



Integrating Land, Forest, and Energy Policy Issues in Zambia

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Acknowledgements

1

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Forests and Livelihoods

2

- Forests provide economic and ecological goods/services
- 88% of rural HHs depend on forests to meet their basics (Zambia Forestry Policy, 2009)
- However, current poor socio-economic conditions in rural areas exerting pressure on forests
- Poor rural households using forests as a safety net
 - charcoal production & other NTFPs
- Unsustainable harvest of forest products is a threat to forest integrity
- Rising urban population and unreliable electricity supply driving charcoal demand
- Deforestation & degradation threatening sustainable livelihoods from forests

Distribution of forest land by land tenure type

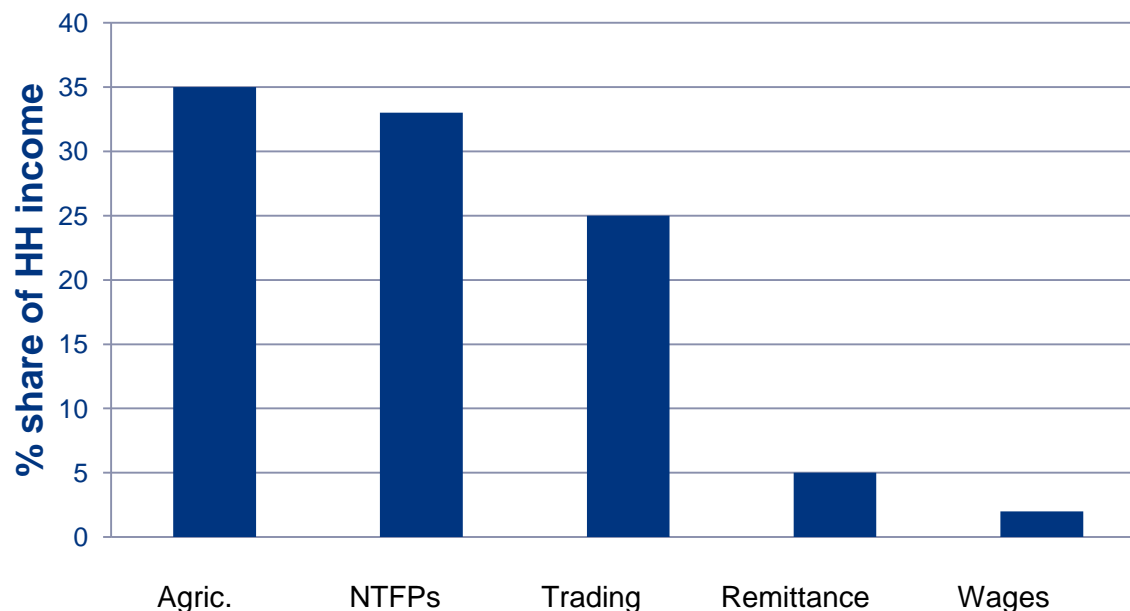
3

| Land tenure | % of forest area |
|--------------------|------------------|
| Customary | 61.5 |
| Public-state | 23.7 |
| Private individual | 7.2 |
| Private industries | 1.3 |
| Private other | 2.1 |
| unknown | 4.2 |

Source: ILUA 2008

Contribution of Income Sources for NTFP-dependent HH in Districts where NTFP Extraction is common

4



At national level NTFPs only contribute 2% of total HH income

Source: CSO/MACO/FSRP 2008 SPHS

Some Determinants of dependence on NTFPs

5

- Education – negatively related
- Landholding size---likelihood of participation increasing at decreasing rate
 - Negatively related to share of income
 - Asset base---negatively related

