

The Cooperative Model for Service Delivery

USAID EGAT Infrastructure Course

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NRECA International Ltd.

Your Touchstone Energy® Partner 

Introduction

- Nearly 2 billion people do not have access to electricity
- Lack of competent providers of utility services in rural areas
 - Most state utilities do a poor job of serving rural areas
 - Private sector has little interest in investment and operations to serve sparsely populated and economically marginalized rural populace
 - Municipal utilities often co-mingle utility revenues with municipal budgets, resulting in poor maintenance, lack of investment, and reduced service quality
- Cooperatives in developing countries currently provide approximately 100 million people with electric service (twice as many consumers as US electric co-ops)



Why “Traditional” Utilities Don’t Work

- In most cases, meager government salaries and poor professional practice and culture result in:
 - Bloated and unproductive staff (50/1 ratio of consumers/employees in some cases)
 - Poorly managed institutions.
 - Low performance and endemic corruption.
 - Poorly trained engineers.
 - Lack of discipline in operating practices.
 - Adherence to traditional design and construction standards that are costly and not suited to rural electrification.



Rationale for Cooperatives

- Wholly oriented towards rural and less advantaged segment of population--span all sectors (ag, water, power, housing, banking, etc.)
- Community equity investment in a community owned resource
- Benefits of local consumer involvement/ownership
 - Develop & utilize local technical/operational personnel
 - Mutual trust results in lower levels of theft and higher levels of bill collection
- Not for profit orientation ideal for projects with limited ROI (rural electric service provision)
- Democratic participation by all members, regardless of gender, ethnicity, religion, etc.
- They WORK--Over 1 Billion co-op members worldwide and 140 million members of electric cooperatives worldwide.



Cooperative Challenges

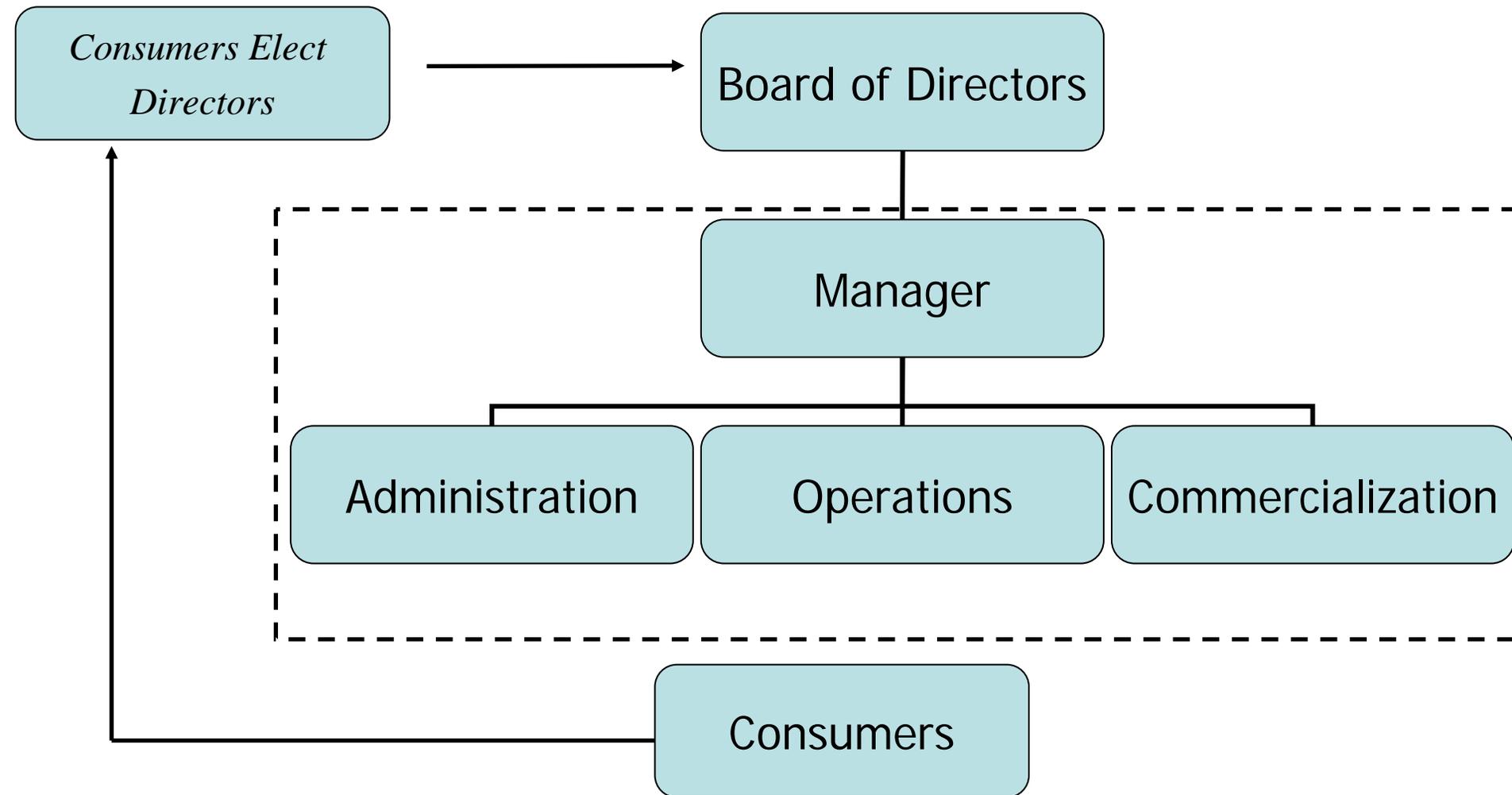
- Require significant technical, organizational, and financing assistance
- Require dedicated access to capital financing at favorable terms
- Subject to local or national political influence
- Frequent lack of qualified local human resources for system commercial operation and management.



