

## Charcoal in Tanzania: the persistently popular cooking-fuel in need of a policy re-think

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### Key Messages

- Demand for charcoal has increased in Tanzania's largest city, Dar es Salaam, over the last 30 years.
- Total demand for charcoal in Tanzania is likely to increase for the foreseeable future.
- National energy policy has sought to transition households away from charcoal use, with limited success.
- Charcoal is popular in Tanzania because it is cheap and reliable.
- Widespread non-payment of charcoal royalties contributes to charcoal being cheaper than other cooking fuels.

### Charcoal in Tanzania

For decades policy-makers have sought to reduce charcoal use in Tanzania. However, it remains the most popular cooking fuel for urban households. Understanding charcoal's persistent popularity is helpful in designing policies to align the charcoal trade more closely with Tanzania's development priorities.

Charcoal's advantages are that it is affordable, reliable, and is produced in-country providing employment for tens of thousands of producers and traders. Charcoal has the potential to generate substantial government revenues. However, charcoal also has disadvantages. Charcoal causes health problems and contributes to deforestation and forest degradation. There is widespread evasion of charcoal royalty payments.

The study described in this policy brief looks at how policies have influenced the charcoal trade and whether policy change could achieve outcomes aligned with Tanzania's development priorities.

In the energy sector, successive national energy policies have sought to transition urban households away from charcoal and into modern fuels (e.g. liquefied petroleum gas (LPG)). In keeping with this policy and in order to make LPG more competitive, LPG has been exempted from the fuel levy, foregoing over US\$40 million in revenue annually. On the supply side, forest policy has sought to regulate the charcoal trade and generate government revenue from royalties. Policies have not encouraged sustainable charcoal production from natural woodlands and there have been few attempts to produce charcoal sustainably.

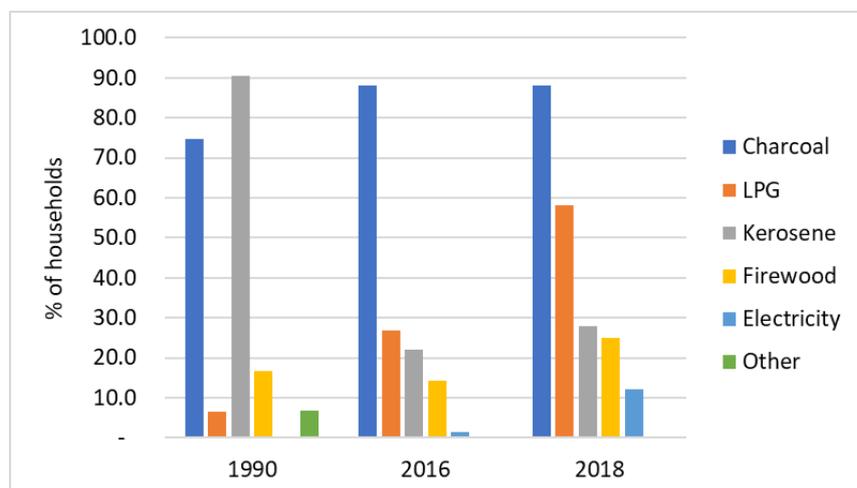
### Understanding how national policies influence households' cooking-fuel use

In late 2018, household surveys were carried out involving 100 randomly-selected households across Tanzania's largest city, Dar es Salaam. Data were collected on the different types of fuel used for cooking; why households prefer different fuels; and fuel costs.

Through surveys with charcoal retailers, traders and producers, data were also collected on charcoal prices along the value chain. By comparing this information with the results of previous surveys and with information on government taxes, royalties and other fees, it was possible to link fuel-use trends with policy shifts. Price data for other cooking fuels were collected and compared with charcoal prices per unit of usable energy.



Photo by Rob Beechey



**Figure 1. Changes in the percentage of households using five cooking-fuels in Dar es Salaam between 1990 and 2018.** Source: Doggart et al.

## Key findings of the survey

- 1. Urban households have not transitioned from charcoal to modern cooking fuels**, over the last 30 years. A higher proportion of Dar es Salaam households used charcoal in 2018, than in 1990 (Fig. 1). Charcoal has remained popular despite three successive energy policies promoting a transition to modern fuels.
- 2. Demand for charcoal in Dar es Salaam has quadrupled** from 0.22 million tonnes in 1990 to 0.94 million tonnes in 2018. Increased charcoal demand is largely driven by population growth and urbanisation.
- 3. Charcoal is popular because it is cheaper than other fuels**, including LPG. Only firewood is cheaper, per unit of energy. Widespread non-payment of charcoal royalties contributes to the low cost of charcoal.
- 4. Policy interventions have influenced cooking-fuel choices, primarily by impacting fuel cost.** For example, less households used kerosene in 2018 than in 1990, due to a fuel levy increase on kerosene in 2011, making it more expensive. In contrast, LPG's popularity increased due to a fuel levy exemption in 2015. However, more LPG use has not resulted in less charcoal use (Fig. 1).
- 5. Government revenue from royalties on the charcoal used in Dar es Salaam should exceed US\$ 98 million.** In practice, less than 10% of this is collected.
- 6. Current policies do not promote sustainable, efficient and safe charcoal production and use.** Charcoal is excluded from the scope of the National Energy Policy.
- 7. Most households in Dar es Salaam use more than one fuel.** On average, households use 2.1 fuels for cooking. An LPG/charcoal combination is most popular.

## Recommendations

### 1. Embrace charcoal into national policy

Based on historical trends, charcoal will continue to be used by most urban households for the foreseeable future. Changing energy and forestry sector policies to reflect the continued popularity of charcoal, could achieve outcomes aligned with the national development vision of building a strong and resilient economy. Relevant policy options include: supporting sustainable charcoal production in community-managed woodlands; reducing the health impacts of charcoal use, through promotion of low-emission stoves and safer cooking practices; and building technical expertise along the value chain.

### 2. Re-evaluate the fuel-levy exemption on LPG

Fiscal tools have influenced consumer demand for LPG and kerosene. In the case of LPG, the rationale for exempting LPG from the fuel levy was to reduce deforestation and household air pollution by encouraging households to replace charcoal with LPG. With little evidence that the broader objectives of the exemption have been achieved, it would be worthwhile to re-evaluate the exemption.

### 3. Support research and monitoring of charcoal

Policy-relevant research on charcoal's contribution to the economy, sustainable production options and safer production and use options, is needed.

This policy note is based on: Doggart, N., Ruhinduka, R., Meshack, C.K., Ishengoma, R.C., Morgan-Brown, T., Abdallah, J.M, Spracklen, D.V. & Sallu, S.M. 2020. The influence of energy policy on charcoal consumption in urban households in Tanzania. *Energy for Sustainable Development*. Available for free download at <https://doi.org/10.1016/j.esd.2020.06.002>

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