# VANISHING FORESTS: CRITICAL NEED TO REGENERATE FUEL WOOD SPECIES IN THE FORESTS OF ADILABAD DISTRICT, TELANGANA

Nitish Bharadwaj, E. Poorna Chander, B. Vijay Kumar and Dr. D. Suryakumari

**Centre for People's Forestry**

December 2014

Supported by:

Ford Foundation

Brot für die Welt

In this era of climate change, nobody can deny the critical role of forests in ameliorating the condition of the planet. Depleting forest cover increases the vulnerability, not only of existing biomass, but also of the people depending on it for their livelihood. The reason behind the incessant cutting of trees is not complex; indeed, it is very simple – need. While industrialists or big corporations clear forests because of their need to generate more profit, poor people or forest dwellers do it for fuel wood and other requirements needed for their survival. Our main concern here is the relationship of the forest dwellers and the forests they depend upon. The extraction of fuel wood and other forest products, without substantive efforts for regeneration, results in gradual decrease in forest cover and the devastating effects can only be felt after a certain period of time.

Adilabad District, which once was endowed with vast forest cover, and still enjoys a high percentage of geographical area under forest cover (not in good condition, though), is facing this fate, where the situation, if still not the worst possible, is rapidly reaching that point. One of the primary concerns facing forests in Adilabad is that more than 72 per cent of the population in the district resides in rural areas, which are inside or near forest areas. Rural areas are a typical example where bio-fuels are used for cooking and other energy requirements.

*Jaggerao, a resident of Kothaguda village in Utnoor mandal, says that the distance traversed by him for collecting wood fuel has increased from only 3 km a decade ago to 7–8 km today.*

It has been observed that residents of Narnoor and Utnoor mandals[1] depend heavily on wood-based fuel for meeting their energy demands. In the absence or non-availability of fuel wood species near their habitations, the community uses teak as a fuel wood. Forests around these villages are being depleted at a rapid rate and they now have to go long distances for collection of fuel wood.

[1] CPF has been working in both these mandals through the IWMP project (with support of SLNA – RD) in Narnoor mandal and the TDF project (with support of NABARD) and the BfdW (Bread for the World)-supported project in Utnoor mandal.

## THE STUDY

An action research study has been carried out in these two mandals with a view to find out:

1. the kind of species that are used as fuel wood;
2. the current status of their regeneration in the forest;
3. the consumption pattern; and
4. the efforts if any, by community or the government in conserving fuel wood species.

The study area includes seven villages, viz., Admiyan (Gadiguda Panchayat), Chittaguda and Sedwai (Dongargaon Panchayat) and Rampur (Khandow Panchayat) in Narnoor mandal, and in Ramnagar (Birsaipet Panchayat), Gandigopalpur (Udampur Panchayat), Shyampur (Luxxetipet Panchayat) in Utnoor mandal.

**Table 1**

| Villages | Distance from Forest (in km) |
|---|---|
| Sedwai, Gandigopalpur, Ramnagar | 0–4 |
| Rampur, Admiyan, Chittaguda | 4–8 |
| Shyampur | >8 |

Of these seven villages, five villages, namely Admiyan, Chittaguda, Sedwai, Rampur and Ramnagar, were chosen for the assessment of availability and regeneration status of commonly used fuel wood species.

### Methods adopted

- Interaction with community through prescribed formats such as Focus Group Discussions
- Interviews with key persons of villages
- Transect walk to VSS (Vana Samrakshana Samithi) forest area along with the community

### Process of Field study

- Identification and delineation of forest patch (100,000 sq m) by the community itself, from which they regularly extract most of their fuel wood.
- Laying five randomly selected sampled plots, each of 20 m x 20 m, in the VSS forest area identified above, with active participation from the community (keeping 2 per cent sampling intensity).
- The selection of plots, through random sampling, ensured that the shortest and farthest distance of the identified forest patch from the village was covered.

- After laying out a 20 m x 20 m plot, GPS readings were taken at its four corners.
- Forest Inventory: a tabled description of tree species (which are more than 10 cm in girth at the height of 1.37 m from the ground), along with their height and girth is made.
- Shrubs Information was also collected, without noting girth and height.
- The number of seedlings and saplings of fuel wood species were also recorded, to have an indication of the regeneration potential.

# FINDINGS

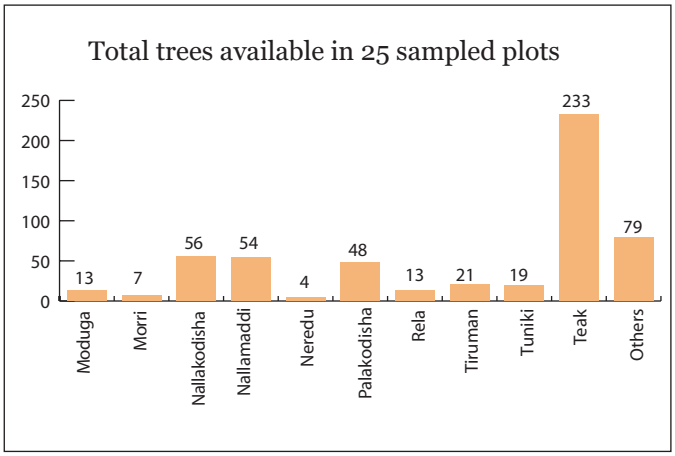
## Fuel wood species

With the help of sampled plots, it was observed that there is very little biodiversity in the forest. Each sampled plot measured 400 sq m. Figure 1 suggests that in 25 plots altogether (5 plots in each village), a total 547 trees were identified, out of which 43 per cent (233) were teak trees. This absence of suitable fuel wood species is the reason why villagers resort to the cutting of highly valuable species such as teak.

