

ASIA CLEAN ENERGY FORUM 2016
Increasing Energy Access

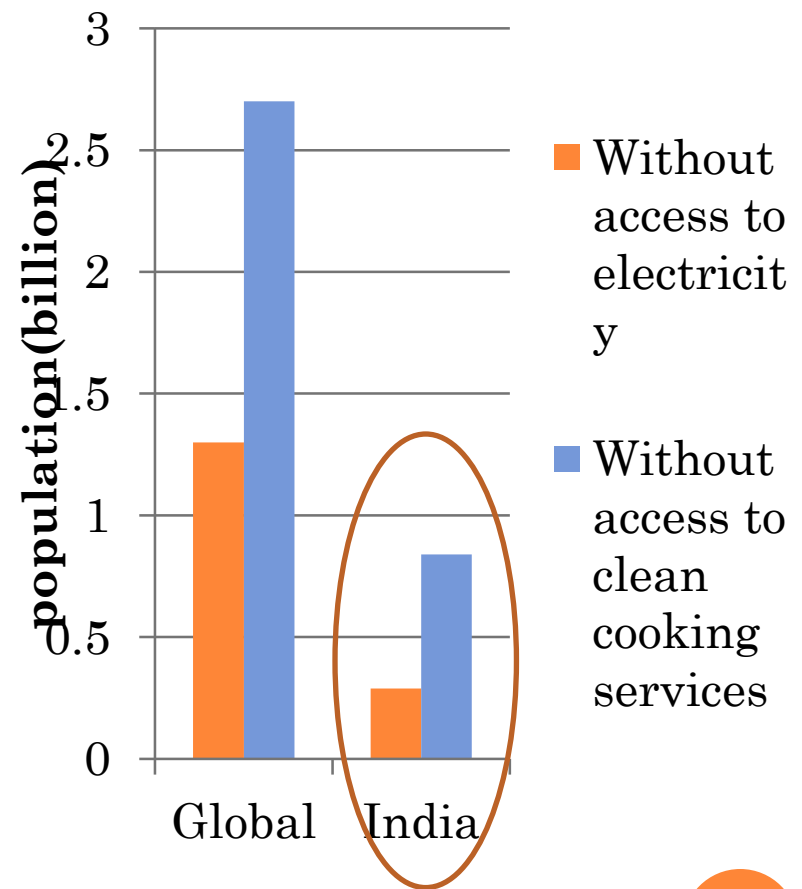
ENABLING POLICY FRAMEWORK FOR ENERGY ACCESS IN INDIA

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GLOBAL AND INDIAN STATUS OF ENERGY ACCESS

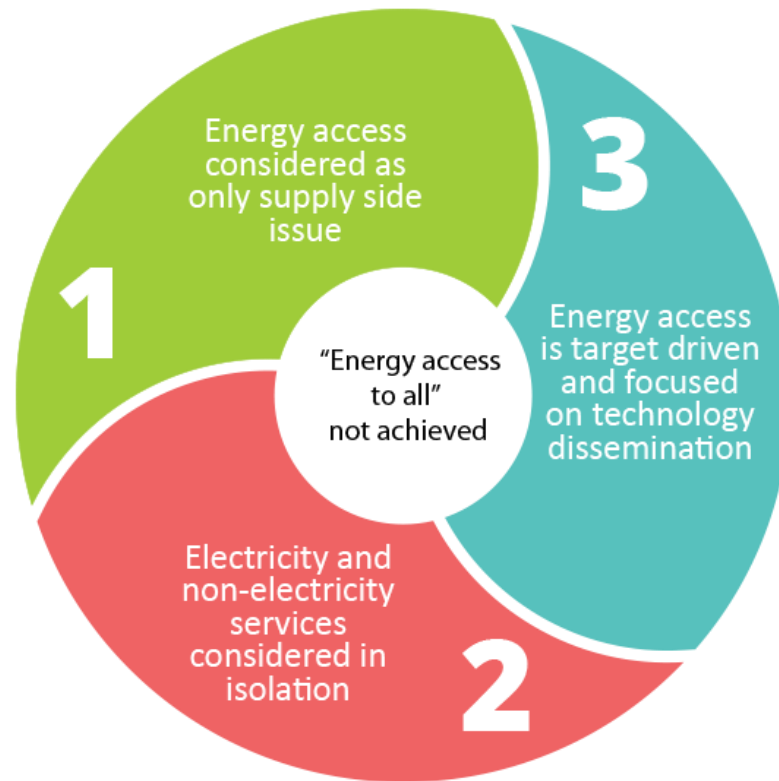
- Globally, about **1.2 billion people** are without access to electricity and about **2.7 billion people** are without clean cooking facilities.
- In India, **237 million people** are without access to electricity and about **840 million people** are without clean cooking facilities.
- **67%** of the Indian population is still relying on traditional use of biomass

