

# Project *brief*

Thünen Institute of International Forestry and Forest Economics

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## Charcoal use in Zambia's Miombo: balancing livelihoods and forest preservation

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- **Charcoal making as double-edged sword: important source for cash income in the Miombo dry forests but at cost of forest degradation.**
- **Landscapes with protected areas can be counterproductive: higher volumes of charcoal produced and firewood extracted from landscapes with protected forest areas compared to landscapes with non-protected forest areas.**

### Background and aims

The Miombo woodlands of Zambia cover about 45% of Zambia's forest area and support the livelihoods of its residents through subsistence use and cash sale of products. However, as in most tropical countries, the role of forest products in rural livelihoods is not clearly understood. This has an effect on designing and implementing sustainable development policies. We quantitatively analysed forest products harvested by households and examined factors that influence forest livelihood strategies in the Miombo woodlands in Copperbelt Province.

### Methods

The study was conducted in four selected sites in Copperbelt Province, consisting of landscapes with protected forest areas and those without. We randomly selected 412 households for closed interviews covering forest products, agriculture and household demographics. We used cluster methods to classify forest livelihood strategies and a multinomial logistic regression to determine the factors affecting forest use strategies.

### Key findings

- Households adopted three forest livelihood strategies: specialised charcoal sellers (32%), forest subsistence users (50%), and mixed forest food and charcoal sellers (18%).

- These forest livelihood strategies reflect the importance of Miombo woodlands to rural households' subsistence and cash needs.
- Half of the households were involved in charcoal production, thus exacerbating the degradation of forests.
- Higher volumes of charcoal and firewood were extracted from landscapes with protected areas compared to landscapes with non-protected areas due, in part, to the lucrative production of charcoal. As a result, pressure and conflicts on forests in these areas are likely to increase.
- Charcoal production was influenced by access to forests and roads.
- Households with larger size and older heads more predominantly relied on subsistence use of forests.

### Policy conclusions

We propose two measures:

First, sustainable management guidelines for charcoal and other forest products to be incorporated into the policies of Zambia and enforced in the field by implementing processes such as coppicing and reforestation to promote rural income and sustainable development.

Second, policy action should focus on improving subsistence-orientated household income. However, caution should be exercised while strengthening market access which can be counter-productive to sustainability of charcoal production.

## Further Information

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### Partners



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