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# Wood energy-solution to fuel crisis

**BY R.M. AMERASEKERA, EXECUTIVE DIRECTOR, INTEGRATED DEVELOPMENT ASSOCIATION (IDEA)**

In addition to people already using firewood informally and inefficiently which is about 68 percent and happens outside the focus of the Government, the present, massive increase of LPG prices can disturb the energy sustainability by pushing more people to use less LPG or move towards using firewood.

This can cause havoc in the socio economic situation in the country. The Government, both political and bureaucratic focus has been limited to commercial energy (fossils and renewable) development.

Within this scenario a majority of the low income population in Sri Lanka is deprived of using modern fuels particularly for cooking and livelihoods due to poverty making them dependent on traditional use of firewood which takes place informally and inefficiently creating many ill effects in the socio-economic, health and environment sectors.

We need energy virtually for everything we do, which we obtain from using biomass (firewood), petroleum, LPG, and coal. Firewood is the major component of biomass used for cooking in Sri Lanka. Historically firewood provided the energy and food in the evolution of animals to human beings and powered the civilization globally up to around the 18th century.

## Developing countries

Even at present it provides nearly 10 percent of global energy and provides cooking energy for almost 3 billion poor living in developing countries. It is a versatile fuel providing energy for cooking, heating, industries and power generation.

In Sri Lanka 46.5 percent (186 PJ) of energy comes from biomass (firewood) which plays an important role by meeting 76 percent of thermal energy needs of the industries and 67 percent of households cooking energy requirements.

Sri Lanka uses 12000 kilotons annually to provide these services coming mainly from forests, home gardens and plantation crops. It must be realised that energy for cooking and rural livelihoods are the primary needs to strengthen the human and social capital required to facilitate the development process of the country which is provided mainly by firewood without which the entire development process could collapse.

In the development context in Sri Lanka both cooking and biomass are nonentities taken for granted which could lead to non-sustainable and inefficient use.

The World Health Organization (WHO) has revealed that 4300 deaths occur in Sri Lanka due to indoor pollution caused by the use of firewood which calls for more efficient use and ventilation improvements.

It is also claimed that firewood use in developing countries is a major source contributing to climate change although scientists are divided on this issue.

In this context fossil fuels are equally guilty. A Harvard University Research team claims that 8 million people globally die due to pollution from fossil fuels and the Environment Protection Association (EPA) says that firewood use is carbon neutral. The European countries have given priority to the use of biomass disregarding the negative statements.

In this respect it must also be noted that Sri Lanka is one of the lowest contributors of CO2 emissions amounting to 7 percent when compared to rich countries

Fortunately firewood still stands as the major source of energy of 68.6 percent (2017) of the population which does not depend on imports and foreign exchange.

Firewood is indigenous, renewable, affordable, decentralised and non-commercial which the consumers manage on their own to secure without a burden to the Government.

In the present context it is observed that the poor rural people using firewood enjoys a higher degree of energy security resulting in food security which depends on cooking, than the urban population who are dependent on foreign exchange and imports.

Biomass (firewood) is not considered as a commercial fuel in Sri Lanka except for the industries. It will never be exhausted if sustainably used.

The economic, social and environmental benefits provided by using firewood is immeasurable. However, the Government has not been able to provide adequate focus on the decentralised, non-commercial sector which is a complex network of activities covering several development activities at the rural level calling for participatory and integrated development approaches at the decentralised level.

It cross cuts with the portfolios of many ministries related to forests, agriculture, food, climate change, environment, health, energy, land, poverty alleviation, science and technology and so on which require holistic strategies where the community has to play a major role in planning of the supply and use of firewood unlike in the commercial energy sector.

When it comes to energy, it is not the fuel that is important, but the delivered energy services such as heat, light and mobility and so on.

## Traditional biomass

The characteristics of types of different fuels such as oil, coal and biomass are very different which calls for different strategies, outlook and participation. Also, in the transition from traditional to modern fuels, it is imperative that priority interest should be, first to improve the current use of traditional biomass, and then to transform biomass into high-quality low-emission modern fuel.

But as explained where are the strategies and initiatives?

Although many people tend to think that utilisation of firewood causes deforestation in Sri Lanka, there is no evidence to prove it (SEA). The main four reasons for deforestation in Sri Lanka are encroachments due to agriculture, gem mining, settlements, infrastructure development projects, cattle grazing, cardamom cultivation and forest fires.

However, it is necessary to maintain the sustainability of the supply and use of firewood to avoid contributing towards climate change, health hazards and deforestation which calls for Government intervention to mitigate such negative effects.