Source:- IEA World Energy Outlook 2015



Significant difference in provision of electricity and non-electricity services

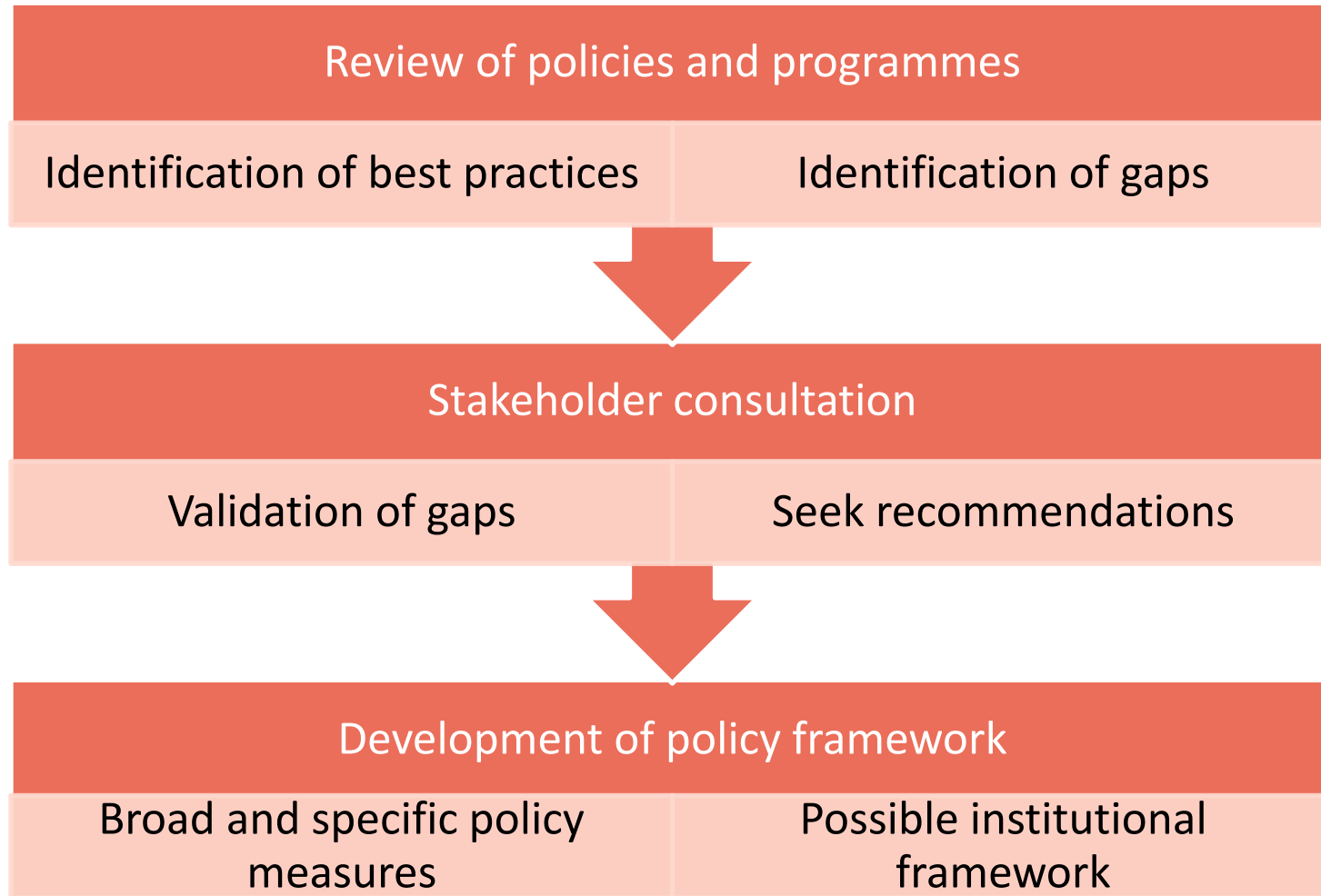
PROBLEM DEFINITION



TWIN OBJECTIVES OF STUDY



METHODOLOGY/APPROACH



REVIEW OF POLICY/PROGRAMME IN INDIA

- ❖ Integrated Rural Energy Programme(Planning Commission)- 1981 to 2007
- ❖ National Biogas and Manure Management Programme(Ministry of New and Renewable Energy)-1982
- ❖ National Programme on Cookstove Initiative(Ministry of New and Renewable Energy)- 1985 to 2004
- ❖ Remote Village Electrification Programme(Ministry of New and Renewable Energy)-2002
- ❖ Rajiv Gandhi Grameen Vidyuthikaran Yojana & DDG scheme (Ministry of Power)- 2005
- ❖ Rural Electrification Policy- 2006
- ❖ Village Energy Security Programme(Ministry of New and Renewable Energy)-2006
- ❖ National Biomass Cookstove Initiative(Ministry of New and Renewable Energy)- 2009



KEY TAKEAWAYS FROM CENTRAL PROGRAMMES

Integrated Rural Energy Programme (IREP)

- Promoted understanding of energy consumption pattern at micro-level.
- Decentralized energy planning with least cost mix of various energy options
- Training and R&D centers were setup along with technical back-up units

Village Energy Security Programme(VESP)

- Holistic approach for “village energization”
- Use of local renewable resources like biomass
- Encouraged community participation

National Biogas and Manure Management Programme(NBMMP)

- State Level Biogas Development and Training Centres established at around 13 institutions around the country
- Provides training to users, masons and entrepreneurs

Decentralised distributed generation (DDG) scheme under RGGVY

- Emphasis on 3 tier quality control and monitoring system
- Regulatory compliance from project developers on account of defaults in quantity of power supply



IDENTIFICATION OF GAPS

Planning gaps

- Fragmented mandate
- Lack of integrated resource planning and need assessment
- Non-alignment of funds with local requirements
- National level planning without integrating with state level plans

Policy and regulatory gaps

