Assistance Program of DANIDA.
- ❖ CRT/N a key partner for implementing the National ICS Program.
- ❖ Out of 200,000 ICS promoted in the last 7 years (by 2006), CRT/N promoted 130,000 ICS in 21 districts.



Objectives:

- ❖ Reduction in indoor air pollution as well as smoke related health hazards,
- ❖ Conservation of forests by reduction in firewood consumption,
- ❖ Reduction in women's and children's work load,
- ❖ Reduction of cooking time
- ❖ Increasing the quality of life.



Improved Cookstove Program(Case 2) *Contd*

Approach:

- ❖ Demand driven
- ❖ Implementation through participatory approach
- ❖ Thrust on local capacity development and Information Campaign
- ❖ No direct end-user subsidy
- ❖ Effective, appropriate and flexible design
- ❖ Active involvement of women
- ❖ Transfer of Technology through training (more than 2650 trained so far)
- ❖ Self-employment for ICS Promoter
- ❖ Building partnership with local organizations (more than 70 NGOs/CBOs)



Improved Cookstove Program(Case 2) Continued.....

Opportunities:

- ❖ Reduced fuel wood consumption (estimated to save 25-40% of fuel wood) leading to reduced smoke hazards, improving health and quality of life of rural men and women.
- ❖ Potential for promotion of ICS/biomass technologies to 3 million HHs.
- ❖ Strong possibility for an integral component of development initiatives
- ❖ Primarily focused on rural women with appropriate strategies to build capacity at local level.
- ❖ Creating self employment for locals entrepreneurs hence contributing to poverty reduction (Promoters of ICS)
- ❖ Children have better environment for studying inside the house as the kitchen environment is improved.
- ❖ Each stove annually saves about 750 kg of fuelwood per HH equivalent to saving 2 average size trees.

Biogas Program (Case 3)

Background:

- ❖ Program started in 1992 as Joint program between Nepal Government, Netherlands Government
- ❖ Reached 67 districts out of total 75 districts
- ❖ Installed 158,000 plants by December 2006 helping about 948,000 population
- ❖ 98% are in operation
- ❖ Substantial reduction of drudgery
- ❖ Creation of additional income and employment opportunities to the village communities



Biogas Program (Continued...)

Objective:

Develop and disseminate biogas plants as a mainstream renewable energy solution in rural Nepal

Approach:

- ❖ Strengthen capacity of service providers and operators
- ❖ Maintain quality and standards of plants, equipments and services
- ❖ Develop commercially viable and market oriented sector
- ❖ Gender mainstreaming and social inclusion
- ❖ Public-private partnership systems are in place; capacities are built for quick results (energy, market, poverty reduction)
- ❖ Applied research and studies for optimized design and operation
- ❖ CDM for financing

Biogas Program (Continued...)

Opportunities:

- ❖ The existing potential for biogas installation is 1.6 million
- ❖ Project accepted for CDM
- ❖ Increased agricultural productivity through slurry use and clean HH sanitation
- ❖ Contributes to MDGs



What Actions Are Needed Now?

- ❖ A long-term and time bound action plan between stakeholders
- ❖ Prioritise the needs of the locals
- ❖ Promote an integral approach incorporating energy, education, environment, financial (micro-credits) and other development inputs
- ❖ There is a need for planners, governmental agencies, donor agencies and NGOs to reevaluate the relevance of household energy, putting emphasis on renewable energy.
- ❖ Holistic interventions incorporating local capacity building
- ❖ Support in the establishment of eco-friendly energy with villagers participation
- ❖ Introduce smart financing mechanisms such as carbon trading

**Thank you for Your
Kind Attention**

