MINISTRY OF WATER AND ENVIRONMENT
REPUBLIC OF UGANDA

WAVES
Woodfuels
Overview
UGANDA
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Woodfuels Overview

Summary

Uganda relies heavily on natural resources for its energy supply, with most of the country's primary energy derived from trees.

The woodfuel industry is significant and continues growing. However, lack of reliable data on scale, value, economic and social contribution is indicative of the low priority it receives in the country's planning process. It is therefore important to ensure that demand for wood-based energy is quantified and valued. Using a Natural Capital Accounting approach, it is possible to quantify the contribution of woodfuels to the country's economy.

The overview highlights the importance of generating reliable data that will help policy makers advocate for reform, simplify governance and provide practical support to industry players.

Background

The Ministry of Water and Environment prepared this brief as part of the national Natural Capital Accounting program supported by the World Bank's Wealth Accounting and the Valuation of Ecosystem Services (WAVES) program. Woodfuels are defined as fuelwood, charcoal and residues from agriculture and forest product processing.

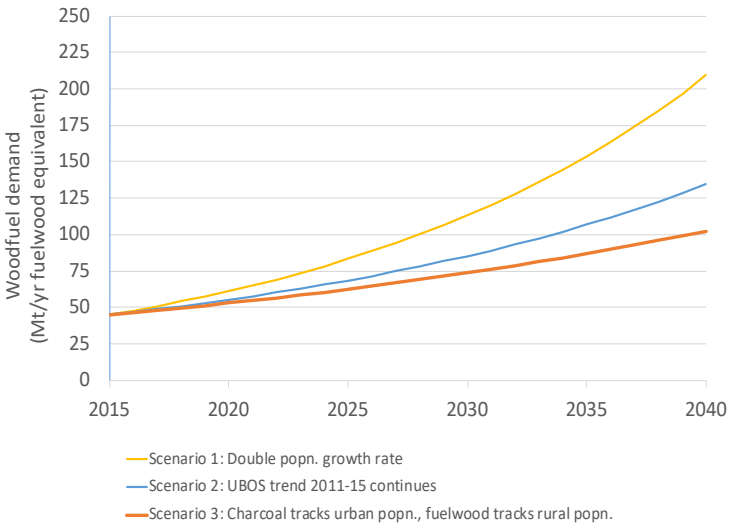
Woodfuels account for the highest percentage of all energy needs in Uganda. The bulk of it is consumed by households while the industry and the commercial sector account for the balance. The demand for woodfuels is expected to more than double in the next 20 years. Despite the industry's importance to the economy, it is not an area of focus in national planning. Formalization of the woodfuel industry will require governance reforms alongside a package of practical interventions to support the development of the industry.

- The annual value of traded woodfuels is estimated at USD 810 million. The government captures little official revenue from the industry and 'private taxes' on woodfuels could be worth USD 146 M/yr.

  The industry has significant impact on revenue, employment and other sub-sectors of the economy. It is estimated to be employing 870,000 people on a full-time equivalent basis. Up to 60% of employment and value is likely to be generated in rural areas.

- Despite the industry's scale, value and growth prospects, it remains largely informal. This hampers investment that might result in modernisation, efficiency and better environmental and social safeguards. Formalisation of the industry would require reforming governance together with practical interventions to encourage development.

Figure 1: Projected growth in demand for woodfuel in Uganda, 2015-2040



Industry overview

Woodfuels account for the highest percentage of all energy needs in Uganda, with the bulk of consumption coming from the households, followed by the industry and the commercial sector.

Uganda's population is expected to reach 70 million by 2040, with 41% of Ugandans living in towns and cities. This is significant in energy terms because urbanization is usually accompanied by a shift from fuelwood to charcoal as the main household fuel, with associated implications for wood inputs and the commercialization of supply chains.

Other drivers of growing demand are cultural preference, lack of affordable energy alternatives and rising wealth that leads to a shift towards charcoal. With these factors, demand for woodfuels (in firewood equivalent) is expected to more than double in the next 20 years.

The value of woodfuels is included in Uganda's GDP estimates where they are assigned a positive value based on total demand and average price. However, their net value may be negative as it does not reflect the cost of depletion of natural resources.

Uganda's woodfuels industry is estimated to employ 870,000 people on a full-time equivalent basis (270,000 in commercial fuelwood value chains and 600,000 in the charcoal industry). Up to 60% of employment and value is likely to be generated in rural areas.