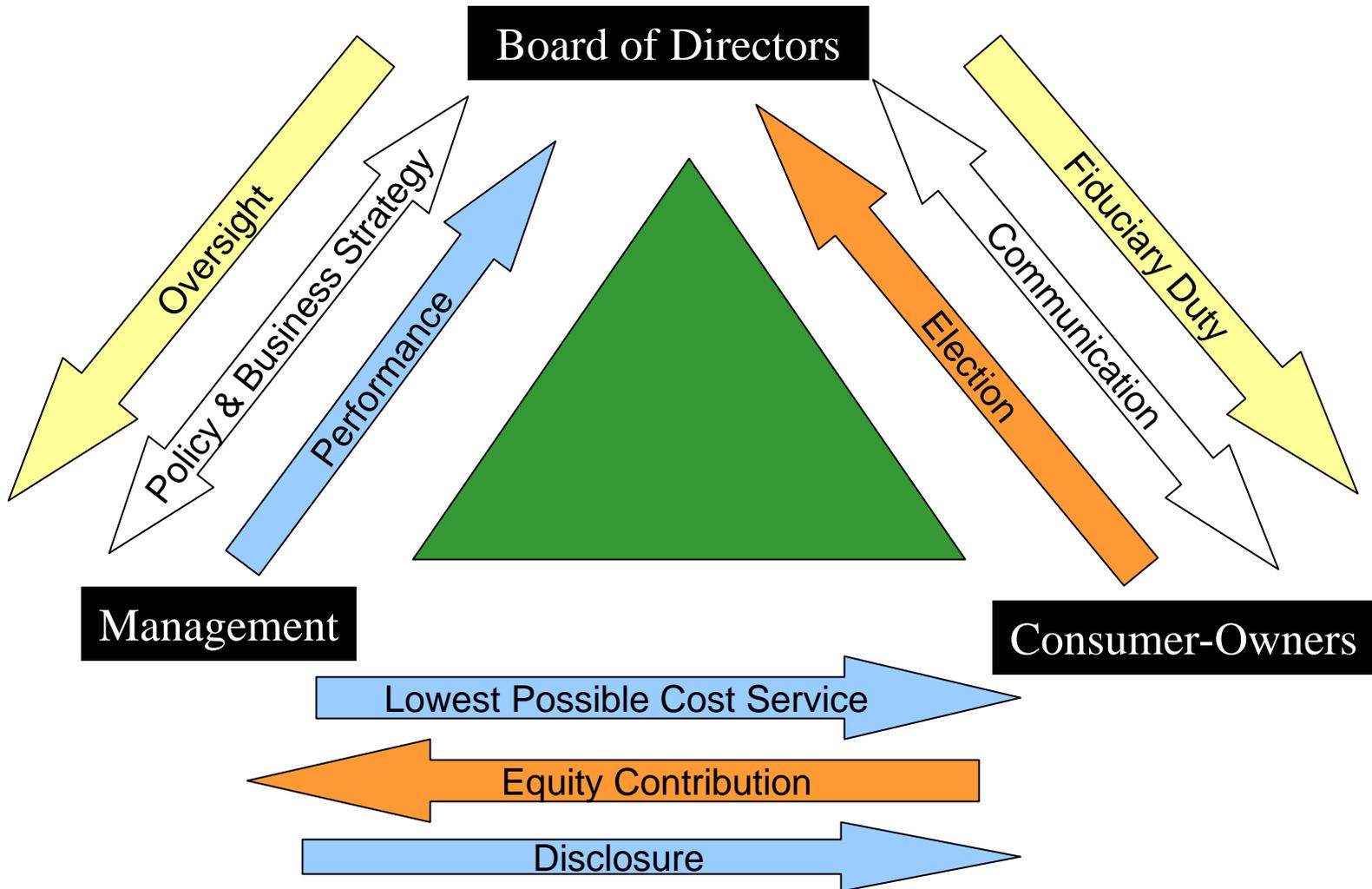
Cooperative Financing

- Donor or Government subsidies for capital projects essential, at least in early stages
- Commercial financing for electric co-ops depends entirely on how the business operates – if the business is solid financially and well run, then there are options for commercial financing in some countries.
- Most developing country credit markets are weak and short term—nearly impossible to get 20 year term financing at favorable rates

