

US Embassy – Baghdad

Workshop on Electricity Distribution Reform

March 8, 2012





Agenda



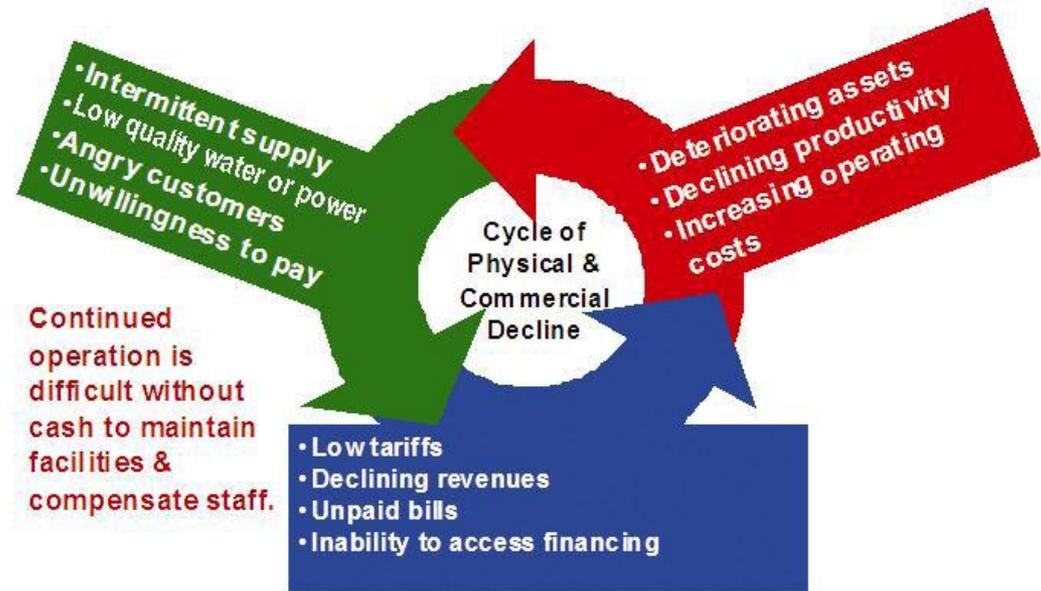
- 9:30 **Welcoming Remarks**
- *Karim Aftan – Ministry of Electricity*
 - *Ambassador Peter W. Bodde, Assistant Chief of Mission for Assistance Transition*
 - *Alex Dickie – USAID Mission Director*
- 9:45 **Presentation of Iraq's Distribution System**
- *Nafea Abdul Sada, Director General of Distribution, Ministry of Electricity*
- 10:00 **Presentation of Regional Examples of Distribution Reform: Corporatization and Commercialization, Regional Decentralization, and Private Participation**
- *Dean White, Tetra Tech*
- 10:30 **Presentation of MOE Distribution Reform Views and Efforts**
- *Amer Rajab, Directorate of Studies and Planning, Ministry of Electricity*
- 11:00 **Presentation and Discussion of the Requirements and Decisions to be made to enable the Implementation of Distribution Reform in Iraq**
- *Allen Eisendrath, USAID*
- 11:30 **Facilitated Discussion: What is the Right Distribution Reform Model for Iraq?**
- *Dr. Kosay Sattar – Director General of Studies and Planning, Ministry of Electricity*
 - *Nafea Abdul Sada, Directorate of Distribution, Ministry of Electricity*
 - *Allen Eisendrath*
 - *Dean White, Tetra Tech*



Regional Examples of Institutional Change

Iraq's distribution system is in a serious state:

- Reported collections, as low as 3%
- Large subsidies required, now under pressure
- Supply shortages, lack of efficiency
- Poor customer service
- Decapitalization of the system.





Situation



But this situation, although severe, is not unprecedented internationally...

	AES EP	ESKOM	UEDC	AMPLA	DESCO
Non-Technical Losses Before	98%	60%	70%	100%	47%
Non-Technical Losses After	1%	3-5%	4%	1-2%	9.6%
Examples of Approaches Used	<ul style="list-style-type: none"> Commercial process redesign Revenue protection New business processes Plastic meter encasement AMR Service drop with coaxial cables 	<ul style="list-style-type: none"> Commercial process redesign Revenue protection AMR-InfoPOD Aerial bundled & coaxial cables Feeder level balancing 	<ul style="list-style-type: none"> Commercial process redesign Revenue protection Communal metering Feeder and transformer level balancing HR reform Internal control systems 	<ul style="list-style-type: none"> Commercial process redesign Revenue protection Transverse aerial distribution Placement of LV over MV lines AMR 	<ul style="list-style-type: none"> Commercial process redesign Revenue protection Service drop with ABC & secure cable connections Prepayment meters



Examples



Several examples demonstrate important insight into the reform process...
both what can be achieved, as well as what should be avoided...

