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Impact of Reforms on Electrification of the Poor in Africa

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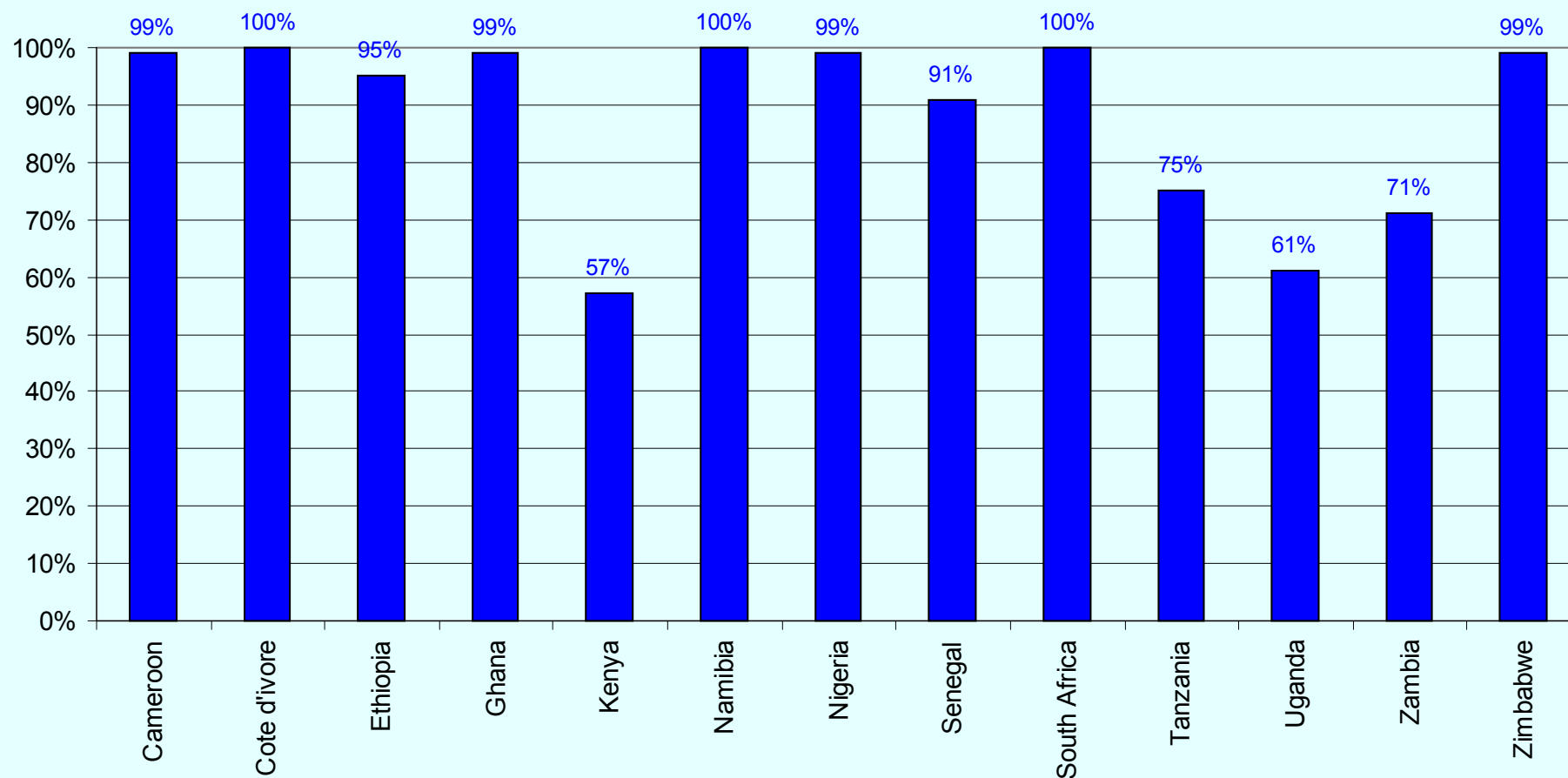
Based on research undertaken for the
Global Network on Energy for Sustainable Development (GNESD)

Status? Major Problem

- Although reforms have delivered technical & financial benefits to the region's electricity industry
- After 15 years of reforms, top 20% have electricity