Charcoal value chains from the source to the point of final consumption would historically involve as many as seven actors in a well-structured arrangement.

However, value chains have become disrupted and more diverse due to stiff competition. Some of the observed changes are:

i) Vertical consolidation to eliminate mark-ups by middlemen, which is increasingly common for woodfuel collection, transport and delivery to be undertaken by the same players.
ii) Exploiting legal loopholes that allow unregulated transport of charcoal purportedly for 'personal use,' large quantities of charcoal are now carried in small volumes on bicycles, motorbikes, public taxis and backhaul lorries.
iii) Large-scale urban wholesaling sites are now rare, reflecting the high opportunity cost of land that was previously used for inbound delivery, repacking and onward distribution.
iv) Assuming that demand keeps rising and weak controls on small-volume transport persist, further diversification of the value chain is likely as suppliers exploit multiple routes to market to gain a competitive edge.

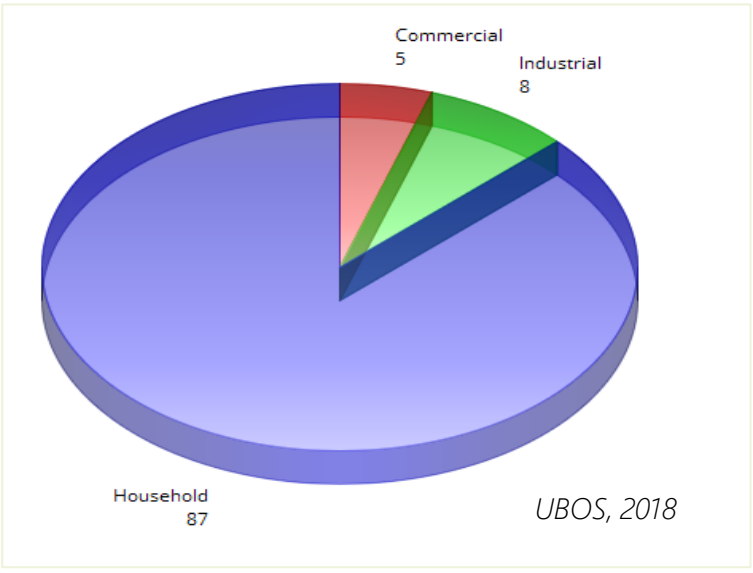


Figure 2: Woodfuel demand by sector, fuelwood equivalent

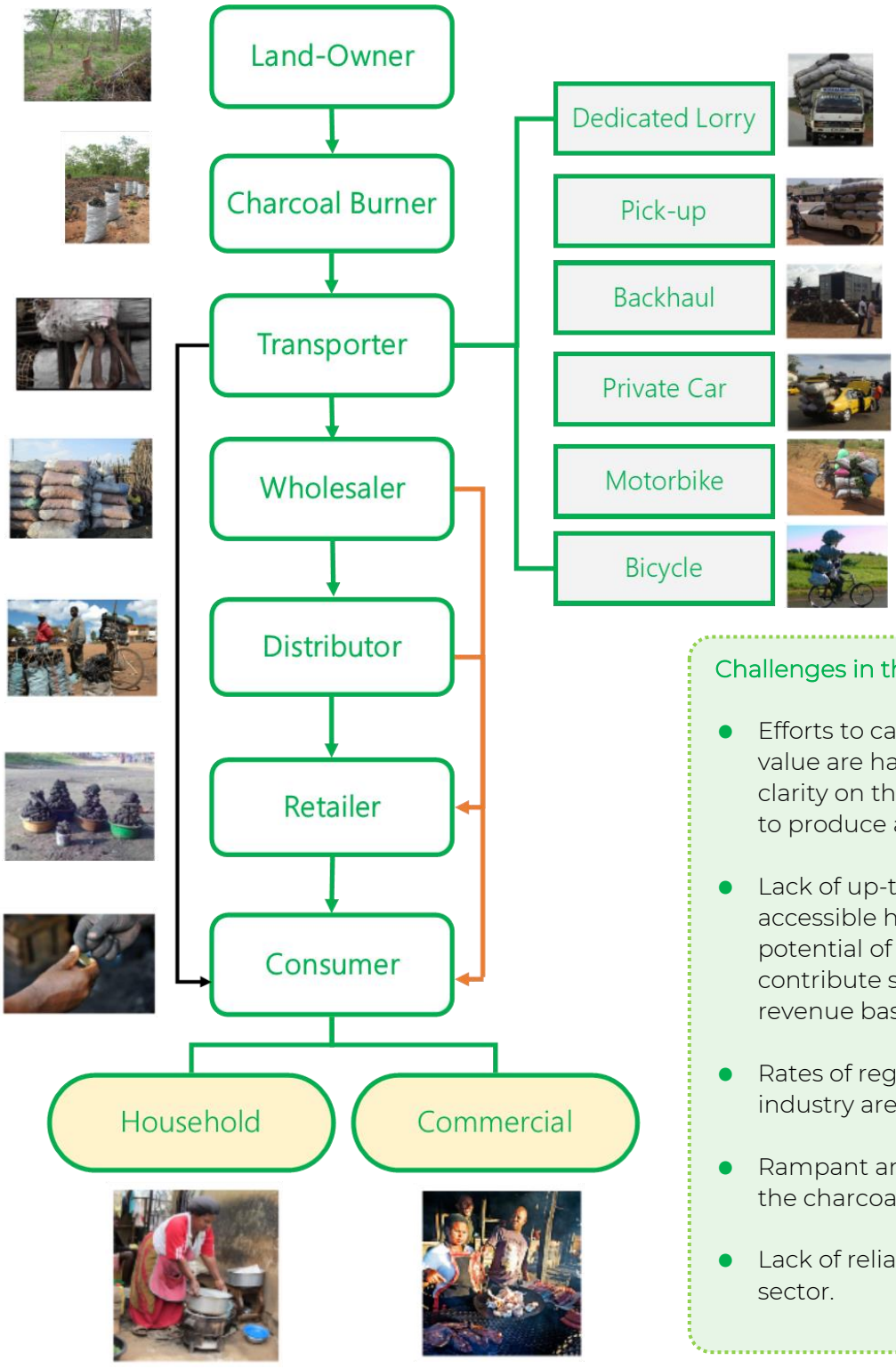


Figure 3: Generic charcoal value chain for Uganda

Challenges in the woodfuels sector

- Efforts to capture industry scale and value are hampered in part by a lack of clarity on the exact paperwork required to produce and trade in woodfuels.
- Lack of up-to-date data that is readily accessible has greatly obscured the potential of the charcoal industry to contribute significantly to the country's revenue base.
- Rates of regulatory compliance in the industry are currently low.
- Rampant and systemic corruption in the charcoal trade.
- Lack of reliable data to monitor the sector.

Intervention Options

Despite the scale, value and growth trajectory of Uganda's woodfuels industry, it operates largely in the informal sector and prices are suppressed through the value chain. This discourages the type of investment that might result in modernization, efficiency gains and better environmental and social safeguards. Formalisation of the woodfuels industry requires actions to reform governance alongside a package of practical interventions to support the positive development of the industry.

