Urban Energy and the Poor

The Case of Hyderabad

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Overview

- Rationale and Nature of Study
- Existing Energy Policies for Households
- The Energy Transition 1982-94
- Deforestation Around Hyderabad

Rationale and Nature of Study

- No comprehensive study of urban energy and the poor
- How are urban energy policies are affecting the poor
- Are subsidies being wisely directed
- How is the urban energy transition affecting deforestation around Hyderabad

Nature of the Survey

Activities

Household Survey	**2,800 Urban Households**	**400 Slum Households**	**3,200 Total Households**
Retailer Survey			**500 Commercial Establishments**
Fuelwood Wholesaler Survey			**Visited 10 Wholesalers**
Biomass Mapping	**Historical Maps form 1928, 1963, and 1987 (Survey of India)**	**Analysis of Satellite Imagery of Hyderabad (INRIMT)**	**Aerial Photograp (Survey of India)**

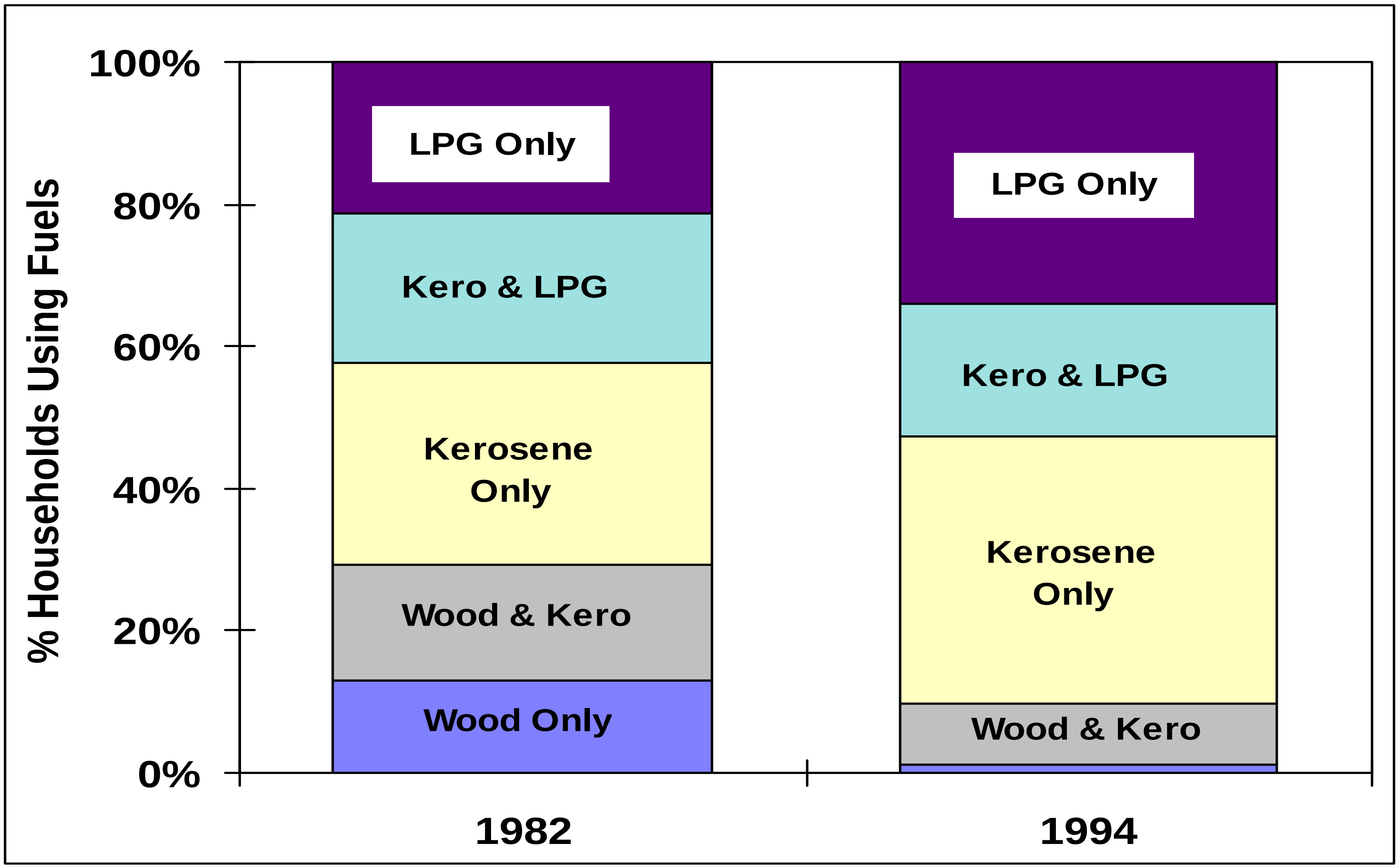
Existing Energy Policies

- Import and production of LPG and kerosene limited by government.
- Kerosene is subsidized and distributed through ration shops in limited quantities
- LPG is cross-subsidized and distributed through officially appointed distributors
- Electricity is subsidized and through State Electricity Boards
- Fuelwood is only fuel that is freely marketed

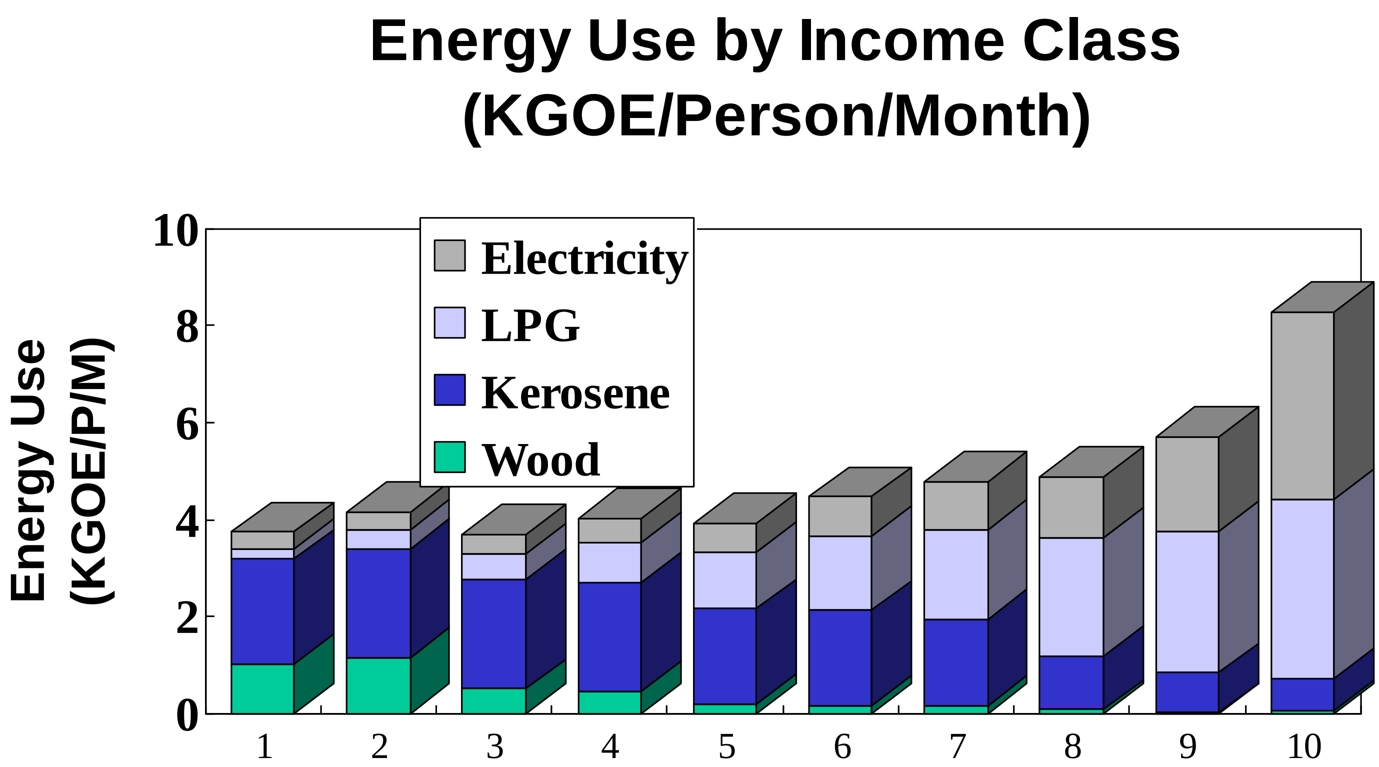
The Energy Transition 1982-94

- Major shift out of fuelwood by pour households into kerosene and LPG
- Middle class and rich have shifted from kerosene to LPG, freeing kerosene for poor
- But poor households utilize a high percentage of their income on energy, because they pay more for useful energy