Access to Electricity – Top 20%

5th Quintile - The Richest Population

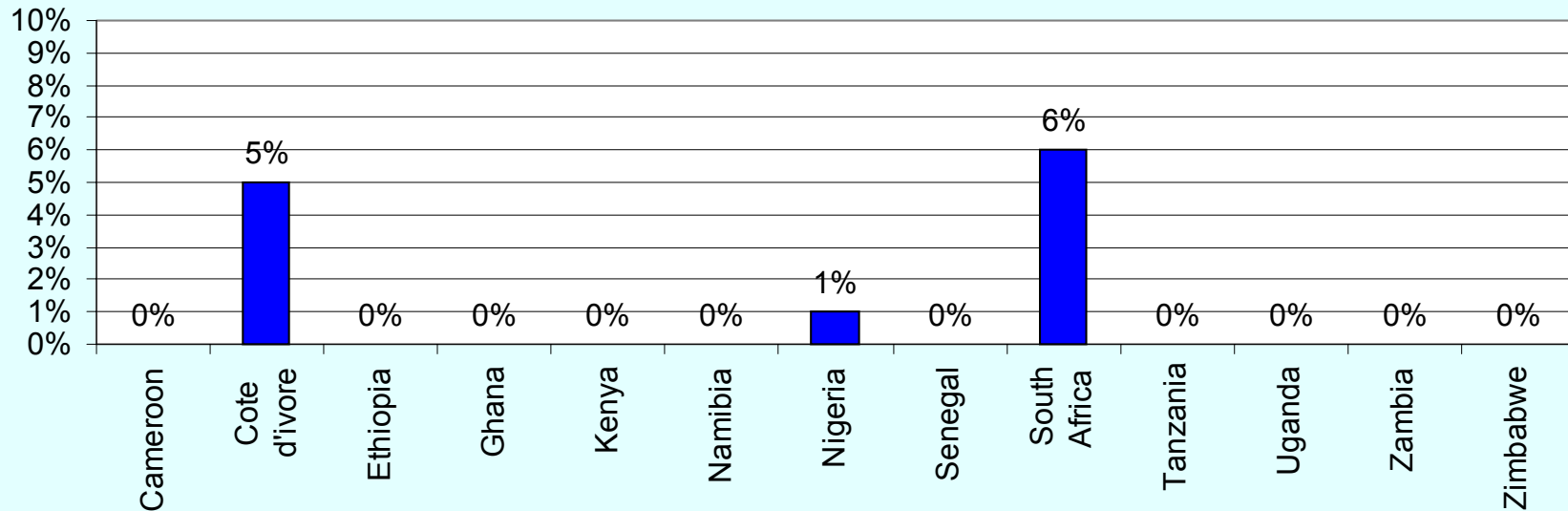


Source: Estache, 2005

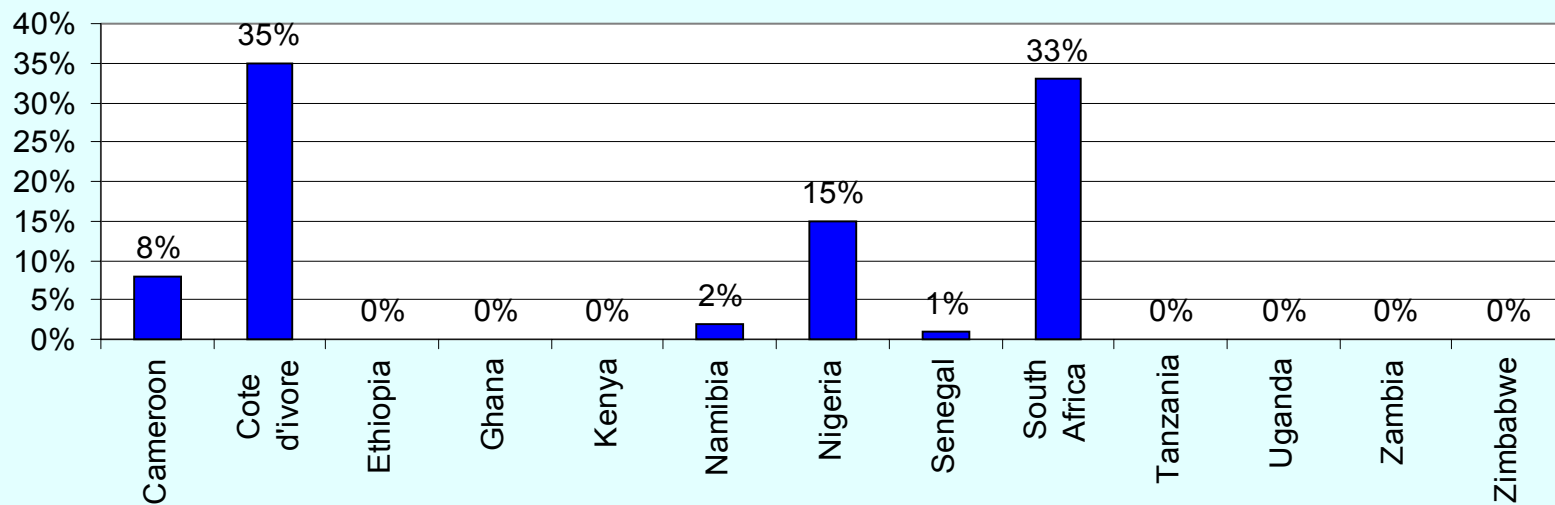
Status? Major Problem

- But bottom 40% have no access to electricity in SSA

1st Quintile - Poorest Population



2nd Quintile - 2nd Poorest Population



Status? Major Problem

- Bottom 40% is target of Millennium Development Goals (MDGs) – central mission of development community
- Trouble with MDGs = trouble with PRSPs (Poverty Reduction Strategy Papers)
- Trouble with PRSPs = less \$ from Treasury & development partners

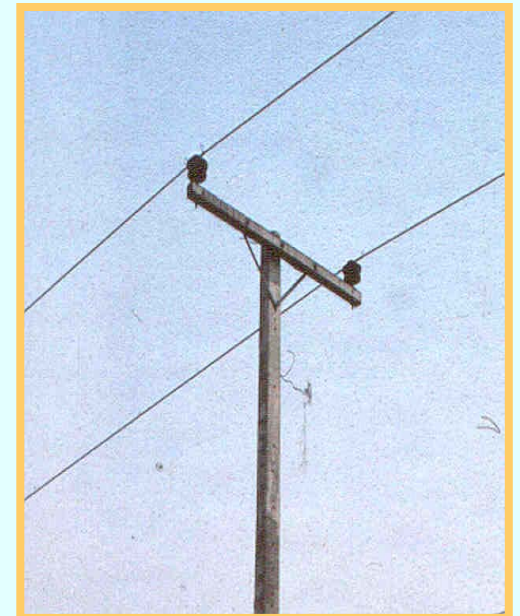
Trend? Chronic Problem

- Only region where absolute number of non-electrified is increasing
- In some countries, population growth is outpacing electrification rate

Country	Population (million)	Coverage (%)	Years to 100%
Tanzania	34	8%	4
Uganda	24.4	4%	1,275
Malawi	11.8	5%	183
Kenya	31.3	15%	42

Have Reforms Been Beneficial ?

- Empirical assessments of the impact of the power sector reforms on the poor
- Reform reference - enactment of new Electricity Act
- Pre- and post-reform assessment
- Reliance on empirical data (by income groups)
- Access
 - *Electrification levels – physical access*
 - *Electrification rates – pace of electrification*
 - *Electricity consumption*
- Affordability
 - *Electricity tariffs*
 - *Electricity expenditure*