Country	Approach
Oman	Unbundling, under state ownership
Jordan	Privatization by divestiture
Morocco	Long-term concessions
India, Bhawindi	Private franchise
Georgia (UEDC)	Management contract, followed by divestiture
Georgia (Telasi)	Divestiture failure



Oman

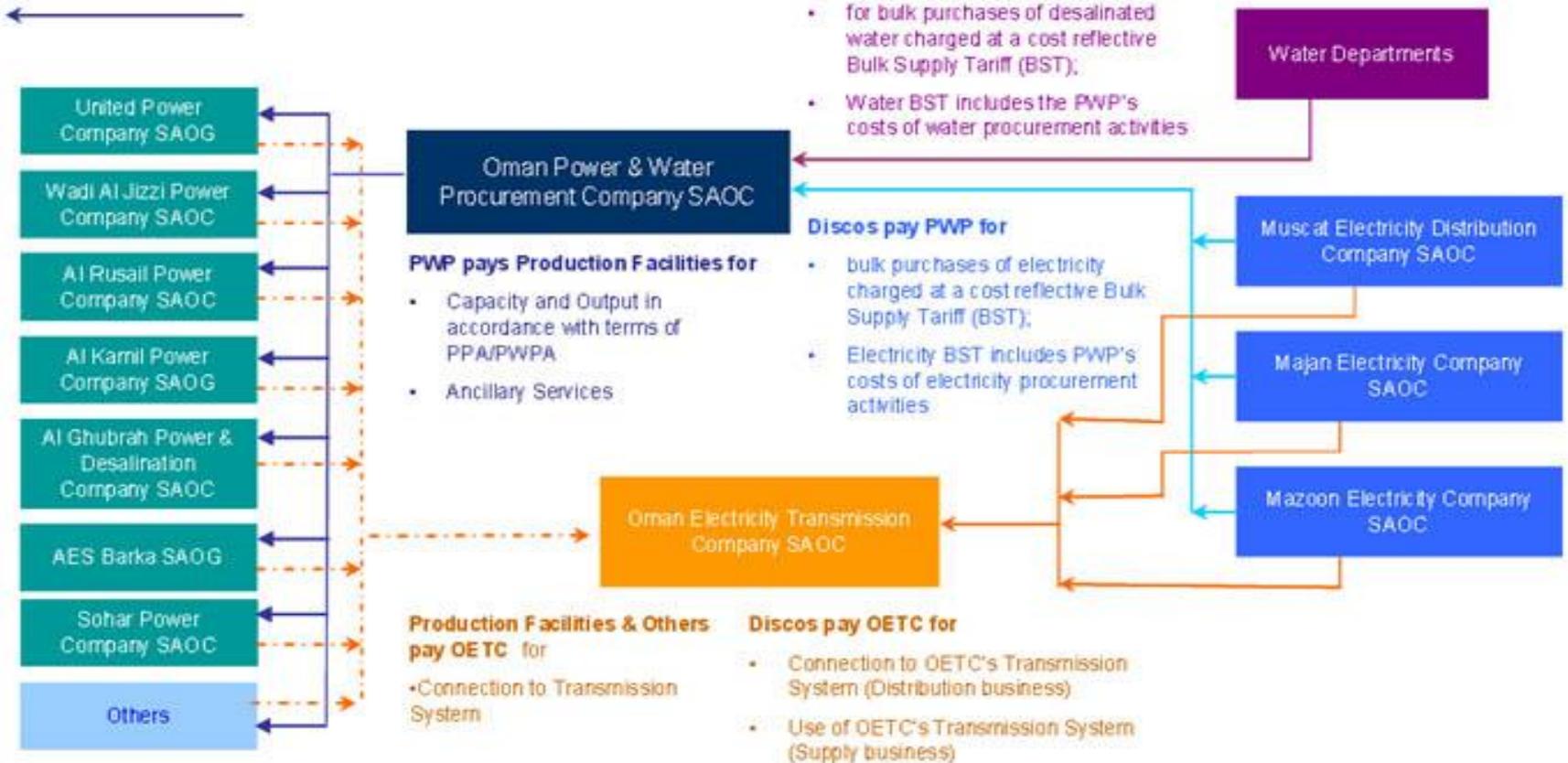


Oman migrated from a Ministerial structure to an unbundled system, in 2005

What was done?

- Unbundling to create several distribution companies
 - One company formed to focus on difficult to serve areas/electrification
- Single-buyer model
- Legal and regulatory reform
 - Passage of a comprehensive law to codify the reform
- Corporatization of all enterprises under a holding company structure
- New method of subsidization
 - Revenue requirements and loss targets set by the regulator while Cabinet sets tariff
 - The difference is injected quarterly into each distribution company.

Arrows denote direction of payments



All intra sector transactions: (i) regulated & (ii) cost reflective (no direct subsidy)



Oman



What has been achieved?

- Successfully attracted significant IPP investment
- Managed rapid growth – exceeding 12% annually
- Tangible customer service and protection improvements
- Significant decline in losses
 - 25% at the time of restructuring (2005) to 14% target (2011)
- Useful experience in distribution benchmarking.