Despite the clamour for LPG for cooking the majority has no choice other than using firewood due to the poor income distribution characterised by the fact that the rich 30 percent earning 61.3 percent, the lowest 40 percent earning a mere 14.5 percent and the middle class 30 percent earning 28.5 percent.

Unless this situation improves firewood will be the major cooking fuel.

The urbanisation rate in Sri Lanka is also one of the lowest in the world at 18.9 percent (World Bank). Despite the social stigma and under estimation attached to firewood, it has not deprived the country of achieving a high development index of 71 percent and health indicators according to the World Bank data.

A majority of Sri Lankan women despite using firewood can have the expectation of living for 81 years and Sri Lanka has one of the lowest burden of disease indicators and maternal and child mortality.

Sri Lanka has spent Rs. 699 billion to import fossil fuels in 2019 which is almost 32 percent of our export earnings. Given these indicators in the present context of the Covid disaster, the resulting economic crisis and LPG shortages it is observed that firewood has helped to buffer many of the socio economic negative effects.

Even though no modern fuels have been used which highlights the fact that use of firewood is a blessing in disguise to Sri Lanka provided action is been taken to use it in a sustainable and efficient manner in solidarity with the international community to achieve sustainable development goals.

From a national perspective, the linkages between rural energy and sustainable development need to be understood in the overall context of the energy situation in the developing countries. This also falls extremely well with SDG 7 of Agenda 2030 as an essential and a vital strategy of achieving the same, while contributing significantly to SDGs 1, 2 and 13 as well.

## Lack of concern

The major reason for the lack of concern is that firewood is not a modern, commercial product to attract interest and the complexity of it being a decentralised product which is a byproduct of many other stake holders who are not related to the energy sector.

The politicians and the beauracracy too are not concerned for the same reasons. In our Constitution, decentralised energy is classified as a concurrent subject, where the central Government can provide the leadership while provincial councils can play a major role with better access to rural poor at the grass root level.

At present, this subject is handled under the purview of the Sustainable Energy Authority who is given the mandate for the development of renewable energy.

However, their focus too has been mostly on commercial energy issues related to electricity, petroleum and renewable energy.

The Provincial Councils and Local Government authorities also have their mandate and stakes in the energy supply, biomass being the most prominent energy source for masses.

Considering the informal and decentralised nature of the rural energy structure in Sri Lanka, it is evident that the decentralised institutions be assisted to form a network of all relevant organisations to address biomass issues at the decentralised level.

The responsibility for this initiative should be taken by the Ministry of Power and Energy in collaboration with the Ministry of Local Government to integrate biomass energy with agricultural and plantation activities. The scope of this exercise would be the Local Government sector to be responsible for the sustainable supply and the Sustainable Energy Authority to be responsible for the demand side management which includes technology development and transfer and should have a dedicated team to coordinate and monitor the progress.

## Challenges

It is worth noting that in Myanmar where a similar situation exists, due to the importance of biomass energy, the World Bank has stated "an inter-ministerial coordination mechanism is essential to answer to wood fuel challenges and opportunities".

The 'Anagi' stove promoted by the CEB was acclaimed as one of the most socially accepted stoves in the world (Prof Sarat Guttikunda, Director General, Air Pollution, Delhi, India) and was nominated for the World Clean Energy Award in 2007 by the international community

Within the socio economic context of Sri Lanka the use of firewood can be considered as a blessing in disguise which can be made more sustainable and efficient with Government interventions.

"The rural energy crisis has been receiving increasing attention from development policymakers because it affects the very survival of the vast majority of the world's population, who live in the rural areas of the developing countries, and is also deeply inter-linked with the whole concept of sustainable development.

The linkages between rural energy and sustainable development, however, need to be understood in the overall context of the energy situation in the developing countries. This also falls extremely well with SDG 7 of Agenda 2030 as an essential and a vital strategy of achieving the same.

The key message for policymaker's is-give wood energy a fair chance in the energy mix of your country in order to make the world a more sustainable and environmentally friendly place. (FAO)"

*The author is a former electrical engineer, CEB, Director, Energy Conservation Fund (Sustainable Energy Authority), Project Manager, National Fuel Wood Conservation Program, Chief Technical Advisor/ International Consultant, UNDP Renewable Energy (Briquetting) Project, Sudan (1992/1 993), Short Term Consultant to the World Bank in Rural Energy Planning in East Timor 2015 to 2009, Nominee for World Clean Energy Award 2007, Professor Mohan Energy Conservation Award 1986, "Red Flame" President's Award 2015 for bringing sustainable energy to people.*