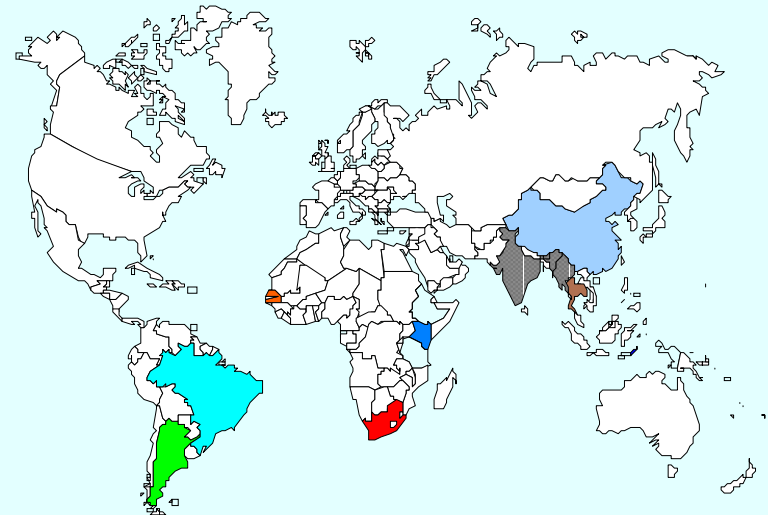
Global Study on Impact of Reforms on Poor's Access to Electricity

Africa:

- Energy Research Centre (South Africa)
- Environment and Development in the Third World (Senegal)
- African Energy Policy Research Network (Kenya)

• Involved other Centres in Middle East, Asia and Latin America

- American University in Beirut (Lebanon)
- Asia Institute of Technology (Thailand)
- The Energy Research Institute (India)
- Energy Research Institute (China)
- Bariloche Foundation (Argentina)
- The University of the South Pacific (Fiji)
- Federal University of Rio de Janeiro & University of Sao Paulo (Brazil)