Cooperative Basic Org. Structure



Cooperative Governance Triangle





Select Int. Experience with ECs

- Costa Rica – Private, local control (U.S. model but with no apex agency)
- Philippines – Licensed, private concessions with quasi-direct control by governmental apex agency
- Bangladesh – Authorized by a governmental apex agency with extensive controls
- India – Registered under governmental agency with direct government equity & influence
- Bolivia – No apex agency, with potential for extensive local political influence

Bangladesh RE Program

Rajshahi Division

R1 Bogra PBS
 R2 Dinajpur PBS-1
 R3 Dinajpur PBS-2
 R4 Gaibandha PBS
 R5 Joypurhat PBS
 R6 Kurigram-Lalmonirhat PBS
 R7 Naogaon PBS
 R8 Natore PBS-1
 R9 Natore PBS-2
 R10 Nawabganj PBS
 R11 Nilphamari PBS
 R12 Pabna PBS-1
 R13 Pabna PBS-2
 R14 Rajshahi PBS
 R15 Rangpur PBS-1
 R16 Rangpur PBS-2
 R17 Sirajgonj PBS
 R18 Thakurgaon PBS

Khulna Division

K1 Bagerhat PBS
 K2 Jessore PBS-1
 K3 Jessore PBS-2
 K4 Jhenaidah PBS
 K5 Kushtia PBS
 K6 Khulna PBS
 K7 Magura PBS
 K8 Meherpur PBS
 K9 Satkhira PBS

Barisal Division

B1 Barisal PBS-1
 B2 Barisal PBS-2
 B3 Bhola PBS
 B4 Jhalakhathi PBS
 B5 Patuakhali PBS
 B6 Pirojpur PBS

Sylhet Division

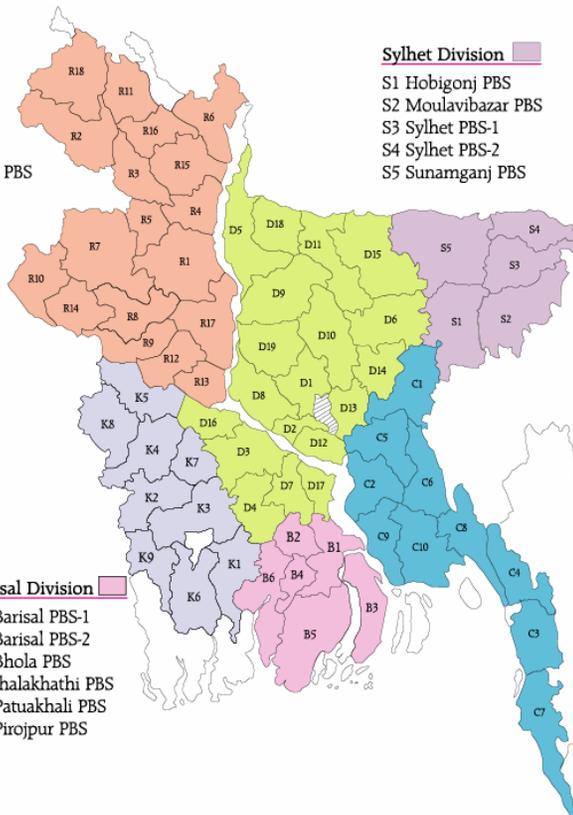
S1 Hobigonj PBS
 S2 Moulavibazar PBS
 S3 Sylhet PBS-1
 S4 Sylhet PBS-2
 S5 Sunamganj PBS

Dhaka Division

D1 Dhaka PBS-1
 D2 Dhaka PBS-2
 D3 Faridpur PBS
 D4 Gopalganj PBS
 D5 Jamalpur PBS
 D6 Kishoreganj PBS
 D7 Madaripur PBS
 D8 Manikganj PBS
 D9 Mymensingh PBS-1
 D10 Mymensingh PBS-2
 D11 Mymensingh PBS-3
 D12 Munshiganj PBS
 D13 Narsinghdi PBS-1
 D14 Narsinghdi PBS-2
 D15 Netrokona PBS
 D16 Rajbari PBS
 D17 Sariatpur PBS
 D18 Sherpur PBS
 D19 Tangail PBS

