

DETERMINANTS OF FUELWOOD DEMAND: A CASE OF OLIO SUB-COUNTY SOROTI DISTRICT, EASTERN UGANDA

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Background

Fuel wood is the primary source of household energy in rural areas of Uganda (Agea et al., 2010). However, in the face of population pressure, deforestation and increased subsistence cultivation, fuel wood supplies are rapidly depleting. This study; investigated the determinants of fuel wood demand, estimated the elasticity of the determinants, determined changes in land use/cover and biomass dynamics and documented domestic energy coping strategies in Olio Sub-County in Soroti District, Eastern Uganda.

Materials and Methods

The study was conducted in Soroti District, entirely located in a semi-arid area dominated by savannah grasslands characterized with thorny *Accacia* species. The North moist farmlands and North central farm bushlands with sandy soils are the main farming units. Fuel wood information was obtained through structured questionnaires and focus group discussions (FGDs). The elasticity of fuel wood demand determinants was determined through log-linear regression while land use/cover change was assessed through a times series analysis of Landsat imagery (1973, 1986 and 2001) in ILWIS 3.3 Academic. Land use/cover maps were validated using field observations and historic memories of village elders. Validated maps were then processed in the land-use modeller integrated in ArcGIS 9.2.

- A net gain of 44.1% of 1973 wood biomass was realised in 1986 while a net loss of 67.2% of 1986 wood biomass stock was realised in 2001
- Fuelwood stacking exists as a coping strategy
- The coping strategies are in use are environmentally unsustainable and affect women's health



Figure 2 :cooking using firewood



Figure 3: Live tree wood drying for fuel

Success story

- One percent (1%) of the households consistently used fuelwood energy saving cook stoves.
- One percent of the households had well managed crop gardens with diversified livelihood sources.
- One percent of the households had woodlots for fuelwood (Figure 4)



Figure 4: A woodlot of *Eucalyptus*

Recommendations

- Mass community education on agro-forestry, better cooking facilities and alternative sources of energy
- Capacity building in construction of improved cook stoves using locally available materials
- community education on better farming practices that increase productivity without increasing acreage

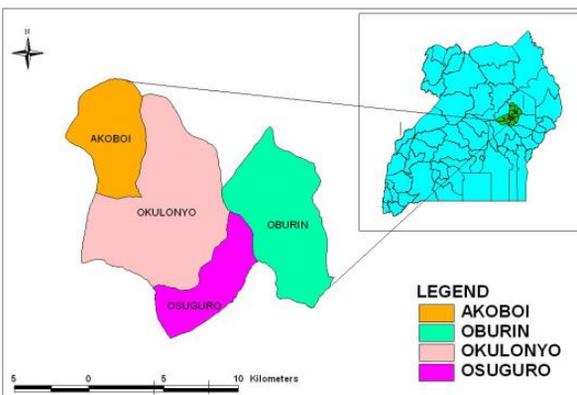


Figure 1: Location of Study Area

Summary of results

- Determinants of fuelwood demand are within the domain of the household socio-economic and demographic characteristics.
- Fuelwood dependence is still very high (99%) and is not bound to decrease in at least the next decade.
- Observed elasticities are higher compared to those of other studies.
- The Per capita fuelwood consumption was 542.32 kg
- The three cooking stones are still the dominant cooking stove (86%) with high energy inefficiency (Fig 3).

References

Agea, J.G., Kirangwa, D., Waiswa D., Okia C.A. (2010). Household Firewood Consumption and its Dynamics in Kalisizo Sub-County, Central Uganda *Ethnobotanical Leaflets* 14: 841-855.