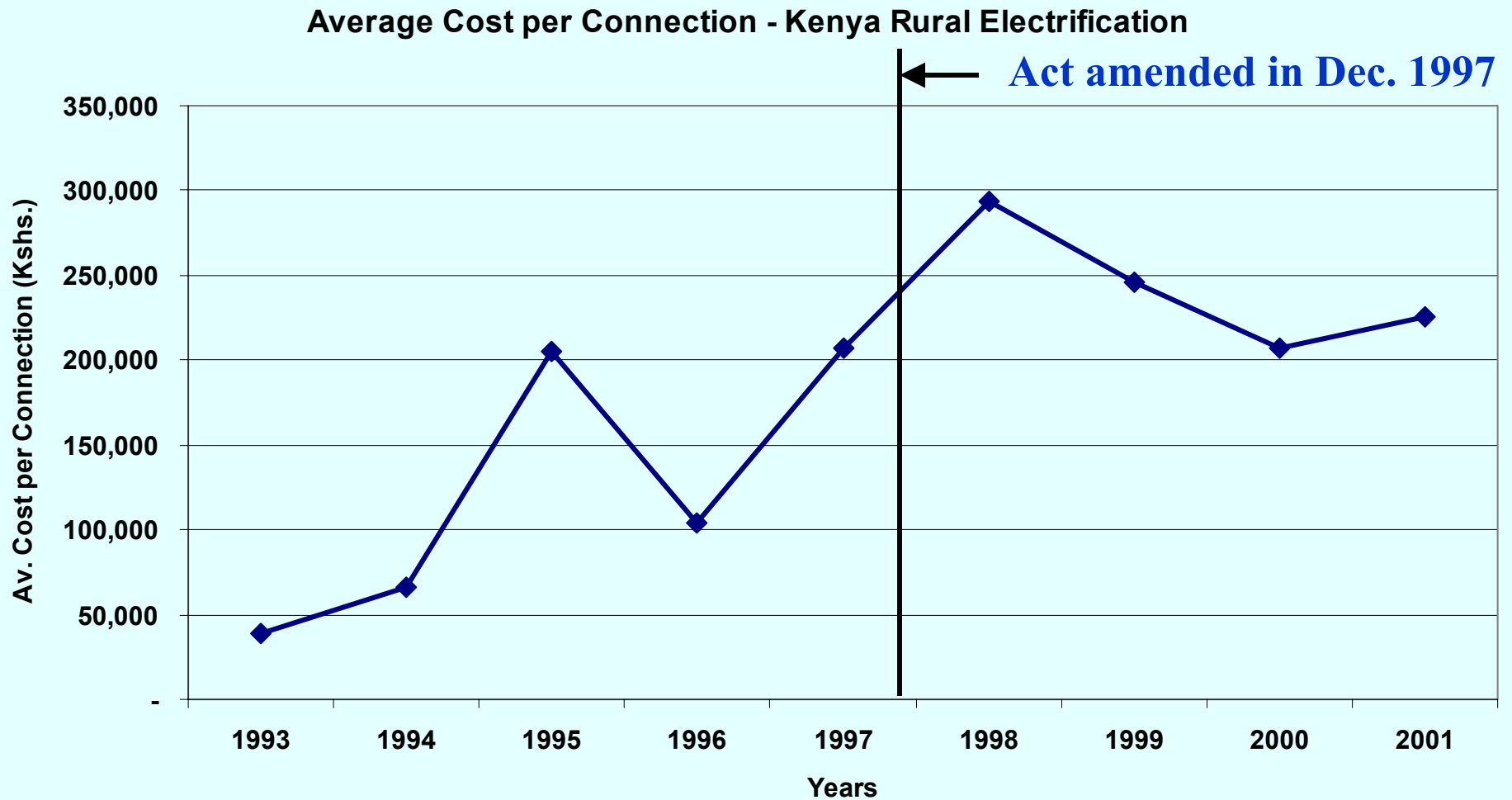
Data, Data & Data

- Limited income-differentiated electrification trend data
- Indication of past limited policy interest
- Had to analyze primary utility customer records to generate data
- In some countries, used rural electrification as proxy for electrification of poor

Country	Pace of Electrifying the Poor	
	Pre-reforms	Post-reforms
Kenya	16.1	7.7
Senegal	12.2	1.4

