

## **Energy for poverty alleviation and sustainable development**

Adequate availability and efficient use of energy are two essential ingredients in the efforts to alleviate poverty. However there is a serious gap created in the development agenda due to the neglect of not addressing issues pertaining to traditional or non-commercial fuels. Development thinking in the country promotes and favours only commercial and modern fuels. Focus of the Ministry of Energy and the commercial sector is only on commercial fuels and generating electricity. The dangers and the social injustice perpetrated by the neglect of the non commercial energy sector servicing the vital functions of cooking and small scale industrial activities of the poor do not seem to be falling within the priorities and concerns of the politicians or the development community. Issues pertaining to rural energy are mostly at micro level and therefore could be addressed only at a decentralised level, which calls for decentralised energy planning which is at present non-existent in Sri Lanka. More over only a rural decentralised energy plan could address the realities of the energy requirements for sustainable livelihoods and survival activities covering cooking, lighting, food processing, domestic and rural industries and many other income generating activities. There are Energy ministries at provincial level but they do not have the vision, mandate or the capacity to think and carry out interventions beyond rural electrification. However even in the absence of a decentralised energy plan, rural energy activities can be accommodated with a holistic approach within the ongoing district development efforts.

The data shown below should give a clear picture of the importance and impact of biomass energy in the economy of Sri Lanka. In addition to cooking, biomass in many cases is used inefficiently to sustain a wide variety of livelihoods and survival activities covering many cottage and small-scale income generating activities.

### **National Energy Consumption Pattern**

**Biomass 56.8 %**

**Oil 34.3%**

**LPG 2.2%**

**Electricity 6.9%**

**(Source: Sri Lanka Energy Balance 2003, ECF)**

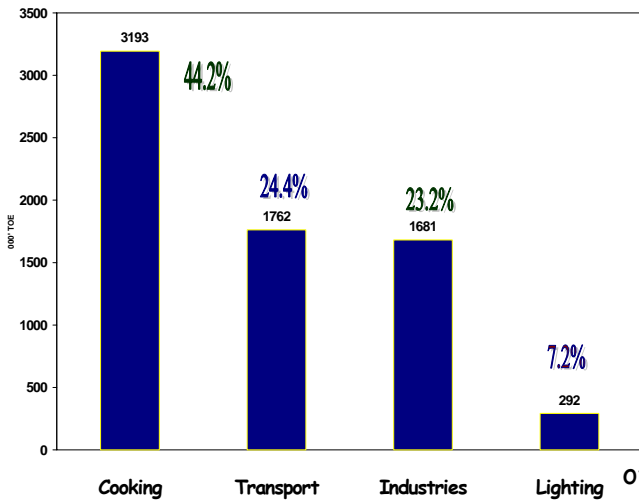
### **Sectoral Energy Consumption**

Energy for cooking accounts for 44.2% of the total energy: 90% derived from biomass and 10% from Kerosene and LPG.

Energy for transport accounts for 24.4% all from oil.

Energy for industries accounts for 23% of total energy: 68% from Biomass. 29% oil and 3% LPG

Energy Consumption Sector Wise (TOE)



Energy for lighting accounts for 7.2% of total energy: 55% from Electricity, 45% kerosene.

More than 90% of the population in the rural areas use biomass for cooking and nearly 40% use Kerosene for lighting.

Nearly 80 % of the biomass energy supply is obtained from non-forest resources coming from agricultural and plantation activities. About 70 %

of the biomass are collected free and 30 % are purchased (mostly in urban areas). Nearly 50 % of the population are land less making them to be dependent on biomass resources collected from outside which causes multitude of social conflicts and health problems. Almost all biomass collection and processing are done by the women causing them severe social hardship and are subjected to mental and physical agony. The victims in general do not protest but in silence adopt various methods on their own to ease out the pressure created which are harmful to the society and the user in many ways. This Silence and tolerance of the poor majority is interpreted as "all is well" because protests and violence always get the quickest attention and priority.

Despite benefits and the need of using biomass, the inefficient use of biomass has caused several development issues. (1) Waste of a valuable renewable energy resource (2). Environmental and associated problems such as deforestation and land degradation (3) Major health hazards due to indoor air pollution (4) Climatic change due to emission of GHG. (4) Gender issues: Strain on women. (5) Inconvenience and drudgery compared to use of modern fuels. Therefore the need to promote improved biomass combustion systems both in the domestic and industrial sectors is an urgent development requirement from the global, national and user perspectives.

According to several studies carried out in developing countries, there is growing evidence that indoor air pollution due to wood smoke is a major a risk factor, which seriously affects the health of women and children. The World Health organisation (WHO) has expressed serious concern and published many reports revealing evidence highlighting the need for further research and interventions. The WHO ranks exposure to domestic wood smoke as the fourth highest global risk to health after malnutrition, bad water, poor sanitation and HIV/AIDS. It is also estimated that two million deaths are caused in developing countries due to wood smoke.

Similarly, Gurinder Shahi, an official of the United Nations Development Program gives his message, "Most of the four million annual child deaths from respiratory distress stem from children living in poorly ventilated huts where fuel wood, cow dung or agricultural wastes are used for heating and cooking."

UNICEF reports, "around 3 million developing world children under age of 5 die from diarrhea disease caused mostly by impure drinking water".

Internationally it has being proven that improving the domestic and rural industrial combustion systems and changing cooking behaviour, apart from saving energy could reasonably mitigate many of the above mentioned harmful effects in addition to providing many other benefits covering several development sectors. Improving the kitchen entails use of improved stoves, improved lighting, ventilation and smoke extraction and arranging the interior of the kitchen for ergonomic efficiency of cooking activities and food preservation. It also promotes kitchen management, kitchen waste management, safe drinking water, safety from food contamination etc. Kitchen is not only for culnaries, delicious and nutritious

food but is also the pivot for family harmony the basic unit of human development at family level. Kitchen improvement is therefore a holistic approach which is based on promoting energy use efficiency but also provide benefits to improve education, health, hygiene, housing empowerment, gender, environment and women's income generation,

## **Potential Benefits of improving biomass energy combustion in rural households and industries**

### **Global Benefits**

Contribute towards Mitigation of Global Warming  
Contribute towards protecting the global diversity

### **National Benefits**

Promote the use of local energy resources and renewable energy  
Establish energy security and independence  
Saves foreign exchange by curtailing the import of fossil fuels  
Minimise deforestation due to the reduction of energy use and related environmental hazards  
Reduce health expenditure

### **Community benefits**

Increases rural employment and income generation  
Improves the local environment

### **User Benefits**

Saves firewood and time  
Improves health and hygienic conditions  
Increase income generation  
Improve status of women  
Improves housing condition

According to a study done in six countries including Sri Lanka by the University of Surrey and IT (UK) it is revealed that use of Anagi improved stoves reduce emissions of carbon dioxide by 110 - 270kg/capita/year which could lead to mitigating the global warming effect. Therefore any programme which promotes biomass energy efficiency such as kitchen improvement, supports the international efforts of reducing global warming in addition to numerous benefits at national, community and user level.

This brief paper is submitted to provide reasonable justification to promote implementation of projects under the provincial development plan to improve biomass energy efficiency in households( Kitchen Improvement ) and small scale industries( Large improved biomass stoves and kiln improvements ).

R.M.Amerasekera  
Executive Director  
Integrated Development Association(IDEA)  
Galmaduwegatte Rd - Kundasale

Tel : Office 081-2423396  
Residence: 081-420005