**Table 2**

| Commonly used species for fuel wood in the study area | | | |
|---|---|---|---|
| S. No. | Local name | Scientific name | Popular name |
| 1 | Tiruman | Anogeissus latifolia | Axlewood |
| 2 | Illinda | Diospyros chloroxylon | |
| 3 | Tumiki | Diospyros tomentosa | Ebony |
| 4 | Oddi | Dolichandrone crispa | Crispate |
| 5 | Palakodise | Holarrhena pubescens, Echites pubescens | Easter tree/ Ivory tree |
| 5 | Billudu | Chloroxylon swietenia | East Indian Satinwood |
| 6 | Mokkam | Schrebera swietenioides | Weaver's Beam tree |
| 7 | Teak | Tectona grandis | Teak |
| 8 | Muchi tumiki | Diospyros dubia | Ebony |

**Figure 1**




The trees preferred most by villagers as fuel wood are ***Tiruman*** and ***Palakodisha***. As can be seen from the bar chart (Figure 1), there is a scarcity of both these preferred trees in the forests. Villagers in such a scenario either have to go long distances for suitable fuel wood or cut teak from a nearby forest. It may also be noted that teak burns very quickly, which further increases its consumption rate.

When the collection of fuel wood from forests exceeds sustainable yield, it causes degradation. Forest degradation in turn leads to fuel wood scarcity and a variety of adverse consequences, including loss of biodiversity, deterioration of watershed functions, release of carbon dioxide into the atmosphere and soil erosion.

The increased distance traversed for collection of wood is conspicuous evidence of forest degradation. Table 3 represents the average increased distance between village and forest as compared to a decade ago in three different strata.[2]

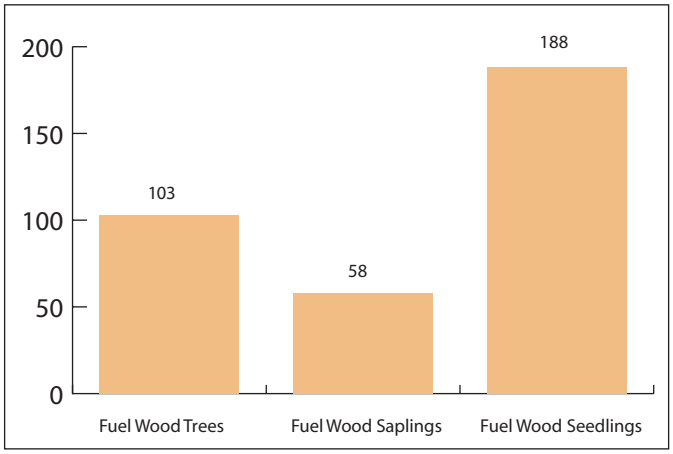
**Table 3**

| Average increase in distance (based on answers of sampled respondents) | | |
|---|---|---|
| **0–4 km** | **4–8 km** | **>8 km** |
| **318%** | **136%** | **182%** |

## Regeneration status

The status of seedlings, saplings and trees of fuel wood species in the sample plots is shown in the chart in Figure 2. The situation does not look promising, as the number of saplings is very low. If the current trees are extracted in the near future, there will be a scarcity of these trees in the forest.

**Figure 2**




[2]Increased distance appears more significant in the 0–4 km strata because even a small increase in distance will amount to a bigger percentage change. For example, distance increased from 0.3 to 1.5 is equivalent to 400 per cent change, but increase from 2 to 5 km will only amount to 150 per cent change.