% of NTFP Participants & Share of Household Income by Product

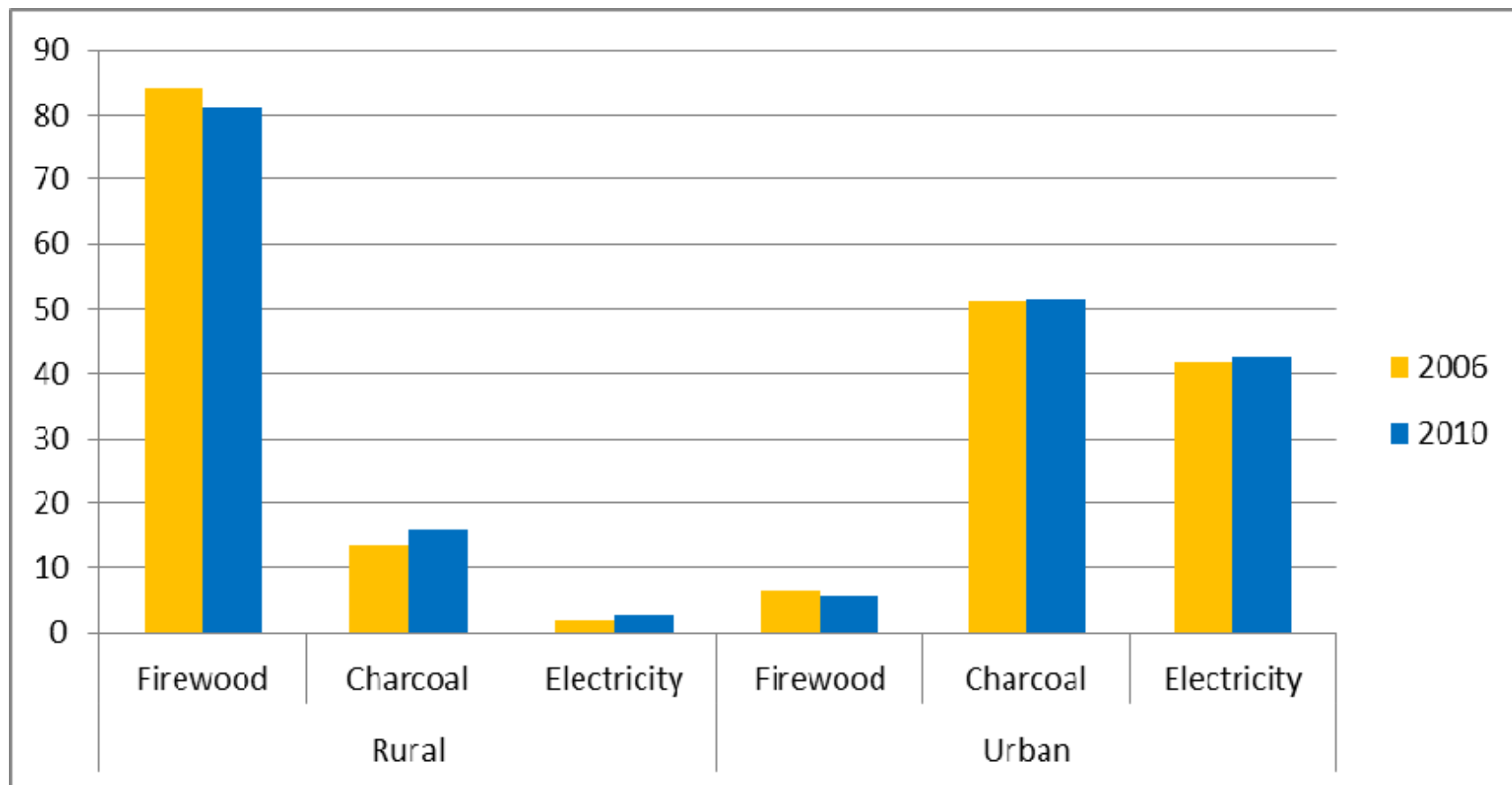
6

| NTFPs | % of participating households | Share of total household income |
|--------------------------|-------------------------------|---------------------------------|
| Charcoal | 51% | 22% |
| Ants/caterpillars | 40% | 9% |
| Mushroom | 16% | 1.8% |
| Wild honey | 8% | 1% |