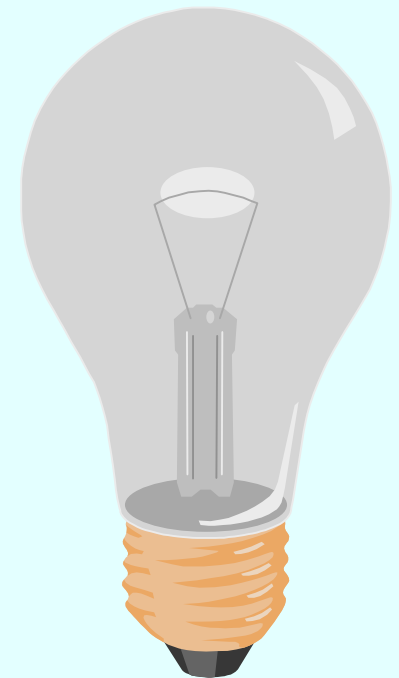
Cost of Electrifying the Poor

Before new Government in 2003



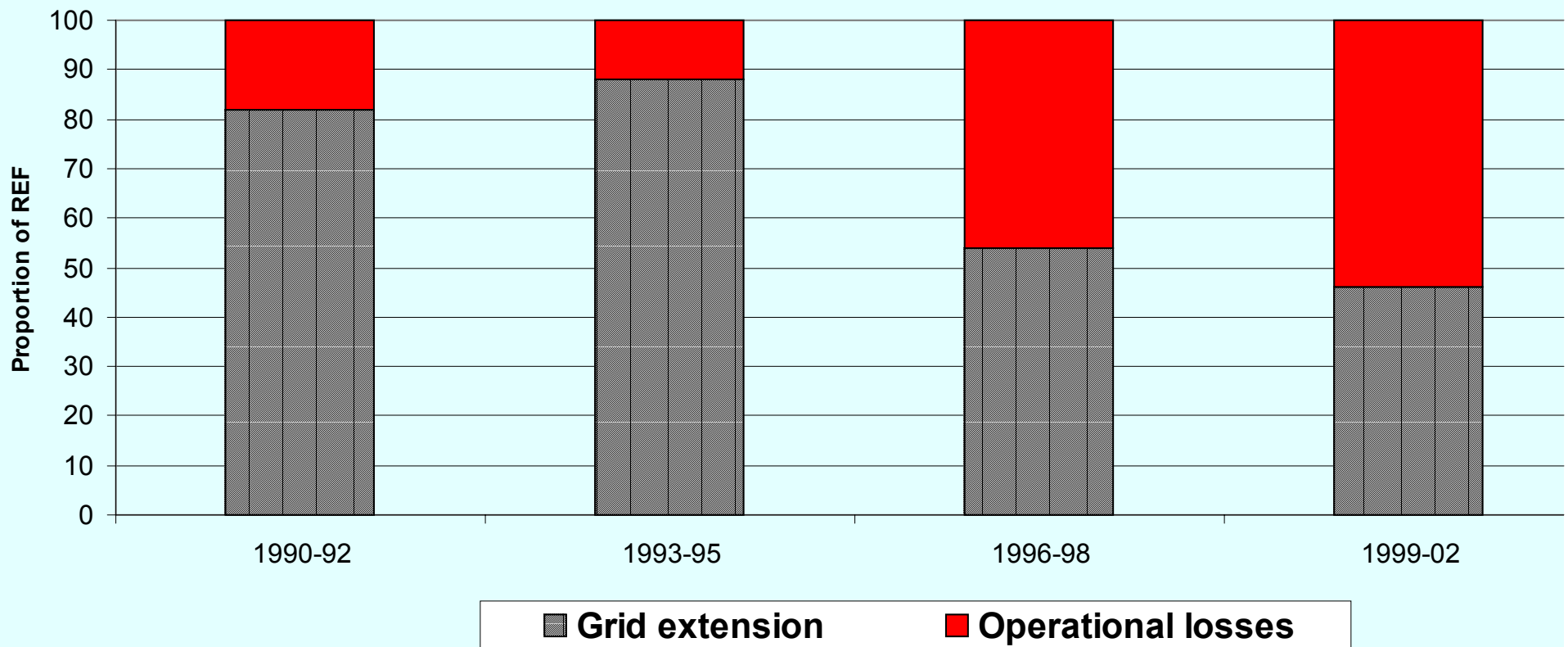
Findings of Africa Case Studies

- Privatization reforms have had **neutral or adverse impacts** on the poor
- Reforms need an **explicit pro-poor dimension** otherwise electrification of the poor is forgotten



“Ring-fencing” (protecting) Funds for Electrification of Poor

Kenya (Before New Government)



Sequencing of Reforms



Reform/privatize utility & then electrify the poor



Reforming/privatizing utility took “forever”,
electrification of poor either forgotten or at tail end
of reforms - lost at least a decade

Sequencing of Reforms

Solution – Different Businesses



Ring-fence & un-bundle services to the poor & pursue parallel tracks

Low-Cost Options

- SWER-`Single Wire Earth Return
- Ready boards
- Sharing of poles
- Limited loads
- More cost-effective designs that reduce number of transformers



Participation

- Lack of participation - historical characteristic of power sector even before reforms
- Decisions made by relatively small group of “experts”
- Everybody agrees that participation of the poor is good but how do you do it ?
- Representation:
 - *Boards of utilities, regulatory/rural electrification agencies*
 - *Electrification committees that have paid substantial deposits (up to KShs 3 million in parts of Kenya)*
- Local SMEs/Informal sector

Relative Size of SMEs

Country	No. of Permanent Employees			Largest Project Size (US\$)
	Largest	Smallest	Average	
Uganda	82*	13	29	300,000
Tanzania	10	4	3	-
Zambia	30	4	11	-
Kenya	37	5	20	381,000
Zimbabwe	58	5	27	800,000

Why SMEs & Informal Sector?

- AFREPREN study in Kenya, Tanzania, Uganda, Zimbabwe and Zambia
- SME/Informal sector accounts for big chunk of economy - vibrant and growing
 - Over 90% of private business = SMEs
 - SMEs in Africa account for 50% of GDP
 - SMEs provide over 50% of employment
- Already serves the poor as well as involved in power sector sub-contracts
- Has required skills, experience, network & local credibility (often run by previous utility employees)

Why SMEs & Informal Sector?

- Creates jobs
- Lowers cost (SME electrification project in Kenya lowered costs by 2/3)
- Establishes local stake-holder group backing reforms
- Otherwise anti-reforms lobby presents itself as defender of national interests and reverses reforms!

Summary - To the Reach the Poor

- Mission Orientation – Explicit focus on the poor
- Sequence the reforms – bring forward pro-poor interventions
- “Ring-fence” funds for electrification of the poor
- Deploy low cost options
- Expand space for participation of poor
- Involve SMEs and informal sector
- Craft stronger policy arguments for more \$ from donors and treasury (health and education sectors way ahead of us & taking most of \$)