Oman



Relevance for Iraq?

- The reform model was codified in a comprehensive law, which took two years to develop and pass
- The single buyer model was the only achievable way to go. Competitive market wasn't achievable
- Investors like the model, with significant competition for new opportunities
- Losses still remain higher than desirable in distribution. Private sector participation (PSP) under consideration.



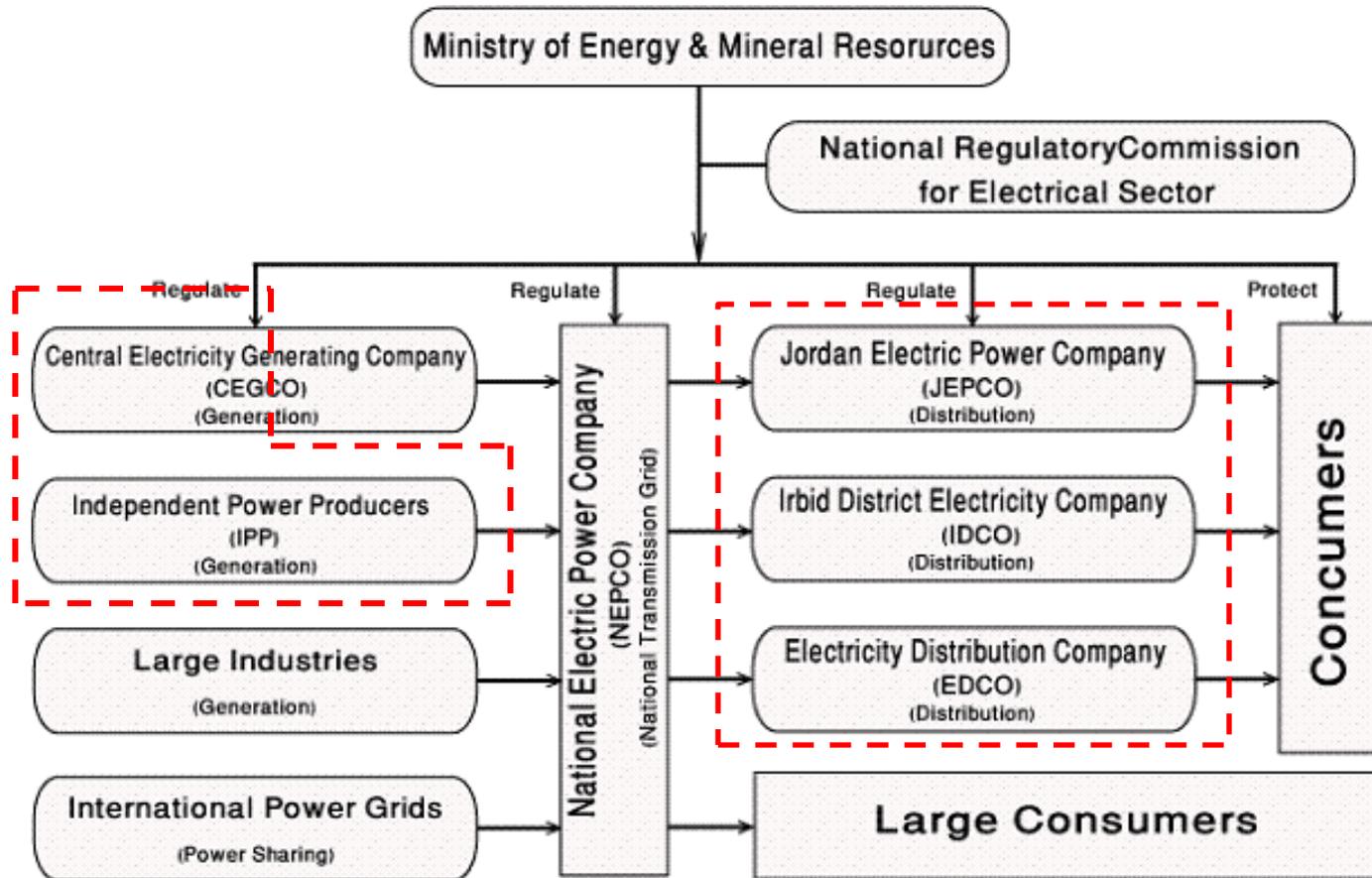
Jordan



After unbundling in 1999, Jordan began divestiture of power generation, followed by divestiture of its distribution assets in 2008.

What was done?

- Corporatization and unbundling undertaken in late 1990s
- Division into 3 concession areas served by different distribution companies
- Single-buyer model
- Legal and regulatory reform
 - A 2002 electricity law sets privatization agenda and process
 - Independent regulator created in 2005.



----- Privately Held



Jordan



What has been achieved?

- Responded to 8% annual growth in demand through private generation tenders
- Created an independent regulating body, reduced subsidies
- Achieved 99% electrical coverage kingdom-wide
- Achieved privatization through a competitive bid process with multiple bidders
- Still early to measure distribution performance improvements, but losses are falling.