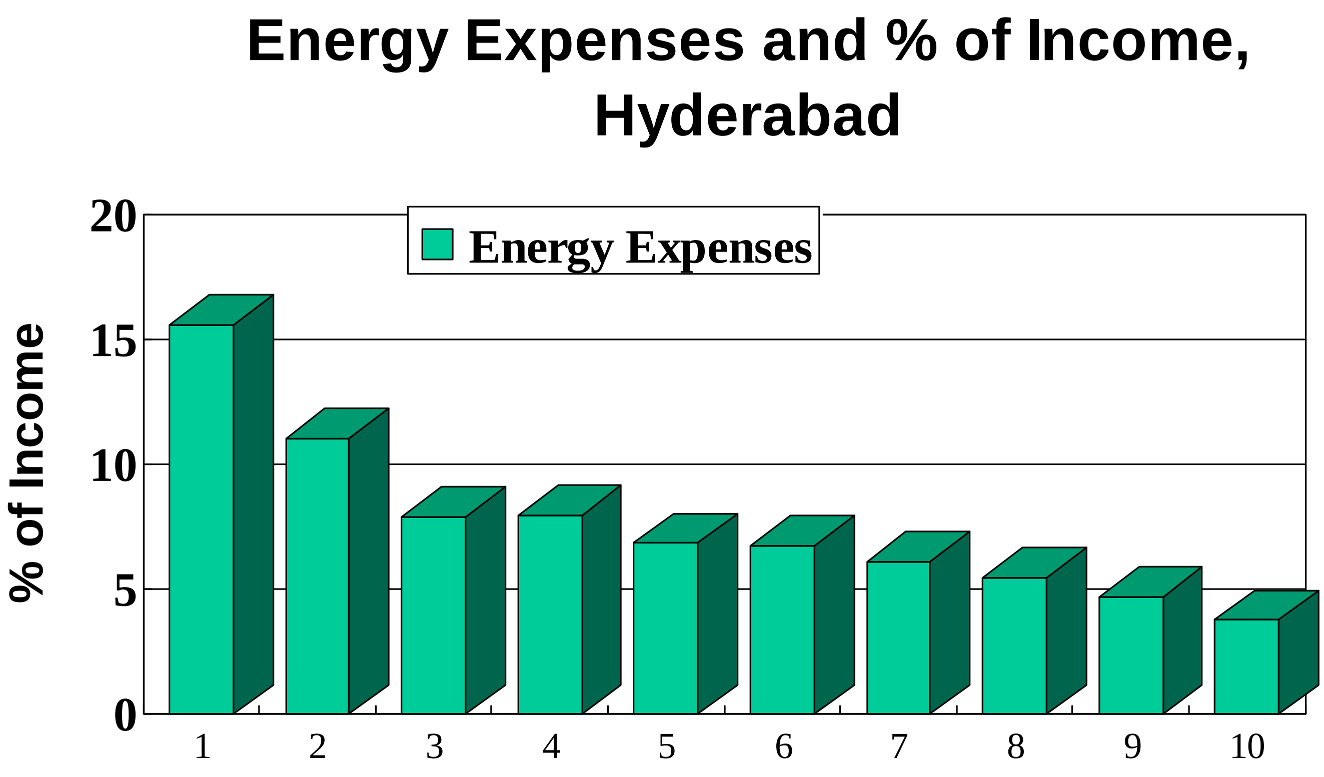
Energy Transition--Hyderabad



Profile of Energy Use, Hyderabad



Income and Energy Expenses



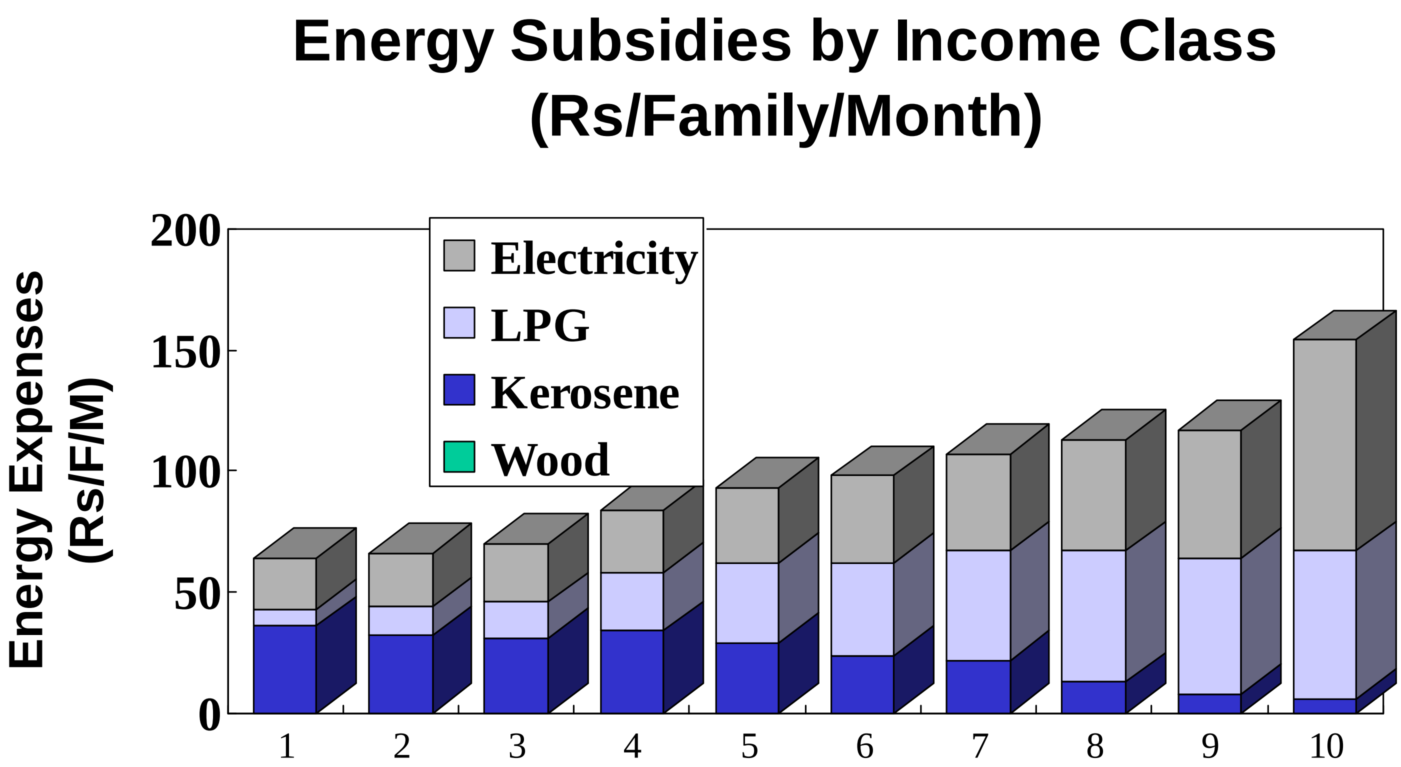
Deforestation Rate is Declining

- Substantial decline in household fuelwood consumption between 1982 and 1994--from 154 to 92 thousand tonnes per year (40 percent decline
- Deforestation rate has decline
  - 1928-63 forests decline 28 sq. kilometers/year
  - 1963-87 forests decline 2 sq. kilometers/year
  - 1986-93 forests decline 1.3 sq. kilometers/year (Satellite Imagery)

