

FUELWOOD CRISIS AHEAD ON ESTATE SECTOR

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Presently there is a shortage of firewood in the country. The most affected industry by this shortage is the tea industry. Tea factories consume fairly large quantities of firewood to process tea. A rough assessment of the consumption rate would be 1 cubic metre per 1000 kg (1 $\frac{1}{4}$ cubic yards/2200 lb) of harvested tea flush. Since estates have no fuel blocks, the fuelwood necessary for the factories is purchased from firewood contractors. Capitalising on this situation the contractors push up the firewood price at every possible opportunity and within the last 10 years it had increased 10 fold.

Presently, the price of a cubic yard of rubber firewood delivered to up-country estates range from Rs.160-185. Even at this price adequate supplies are not readily available. As a result, factories are undergoing immense difficulties in processing their daily harvest of flush. To overcome this difficult situation some factories have reverted to furnace fuel. This may be temporary adjustment because this would considerably increase the processing costs of tea.

When we look back at the period prior to 1970, tea factories mainly in the up and mid country regions used liquid (heavy diesel) or furnace oil fuels. At that time these fuel were comparatively cheap. The Middle East oil crisis made these petroleum oil fuels beyond the economic reach of the tea factories. Hence factories gradually started to use firewood which was at that time about Rs.20-25 a cubic yard and was also available in plenty. The conversion of the drier furnace to use firewood was also not expensive.

All are aware of the mounting energy crisis and the search for alternate forms of energy like solar, biogas, etc. But still over 80 percent of the Sri Lankan homes utilize firewood for cooking and heating purposes.

Courtesy "Island" of 12th May 1985

The forest lands to obtain the necessary supply of firewood have been reduced to bare minimum. The massive development schemes after the independence have reduced the forests which occupied 42 percent of the total land area to mere 25 percent. Forest reservations for wild life sanctuaries occupy a major portion and only about 15 percent of this forest area is reserved for timber harvest. Statistics show the total wood requirement for 1980 was in the region of 170 million cubic feet of which 90 percent was firewood.

Nevertheless until a suitable cheap source of energy is developed factories may have to depend on firewood which is the cheapest source of available energy today. The difference in the cost of drying tea using firewood in place of liquid fuel is quite large, about 60 percent. Hence the Plantation Corporation are keen to make all their tea factories use firewood.

The time has come for us to seriously think of adopting measures to arrest waste and improve systems to increase firewood burning efficiency. Green wood (freshly cut wood from the tree) has about 50 percent moisture and this moisture has to be reduced to atleast 20-25 percent before it could be used. The quickest way to reduce the moisture content of the firewood is to split the logs, cut them into 1 foot length pieces and stack them in the firewood shed. It takes approximately 4 months under normal weather conditions for the moisture content to come down to about 20-25 percent. High moisture content will adversely affect the thermal efficiency of firewood. A minimum of 30 percent savings on firewood is possible by the use of dry firewood prepared in this manner. Also maintenance of an even drier inlet air temperature which is essential to dry teas properly is possible this way.

Contractors supply the estates with fresh rubber logs each about a yard in length and receive payment by the cubic yards. If considered weightwise half the weight is water. What matters to the estate is the amount of wood material, that is the thing that burns and not water. On account of this fact estates should

adopt weightwise purchasing system stipulating the moisture of dryness.

Many Janatha Development estates do not have adequate stocks of firewood in order to minimize stock levy payments. This is false economy, because the savings with the use of dry firewood is several times greater than 1 percent stock levy. The amount of money tied up in the stocking of 6 months requirements of firewood is unavoidable. A review of the management policy on this matter may be helpful. In some districts the JEDB supply the firewood needs of the estates. This may be a good idea provided dry firewood is supplied to estates.

Again the fuel consumption depends on the condition and the maintenance of the drying machines. Driers in some estates are not properly maintained. The makers instructions to clean the furnace and the fuel tubes daily after use are not followed. By the proper maintenance some more savings on the firewood is possible.

Feeding the furnace with logs as is being done today in several factories is not the correct nor the economical method. By splitting the logs into smaller pieces the surface area exposed for combustion is increased. These small pieces would burn better than the big logs. The little extra money spent to chop the wood into small pieces should not be considered a waste. In fact the savings on fuelwood and the production of better dried teas on account of this measure itself is an adequate reward.

The tobacco industry which consumes about 2 percent of the total commercial sector fuel requirement is also concerned about fuel economy. The Ceylon Tobacco Company has also adapted fuel saving techniques in tobacco curing and also embarked on a scheme to ensure self sufficiency in fuelwood in the near future. The adoption of the warm air furnace in the tobacco curing barns has reduced the fuelwood consumption by about 35 percent. With the participation of the tobacco farmers establishment of fuel blocks have been initiated with the objective of satisfying the industry and the farmers domestic needs.

In tea estates 100 percent of the workers use firewood for cooking and heating purposes. Tea prunings, uprooted tea plants and the dead wood collected from the jungle areas are their main source of fuel. Now due to the reduction in the jungle areas, shade trees and tea fields as a result of replanting programmes, these workers are facing a severe scarcity of fuelwood. Their entire free time is spent on-collecting fuelwood.

Even small twigs and tea roots of the size of a pencil are picked up for firewood, such is the state of firewood scarcity among estate worker population. They even raid the tea bushes for dead branches and when estate field watchers are not around weak life branches are also wrenched off. The numerous incidents of minor fire outbreaks during the drought seasons in the tea fields bordering the boundaries and gum tree areas were purposely created by the poor people with the object of taking firewood. The dangers of fuelwood abused and scarcity are many. The major effects of this will be on the tea price factor because of improper drying of the tea, the cost of production and the productivity of tea plants due to frequent damage to the frame of the tea bush.

Judicious economy is vital for increasing profits. The fuel cost for drying tea is considerable item in the budget of a tea factory. As firewood is a locally available fuel it is not generally given the attention it deserves. Whatever it is, tea is our principal plantation crop which earns a fair share of the country's foreign exchange. In the future too tea will have to continue as the soul of Sri Lanka. So it is important to adopt means and measures to rectify this unhealthy situation.