Jordan



Relevance for Iraq?

- The process to achieve divestiture took a very long time – it wasn't easy
- Bidding process benefitted from having an Electricity Law to set the process and establish the regulatory framework
- Divestiture was not fully explained to the public, creating problems. This demonstrates the importance of public outreach early on, and throughout.



Morocco



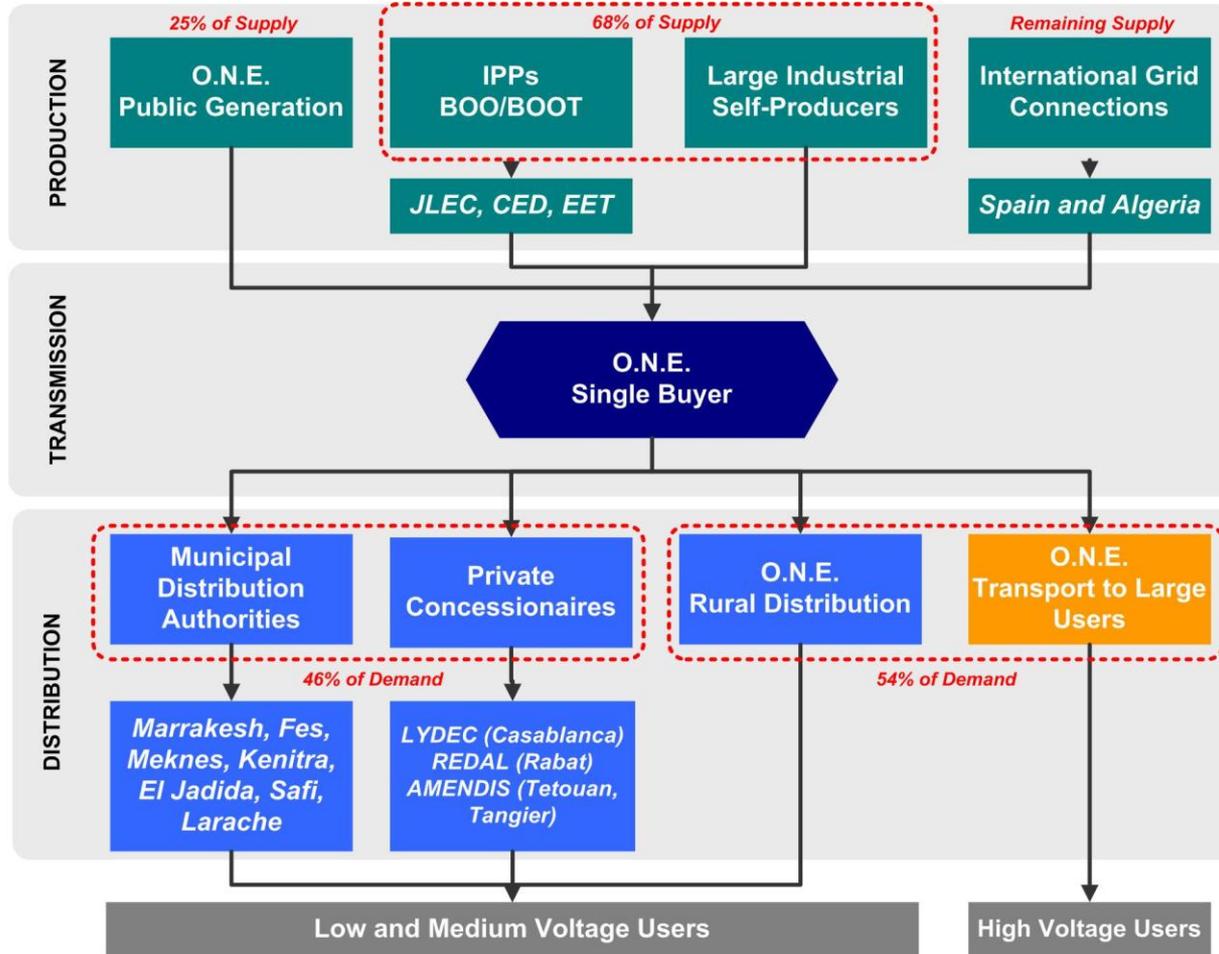
Morocco's generation and distribution have long been highly decentralized, with private generation arriving in 1994 and distribution by concession in 1997.

What was done?

- In 1997, four concession areas were prepared for the largest cities for 25-30 years
- Single-buyer model
- There is no independent regulator, but the government has set a legal framework governing public service concessions, with mixed results.



Morocco



Proportions as of 2010



Morocco



What has been achieved?

- Extensive infrastructure investment in the concession areas
- Costs have been reduced for the poorest customers
- After early failures, concessions in the 2000's were held on a more transparent basis with competition among international bidders
- Improvements have been achieved – meter reading accuracy, better payment procedures, customer services.



Morocco



Relevance for Iraq?

