

KARNATAKA'S POWER SECTOR

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COMMON BELIEFS RE: KARNATAKA'S POWER SECTOR

- IPS consumption excessive -- 1/3 to 1/2 of total
- T & D losses are relatively smaller -- about 1/5
- Major power and energy shortages
- IPP's mega-projects will solve problems
- Subsidies are cause of KEB's financial problems
- No solution of generation and distribution possible through public sector
- KEB's employees are inefficient
- Generation performance has deteriorated



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**KARNATAKA'S POWER SECTOR:
SOME REVELATIONS**

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DEMAND

- Over half KEB's consumption is *unmetered*
- KEB exaggerates IPS consumption
- KEB under-reports T & D losses
- Theft (so-called commercial T & D losses) is substantial



SUPPLY

- Karnataka Power Sector has no strategy for dispatching present source mix (hydro, thermal and diesel and imports)



WAS THERE A SUPPLY- DEMAND "CRISIS" IN 1994-95?

- There was no energy or power crisis in 1994-95 because
 - Demand < Firm Capacity
 - Energy Requirement < Availability
 - Hydro Stations were idled for 6% of the time
 - Peak Demand approached Firm Capacity for less than 1% of the time (cf. Load Duration



1994-95 CAPTIVE GENERATION SETS

- Total capacity of captive generation sets $> 1,000$ MW = about one-third of centralized installed capacity
- But, they remain idle for as much as 73% of the time



CAUSE(S) OF KEB'S FINANCIAL MESS

- KEB's costs are 50% power purchase and 20% salaries
- KEB's salaries have risen in step with WPI up to about 1983-84
- Productivity of KEB's employees has risen from 1972-73 to 1993-94
- KEB's power purchase costs have jumped with every new source
- Cross-subsidy > Subsidy to IPS -- subsidies *not* root cause of KEB's financial problems
- HT + LT + AEH categories cross-subsidize IPS (and trivially BJ and non-AEH)
- Net Surplus Revenue (Cross-subsidy - Subsidy to IPS) < T & D Losses; hence, *T & D losses* are responsible for KEB's financial problems



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**POWER SECTOR: SOME
RECOMMENDATIONS**

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DEMAND

- SEBs must treat T & D (Losses) as a consumption category
- SEBs must quantify consumption of *all* consumer categories (incl. IPS)
- SEBs must disaggregate Technical & Commercial T & D losses, & theft
- Energy Audit of HT and LT



SUPPLY

- Develop computerized annual strategy for dispatching different sources of supply (hydro, thermal, diesel, imports and IPPs)



SUPPLY

- Appropriate investments on system improvements
- Ensure adequate investments on T & D to support investments on capacity expansion



SUPPLY-DEMAND MATCHING

- Publish hourly demand values on an annual basis to determine relationship between demand and firm capacity and between energy requirement and availability
- Publish information on capacity & utilization of Captive Generation Sets (CGS)
- Integrate CGS in supply mix
- Avoid PPAs that force cheap hydro and/or thermal plants to be backed down/idled
- It is as suicidal to have *gross* excess capacity as to have *major* shortages
- Emphasize energy services (rather than energy consumption)



TARIFFS

- Since power purchase costs of SEBs have jumped with every new source, estimate impact of new projects on power purchase costs
- Revise tariffs so that net revenues are positive
- Implement tariff increases along with efficiency improvements (to achieve same or even lower expenditures) and/or improvement of supply quality
- Give IPS owners option of *priced reliable power* in place of subsidized unreliable power
- Ensure that tariffs do not exceed costs of captive generation to prevent industry from de-linking from SEB and SEB being left with no- or low-tariff customers



BALANCE SHEETS

- Ensure that T & D losses are monetized and included in balance sheets



ESSENTIAL RESTRUCTURING TO RESCUE SEBs

- Independent autonomous regulation
- Corporatization to liberate SEBs from government control and make them run on commercial lines
- Scope for independent private power generation
- Transparent democratic functioning
- Regulations must make power sector serve social goals
 - Increasing affordability
 - Spreading access
 - Helping backward/rural areas
 - Protecting the environment
 - Empowering communities
 - Making functioning & planning transparent
 - Popular participation to make decision-making democratic



RESTRUCTURING COMPONENTS THAT DO NOT FOLLOW FROM SEB PROBLEMS

- Removal of *all* subsidies
- Sale of Generation Plants to Private Sector
- Handing over Transmission to Private Sector



PRIVATIZATION OF DISTRIBUTION

- Handing over Distribution to Private Sector is not the only option
- Other options -- More efficient present system, Employee-owned companies, Consumer Coops
- Make ownership suit local conditions, rather than ideology



INTEGRATED RESOURCE PLANNING (IRP)

- To evolve Least-Cost Mix (Package) of Centralized and Decentralized Generation & DSM Measures/End-use Efficiency Improvements
- to shape the formulation of enabling policies
- to identify cost-effective DSM/efficiency improvement measures
- to define niche for decentralized generation
- to avoid gross excess capacity of centralized generation
- to guide public-sector investments in capacity investments



POWER SECTOR IS TOO IMPORTANT

- To be left exclusively to electrical engineers and electricity organizations (SEBs, PCs, Energy Ministry, etc..)



IMPORTANT TO INVOLVE CIVIL SOCIETY

- Legislators, E, S & T institutions, public interest groups, independent NGOs, consumer groups, village-level institutions and media must be also be involved