Calculated from Supplemental PHS 2008

Distribution of households using charcoal/electricity by rural & urban 2006-2010

7



Source: LCMS 2006-2010

Estimates of Charcoal Production & Deforestation

8

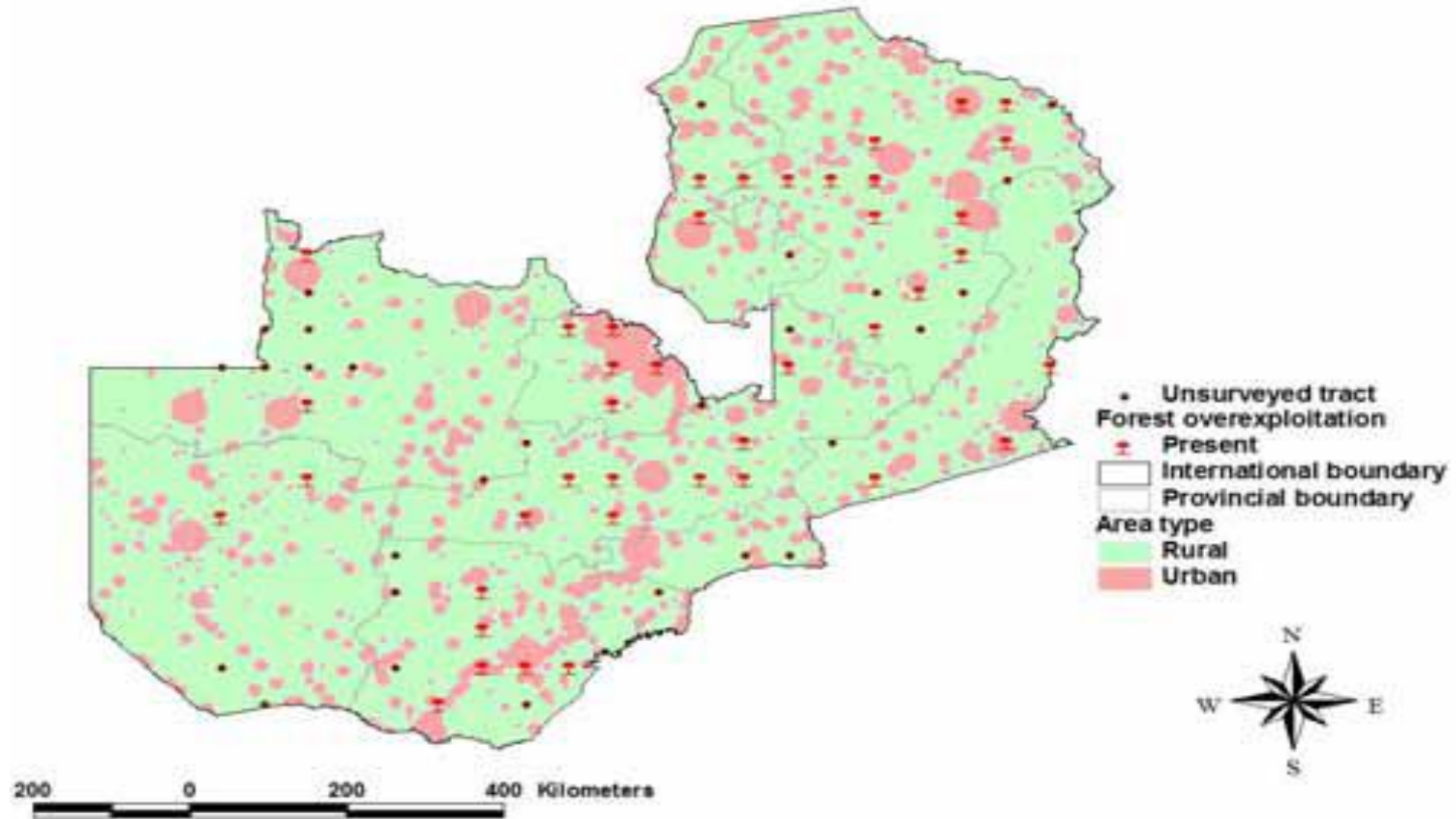
| Year | Charcoal production (tonnes) | Wood biomass used (million tonnes) | Estimated forest degradation (hectares) |
|-------|------------------------------|------------------------------------|---|
| 1969 | 330, 000 | 1.375 | 17, 000 |
| 1980 | 490, 000 | 2.042 | 26, 000 |
| 1990 | 685, 000 | 2.854 | 36, 000 |
| 2000 | 905, 000 | 3.771 | 48, 000 |
| 2008* | 1, 392, 000 | 5.800 | 73, 000 |