- The long-term concession arrangements have improved service and met demand using local authorities in a regulatory role
- Early concessions, however, were non-competitive and resulted in failed concessions and difficult renegotiations
- A lack of clear regulations governing the relationship between private operators and local municipalities has led to conflicts
- It is critical to have a contractual and regulatory framework in place before pursuing a concession.



Bhiwandi (India)



The situation

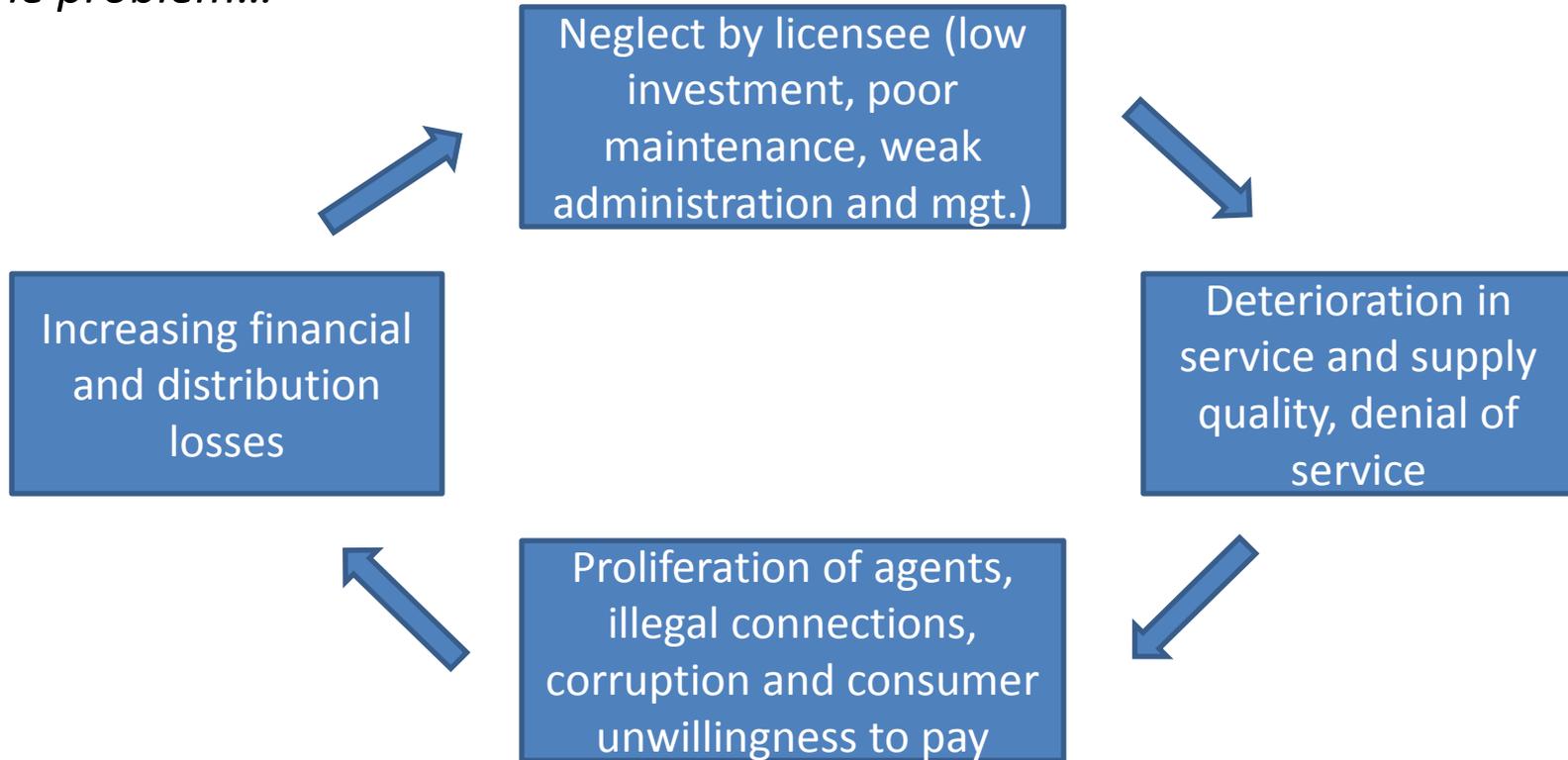
- An area within the MSEDCL service territory, chronic non-payment, very high losses (60%+), huge network failure rate (40% for transformers, annually)
- History of violence at the community level, politically sensitive
- MSEDCL could not make progress, had difficulty even in accessing parts of the network
- The Electricity Act of 2003 allowed franchising as a possible business model.



Bhiwandi



The problem...



Source: Prayas (Energy Group) Pune, June 2009



Bhiwandi



What was done?

- Single stage tender for 10-year franchise, 10 months from start to award. Bidding restricted to medium-sized or larger companies (e.g., at least 500 employees)
- Bidding based on bid wholesale electricity price with a fixed retail tariff
- Franchisee is responsible for all aspects of distribution management and operations, including capital expenditures
- Winner (Torrent) committed to achieve 26-34% aggregate loss reduction.