- Multiplicity of various programs under different ministries
- Absence of models to revive health of utilities
- Benchmarking and standardization for stand-alone systems, not user friendly
- Absence of stricter regulations

Institutional gaps

- Lack of coordination and communication between various institutions
- Lack of capacity building(quantity and quality)
- Multiple tasks undertaken by institutions



NATIONAL ENERGY ACCESS POLICY FRAMEWORK

Broad measures for an overarching framework

Legal Mandate

- Government plan for energy access mandate
- Responsibility of mandate and its delivery to the designated ministry

Objectives

- Clear definition of energy access in both qualitative and quantitative terms
- Ensuring local clean energy solutions for increasing energy access
- Regulatory support and compliance structure

Approach

- Governing national framework with state action plans
- District level bottom-up energy planning
- Market development



SPECIFIC POLICY MEASURES-I

Integrated resource planning

- Need assessment and resource planning at district level
- Mapping of needs with resources

Financing/ Incentives

- Shift in subsidies, differential pricing and tariff restructuring
- Incentives for rural entrepreneurs

Human resource development

- Skill development (upstream and downstream activities)
- Women involvement and empowerment

Market creation and awareness building

- Promotion of business models suitable to local conditions
- Awareness building for key stakeholders



SPECIFIC POLICY MEASURES-II

Clean energy solutions

- Promote locally available resources (solar, wind, biomass etc.)
- Mini-grids compatible with national grids

Standards and Testing

- Standardization and benchmarking of energy products
- Certified testing laboratories for clean energy products

Supply chain management

- Local grid infrastructure and spares for off-grid systems
- Renewable energy service companies (RESCO's)

Knowledge exchange platform

- IT based system for capturing the data and data management
- Technical advisory services for similar projects at different locations