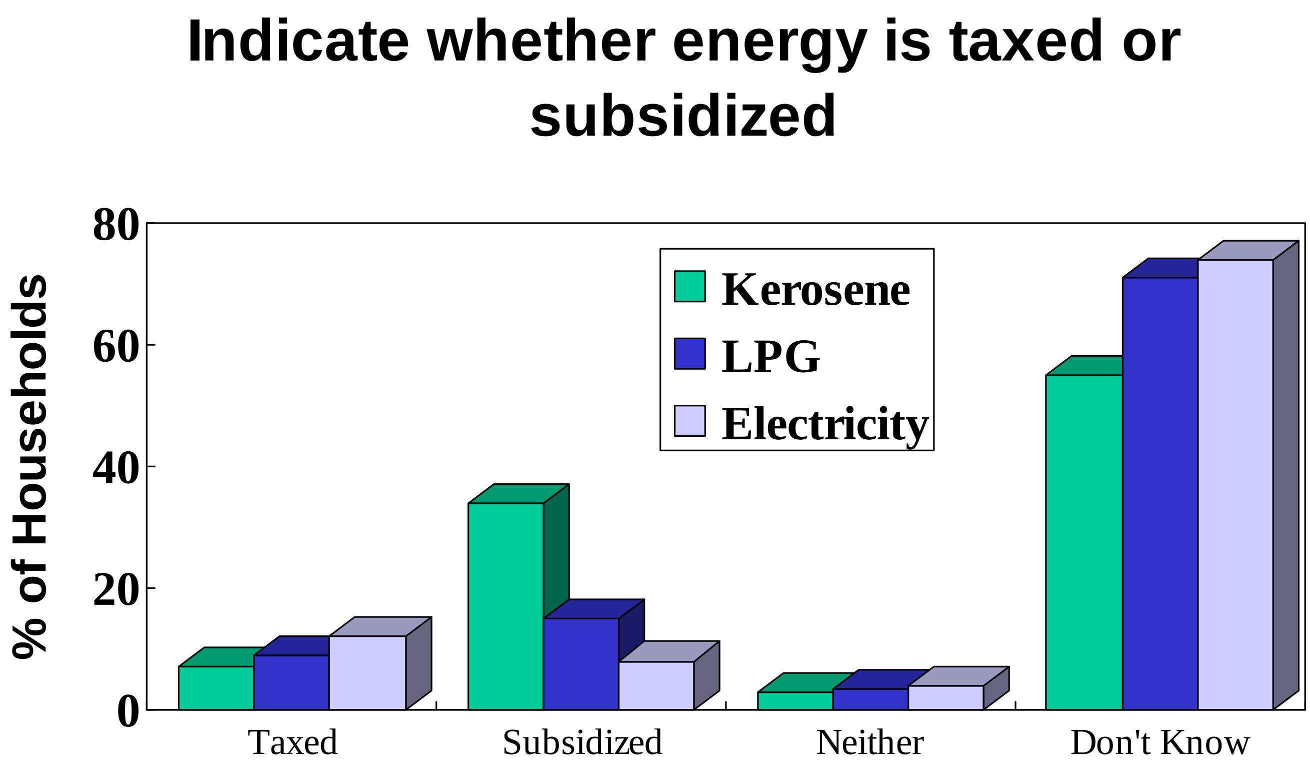
Subsidies For Energy

Fuel	Estimated Subsidy Per Month in Million Rupees	Subsidy Share Low Income (Lowest 30%)	Subsidy Share Middle and High Income
Fuelwood	No Subsidy	No Subsidy	No Subsidy
Kerosene	20.4 (USD 0.58)	46%	54%
LPG	29.4(USD 0.84)	10%	90%
Electricity	33.1(USD 0.94)	17%	83%
Total	82.5 (USD 2.35)	21%	79%

Energy Subsides by Income Group



People's Perception of Subsidy



Improved Stoves: Rural Areas

Ownership and Availability

	Maha	AP	WB	Punjab	HP	Raj
HH Owns	6	6	2	9	20	10
HH Heard Of	52	52	92	53	74	80
Available in Market	9	42	23	34	42	24
Of owners Percent Functional	56	86	58	31	99	5

Improved Stoves: Rural Areas

Opinions Regarding Improved Stoves

	Agree	No Opinion	Disagree
All cooking cannot be done on it	18	62	19
Creates less pollution	40	56	2
Creates less respiratory in women	35	60	4
Construction and repair is a waste of money	8	67	23

Conclusion

- Poor spend significant proportion of income on energy
- Except for kerosene, subsidies are misdirected towards middles class and wealthy
- Urban interfuel substitution has contributed towards decline in deforestation rate

Conclusion
Policies to Help the Poor

- Lower first cost of LPG service, and continue trend towards market reform
- Promote electricity sector reform, but retain lifeline rates for poor
- Issue coupons to poor for kerosene, but reduce or stop sale through ration shops
- Target poor households for improved biomass stoves