Bhiwandi



What has been achieved?

- Evaluation indicates significant improvements in customer satisfaction and quality of service
- Impressive loss reductions achieved.

KPIs	FY -2006/2007	FY-2007/2008	FY-2008-2009
Distribution loss	40%	26%	18%
Collection efficiency	61%	82%	99%
ATC losses	63%	39%	19%

Source: Prayas (Energy Group) Pune, September 2009



Bhiwandi



Relevance for Iraq?

- Relatively quick process for tendering, with results achieved in a short-time period
- Could be useful approach especially in difficult, politically sensitive areas.



Georgia UEDC



A successful example of using a management contract, ahead of divestiture...

The situation?

- The UEDC was state-owned, rural dominant
- Formed as an amalgamation of 59 municipal/district utilities
- Government efforts to privatize (2001) had failed
- Losses approached 90%!
- Electricity supply was as little as 0-6 hours per day for much of the year
- Total financial collapse.



What was done?

- The Government and USAID agreed to a private management contractor (2003 to 2007)
- Contractor was given full authority to manage the company
 - Right to hire and fire
 - Right to control all finances
 - Protection from outside interference.



Example of rural customer base



Georgia UEDC



What was done?

Rebuilt the company at all levels:

- Human resource reform
- Corporate governance improvements
- Reorganized to a regional structure
- Massive PR and outreach to stakeholders
- New business processes and systems introduced
- Wholesale bulk metering, followed by perimeter/communal metering, followed by individual metering
- Strict disconnection for non-payment, followed by reallocation of power to best paying areas.

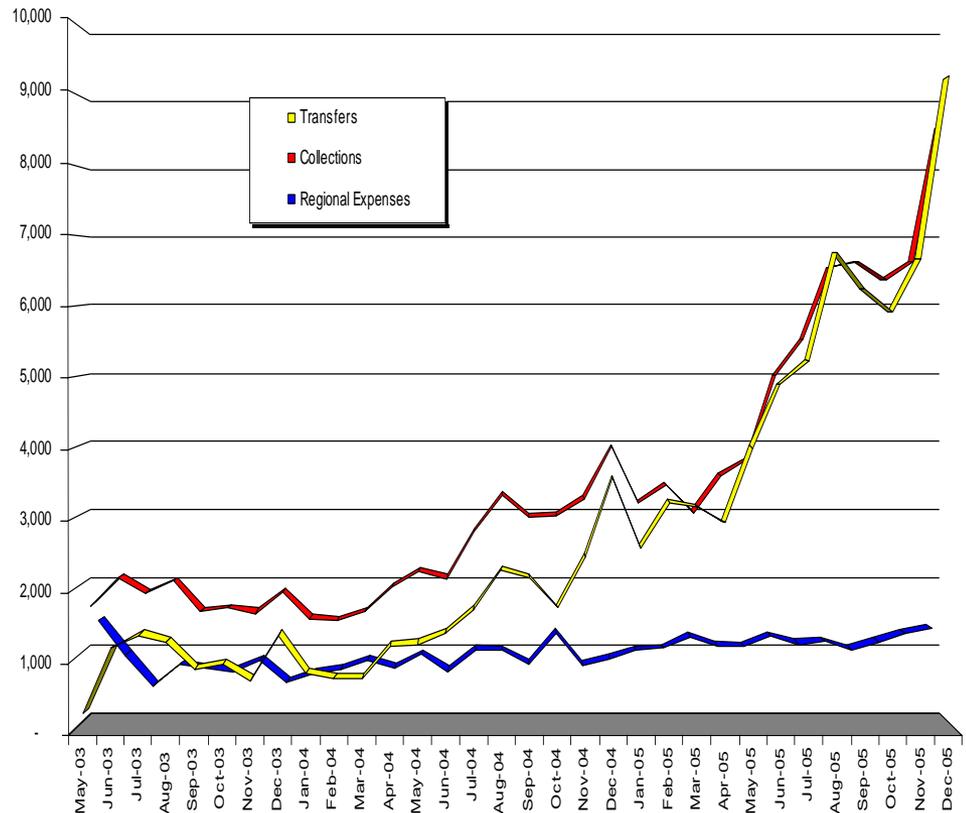


Georgia UEDC



What was achieved?

- 24-hour power supply reliability (took three years)
- Non-technical losses reduced to about 3%, collection efficiency at 100%
- Attracted outside investment, on fully commercial terms
- Payment in full, for all ongoing obligations
- Company became attractive to the private sector and was privatized in 2007.



UEDC collection performance



Georgia Telasi



Georgia sold the utility serving the capital of Tbilisi to AES... After several years and over \$200 million, AES exited Georgia...

What was done?

- Strong donor support, combined with the need for cash, convinced the government to privatize the company (\$20 million)
- Some generation was included in the transaction (\$5 million for 300 MW)
- AES took over in 1999, exited in 2003, selling its interests to RAO UES affiliate (Russia).

What happened?