ILUA 2008

* Includes both rural & urban, the rest of the years are for urban only

Forest over-exploitation - Rural vs urban

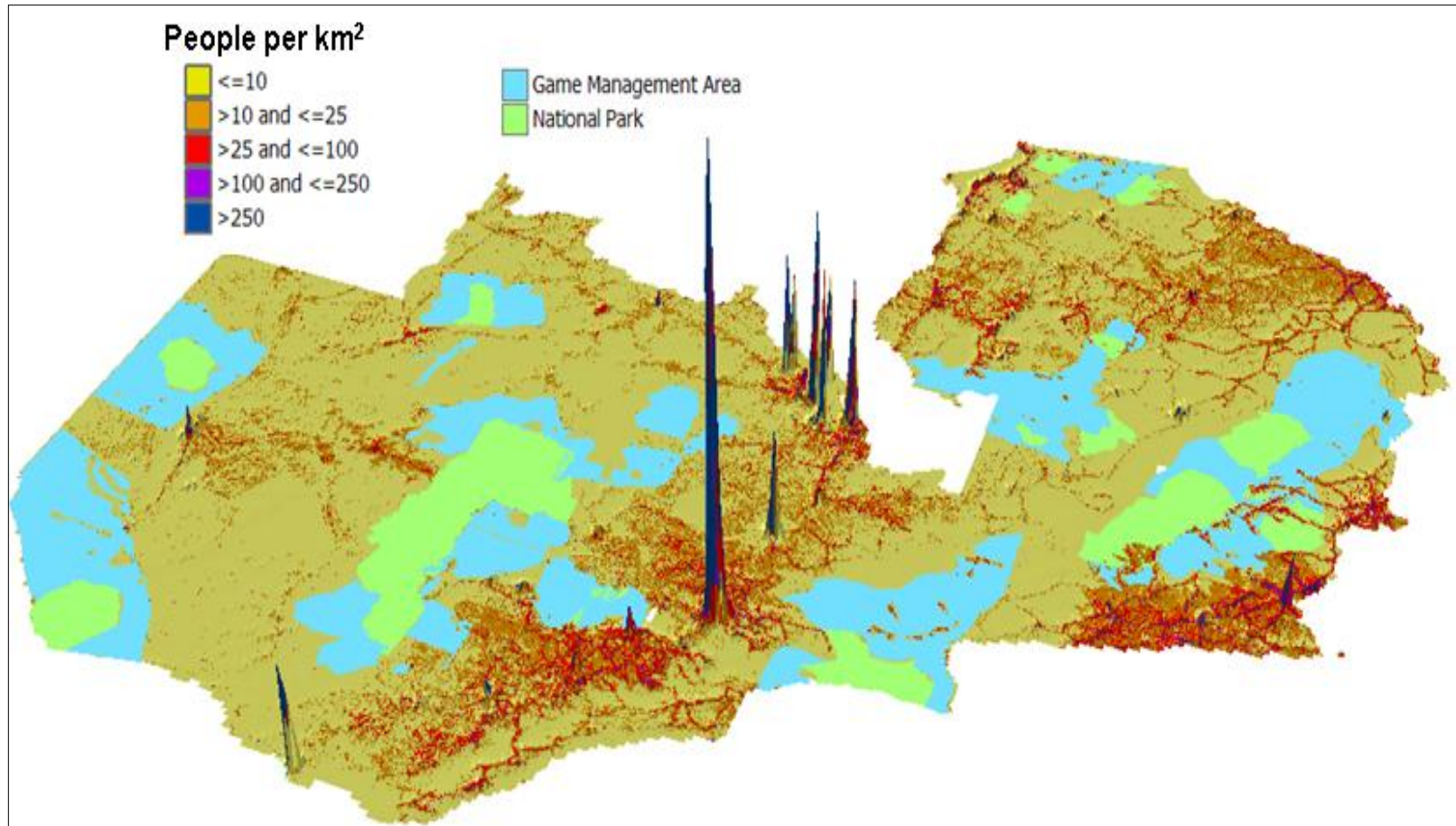
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Source: ILUA 2008

Population Density, Zambia

10



Respondents' perceptions of availability of arable land in customary lands, 2001

11

| Province | Availability of unallocated arable land |
|--------------|---|
| | % Responding Yes |
| Northwestern | 96 |
| Northern | 68 |
| Central | 57.9 |
| Lusaka | 40 |
| Copperbelt | 39.2 |
| Luapula | 38.6 |
| Eastern | 32.6 |
| Southern | 33.6 |
| Western | 23.3 |

Policy implications

12

- Initiatives aimed at conserving forests must account for the fact that most forest land is on customary land
 - Important role of traditional authorities
- Dependence on forests is related to household poverty
 - Safety net for the poor & potential pathway out of poverty
- Wood fuel most common source of forest income and energy
 - Rising urban population & charcoal demand
 - Environmental consequences of increasing charcoal demand.
 - Rising urban incomes generally associated with shift to electricity, ...but this is not the case in Zambia, why?

Policy implications

13

- Government currently working on Forest Act, focusing on reforestation which would include tree planting
 - Good Act, but should come with strong incentives structures to compensate for alternative uses of land
- Options for sustainable management
 - Promote community property rather than open access
 - Forestry Department to step up awareness raising on importance of sustainable harvest of forest products

Policy implications

14

- Over-exploitation takes place in areas around urban districts
- Careful consideration when opening up new settlement areas to avoid over-exploitation of forests around the new areas
- Demand for forest products and associated degradation being driven by two main processes:
 - Rising demand for charcoal as energy
 - Rising land constraints limiting income potential from agriculture

THANK YOU FOR YOUR ATTENTION!

15



Dried caterpillars at a Lusaka market.



Transporting charcoal, Zambia.