## Consumption status

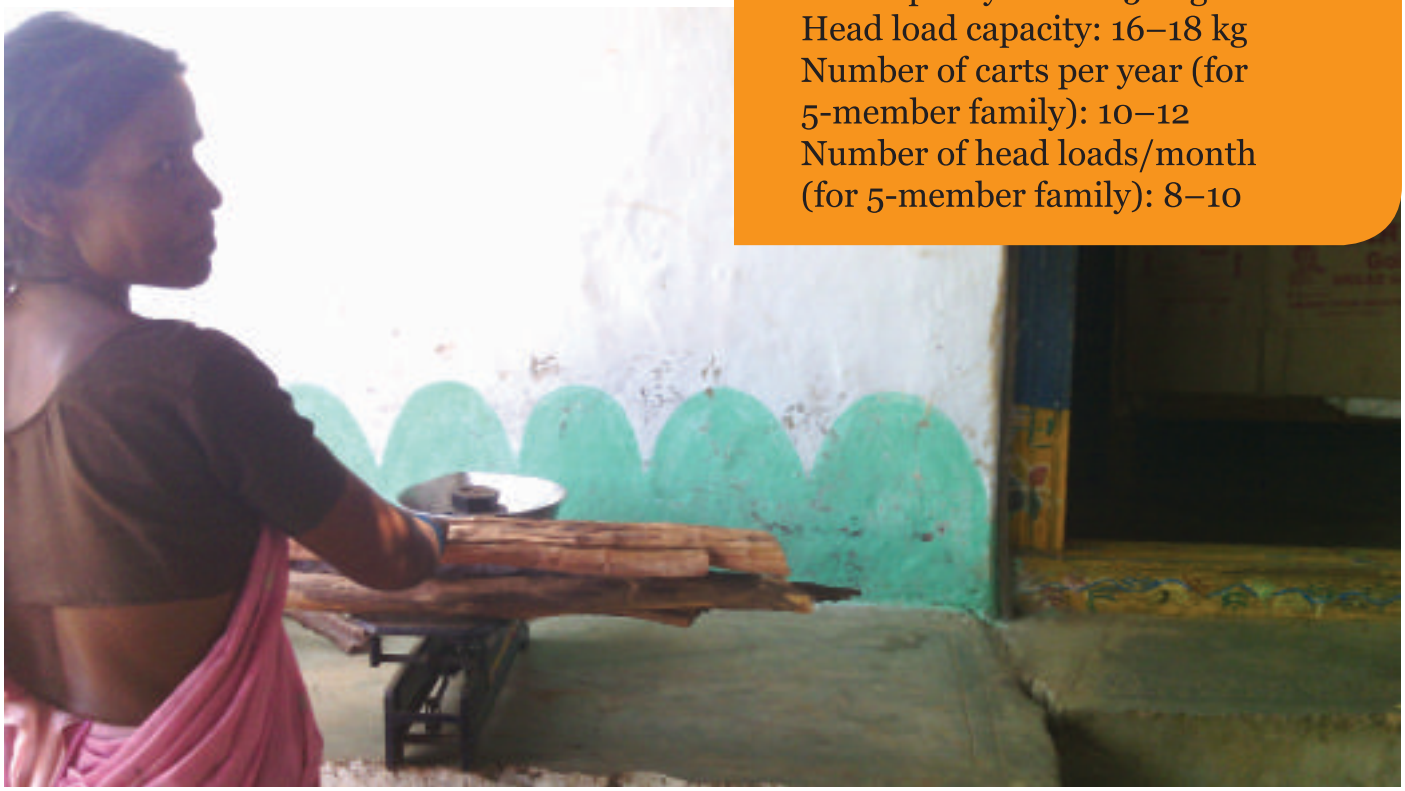
There has been continuous consumption of wood by the villagers in the study area. A report, Wood Balance Study by Anon (1987),[3] suggests that as the distance from the forest increased, fuel wood was substituted by dung cakes and kerosene oil. According to the report, the per capita consumption of dung cake was 43 kg in the villages within forest areas and 102 kg in villages beyond 8 km from the forests. Similarly, the consumption of kerosene oil increased from 1 litre to 11.5 litres, as per this study.

However, in our study, we found no, or at best very little, significant difference in consumption of fuel wood in relation to distance from the forest. The only significant difference observed with increasing distance was change in the means of transporting fuel wood. Villagers near the forest mostly use head loading for collecting wood and the practice of collection is regular throughout the year barring monsoon season. Distant villagers use carts for collecting wood in the months of March/April and keep it as a stock until January/December. Intermittent collection of wood also continues just to obviate the fear of decreasing stock.

Anon (1987) also found a strong correlation (r = 0.91) between the forest area of the district and per capita consumption of fuel wood. This substantiates our finding of aggressive consumption pattern in Adilabad District. Since Adilabad is blessed with good forest cover – nearly 37 per cent of its geographical area (well above the national desired 33 per cent figure), the distance from the forest does not matter much here, and consumption pattern remains the same.

| Features | Distance from Forest | | |
|---|---|---|---|
| | 0–4 | 4–8 | >8 |
| Sample size | 50 | 50 | 50 |
| Medium used for collecting | Cart: 40%<br>Head load: 60% | Cart: 65%<br>Head load: 35% | Cart: 90%<br>Head load: 10% |
| Daily per capita average consumption | 1.42 kg | 1.38 kg | 1.36 kg |
| LPG availability | NA | NA | 20% |

Cart capacity: 200–250 kg
Head load capacity: 16–18 kg
Number of carts per year (for 5-member family): 10–12
Number of head loads/month (for 5-member family): 8–10



[3] Anon. 1987, a Wood Balance Study, Government of Jammu and Kashmir. Directorate of Economics and Statistics, Planning and Development Department (Wood Balance Unit), Social Forestry Project, Srinagar, Jammu and Kashmir

## Cons

While i
Office
forest
collec
a viev