- AES used an investment led model to commercialize, with mixed results
- Government harassment throughout
- Difficulties with regulator and civil society
- Corruption was difficult to tackle
- Non-technical losses remain stubbornly high.



Georgia



Relevance to Iraq?

UEDC:

- Management contract was an ideal PSP solution, to commercialize and then privatize
- Created a partnership situation between the government and contractor
- Demonstrates the importance of management control and human resources ahead of investment.

Telasi:

- Divestiture occurred too soon, ahead of government commitment, legal and regulatory reforms
- The public was not on board
- Investment led commercialization did not achieve the success intended.

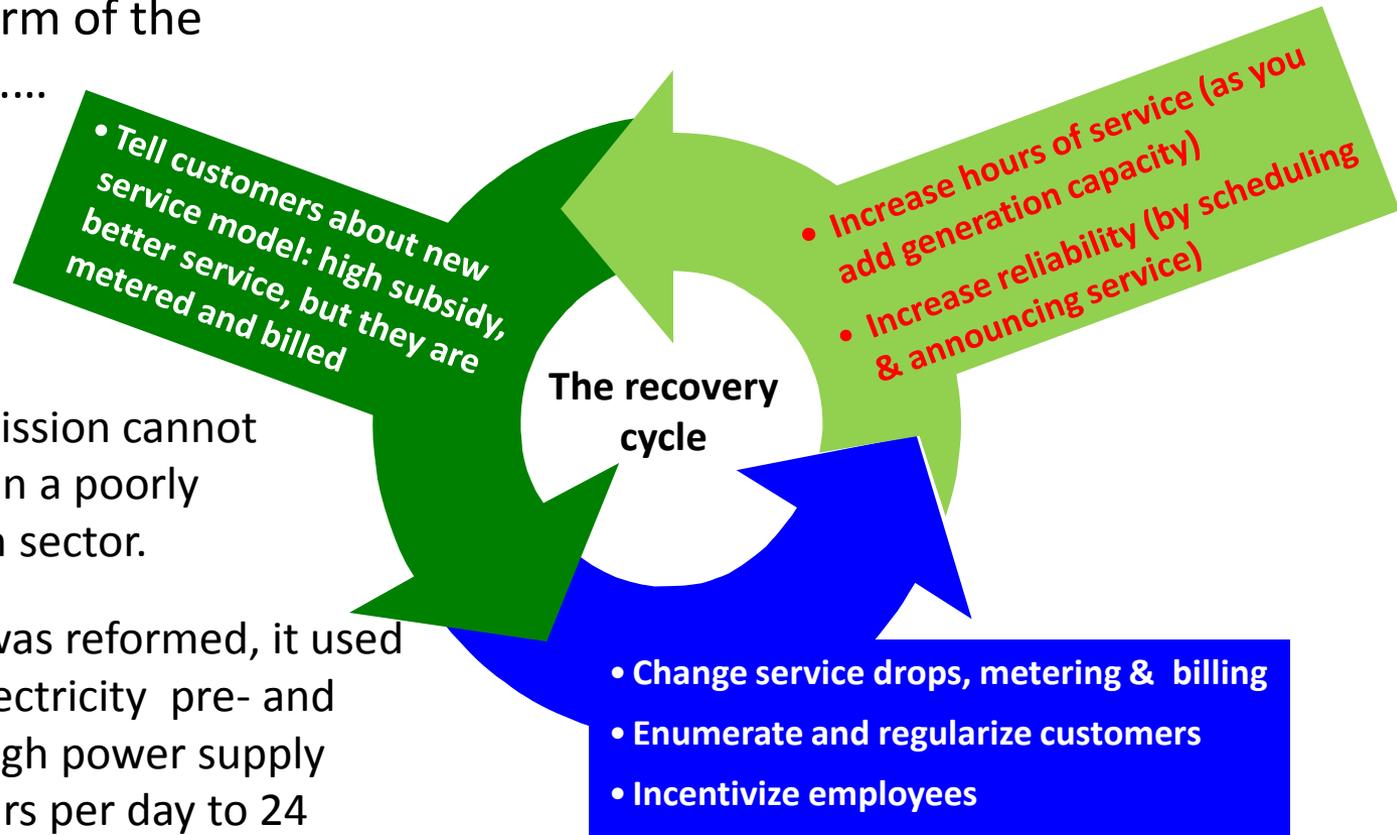
The Telasi experience adversely affected investor interest in Georgia, damaged the government's reputation.... and non-technical losses are still stubbornly high within the capital, but low in the regions...



The Imperative



Distribution reform is a precondition for reform of the entire power sector.....