Governance Reform

- **Data Generation:** More credible and convincing data is needed on the social and economic significance of the woodfuels industry.
- **Advocacy:** Data on woodfuels need to be professionally packaged and presented to policymakers to communicate the contribution and relevance of woodfuels. The NCA valuation process is a useful first step.
- **Governance Review:** Stronger government incentive mechanisms are needed for revenue collection from woodfuels, e.g. by re-investing a percentage of fees in the agencies responsible for collection; this could include commercially-incentivised third parties, with measures to avoid uncontrolled extraction.

Practical Interventions

- **Assignment or creation of a single agency with oversight for commercial woodfuels**, to avoid current overlaps and duplication.
- **Development of enforceable packaging standards for charcoal**, with uniform bag weights and consistent fees.
- **Expanded technical and financial support for commercial tree growing on private land**, from which woodfuels are a merchantable by-product.
- **Greater support for industrial use of fuelwood, pellets and wood chip for thermal applications**, with incentives to convert fossil fuel systems, creating a consistent market and investment incentive for sustainably sourced woodfuel.
- **Commercial incentive packages for manufacturers and importers of high-tier cookstoves for fuelwood and charcoal** that meet the minimum standards of the Uganda National Alliance on Clean Cooking (UNACC, 2015).
- **Measures to reduce the cost of LPG adoption and use**, including credit schemes for appliances and research into pay-as-you-go LPG technology.
- **Development of value-added markets for sustainably produced charcoal** for urban retail and for bulk consumers concerned with responsible sourcing.

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