Chittagong Division

C1 Brahmanbaria PBS
 C2 Chandpur PBS
 C3 Chittagong PBS-1
 C4 Chittagong PBS-2
 C5 Comilla PBS-1
 C6 Comilla PBS-2
 C7 Cox's Bazar PBS
 C8 Feni PBS
 C9 Laxmipur
 C10 Noakhali PBS



- 70 PBSs currently operating serving over 50 million people
- Over 40,000 villages electrified--85% of villages in country.
- Over 7 million members served and 700,000 connections added annually.
- RE program has stimulated economic growth by powering irrigation, industry, and electrifying households.
- Leveraged over \$1.4 billion from 18 donors
- Strong operational & commercial performance



Bangladesh RE Co-op Program: Keys to Success

- Rural Electrification Board established clear policies and procedures for all aspects of program procurement, construction, operation, and management
- Benefitted from consumer density and economic scale
- Provided for strong user participation in governance through PBSs
- USAID provided seed capital (\$50 mm) and rest of donor community followed.
- REB funded its own operations by lending to PBSs at a marginally higher rate than it's own low rate loans from donors
- Bangladesh had ample supply of affordable and stable power supply (now no longer the case)

Co-op Development in Post Conflict Environments: Southern Sudan



- \$6.3 million USAID-funded electrification project in town of Yei and policy support to the GOSS
- NRECA's role: technical design, construction, operational support, and community based development
- Feasibility studies completed for eight state capitals
- Developed National Electric Sector Policy proposal; accepted by GOSS Council of Ministers in 2007
- Assisting in establishing human infrastructure to form & support state distribution utilities
- Project is continuing through SISP, an IQC managed by LBGI



Southern Sudan: Co-op Development in a Post-Conflict Environment

Challenges

- Lack of educated human resources
 - Serious dearth of engineers, economists, lawyers, etc.
- Lack of established cottage industries, commercial establishments, etc. that provide disposable income
- Local and national governments unable to provide support
- Extremely high material prices

Advantages

- Owned and operated by the community
- Often only viable option where government is not established and/or private companies would never assume development or operational risk



Southern Sudan EC Development

Key Challenges

- **Human resources:** nearly complete lack of trained personnel to perform all required functions for future electric utilities.
- **Institutional:** need to establish all institutional bodies from policy-setting, regulatory, to implementation (utilities themselves) – overnight!
- **Hardware/Software/Standards:** Need design/construction standards, tariff setting methodologies, quality of service standards, operating policies, procedures, engineering practices, business software, HR policies...
- **Technical Assistance:** There is and will continue to be a need for long-term technical assistance, due to human resource limitations and years of professional development lost to war



Southern Sudan EC Development Accomplishments

- Street lighting circuit completed within 3 months of project start up
- Commercial operations within 9 months of project start-up
- Completion of primary distribution system covering commercial and public consumers by April, 2008
- Connection of up to 600 consumers, primarily commercial and small industrial
- Eighteen hour service – very few service interruptions (two over the past six months)
- Billing/collection efficiency at 95%
- Trained management, administrative, & maintenance teams

Southern Sudan EC Development Local Personnel for a Local Utility



- Utility personnel are diverse, representing various ethnic & religious groups

- All personnel are local residents—trained by NRECA staff & US volunteers



Southern Sudan EC Development Local Personnel Training



- Providing on the job training to 15 local personnel in all aspects of utility operation and infrastructure maintenance



- Providing on the job training to 42 local personnel in all aspects of distribution line construction



Multi-Service Cooperatives in Chile & Argentina

- Cooperatives were originally formed in the 1930s-1940s to provide service to rural areas adjacent to regional capitals
- Established rural electric systems to provide farmstead electrification, provide power to schools, public buildings, irrigation systems.
- Cooperatives soon saw the need to provide ancillary services to membership



Multi-Service Cooperatives Chile & Argentina

- Additional services included:
 - Seed and fertilizer to farmers
 - Agricultural processing equipment
 - Later, added automotive sales
 - Electrical appliances
 - Rural health clinics
 - Financing for single use line extensions
 - Other commercial products



Electric Sector Reform in 1990s

Restricted Cooperative Services

- New legal framework required separation of commercializing electricity with other services
- Many cooperatives merged with investor owned utilities.
- Those that remained dramatically decreased ancillary services to membership.
- Cooperatives in Chile and Argentina continue to provide multiple services, but social services fell victim to reforms.



Lessons Learned about Co-op Development

- Effective apex agency to manage and oversee program implementation and provide support to service providers
- Quality leadership at national and local level
- Commercial operating principles for operation and management
- Co-op service provider accountability via oversight and reporting
- Long-term TA essential, along with long-term perspective