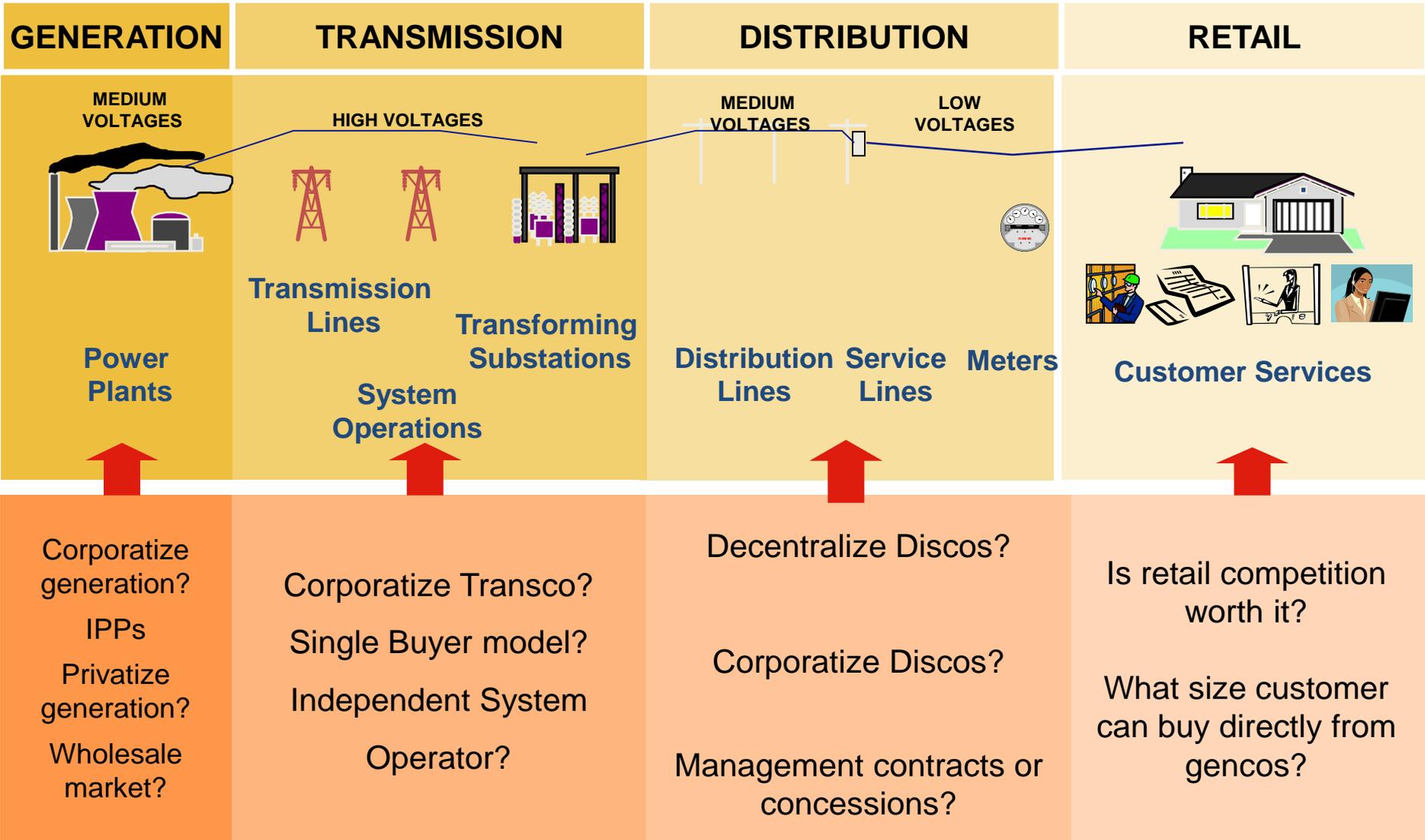
Generation and transmission cannot achieve efficiency within a poorly functioning distribution sector.

Fact: When the UEDC was reformed, it used the same amount of electricity pre- and post- reform even though power supply increased from 0-6 hours per day to 24 hours per day.

Distribution Reform Decisions

Building an Iraqi Model

Decisions have to be made for each market segment



Decisions to be Made

- Structure of the Distribution Sector
- Corporate Form
- Private Sector Participation
- Economic Regulation
- Role of Transco
- Electricity Law

Decisions about Distribution Reform		
Reform Component	Options	Notes
Distribution Sector Structure	<ul style="list-style-type: none"> • Single national distribution business • Provincial distribution companies • Regional distribution companies 	
Corporate Form & Corporate Governance	<ul style="list-style-type: none"> • Departments of MoE • Authorities • National holding company with subsidiaries • Independent companies under the Companies Law or Public Companies Law 	
Private Sector Participation	<ul style="list-style-type: none"> • Management contracts • Concessions • Divestiture (sale of assets to private owners) • All three PPP approaches 	
Economic Regulation	<ul style="list-style-type: none"> • Regulatory method <ul style="list-style-type: none"> ○ Cost plus profit ○ Incentive-based • Type of regulator <ul style="list-style-type: none"> ○ Department of MoE ○ Independent regulatory agency 	
Role of the Transco	<ul style="list-style-type: none"> • Provides only transmission • Provides only transmission and system operation services • Single buyer model 	
Electricity Law	<ul style="list-style-type: none"> • New law covering all areas of electricity reform • New law covering selected reforms • No new law 	