SPECIFIC POLICY MEASURES-III

Quality monitoring and evaluation

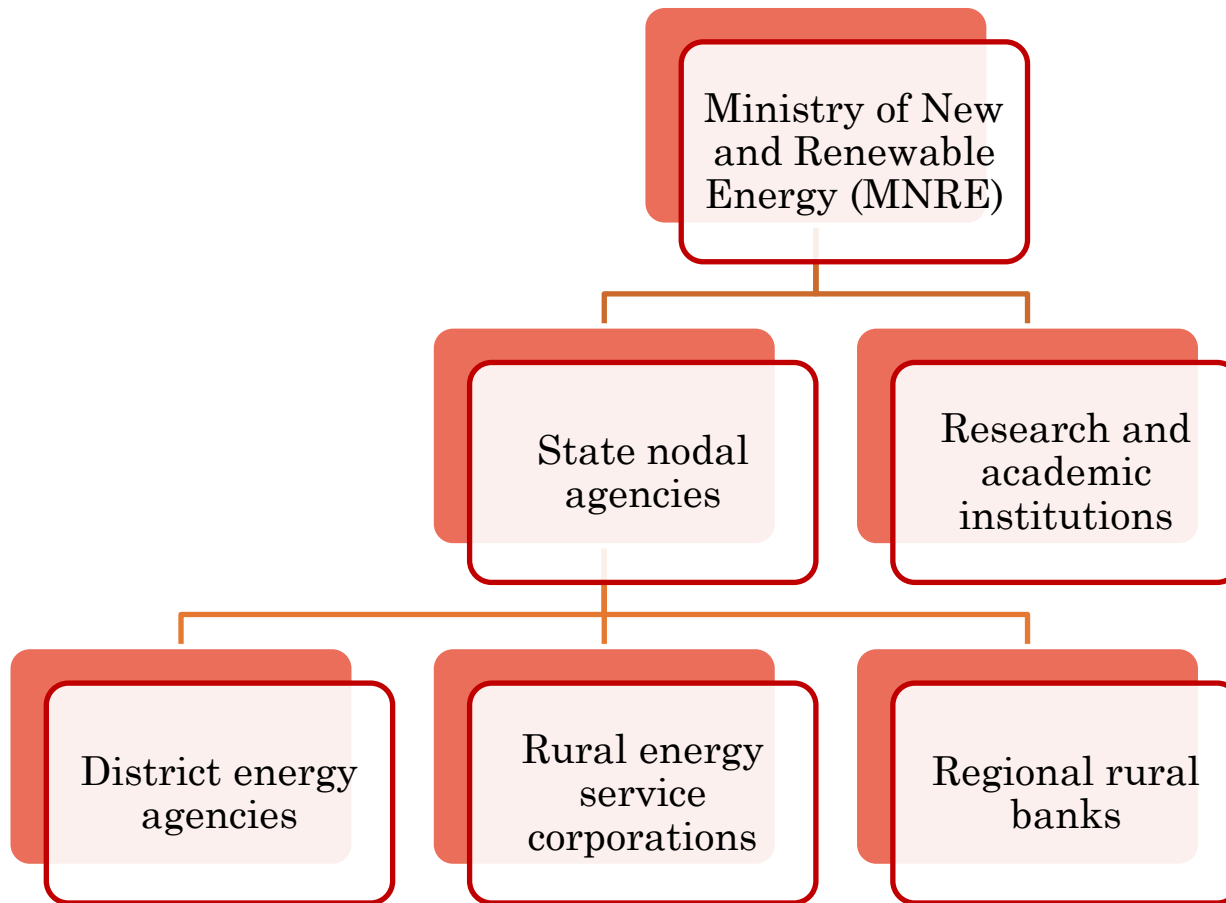
- Energy auditing for improving energy efficiency
- Evaluation of the projects for sustainability and scale-up

Review of policy

- Objectives of the policy
- Integration of state level plans with national plans



POSSIBLE INSTITUTIONAL FRAMEWORK



Coordination and communication is essential within this institutional framework and with other ministries



INCREASING ENERGY ACCESS

National Goals

Increasing energy access can help fulfill two dependent goals of nation; Energy security and rural development

Sustainable Development Goals

Ensure access to affordable, reliable, sustainable and modern energy for all

