



Bottlenecks in policy for scaling up mini-grids

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Journey so far...

Current models limited to Standalone systems

- Catering to 50-100 households
- Isolated business cases (stand alone both with or without subsidy support, or based on alternate applications such as telecom towers)

Lack of Market based scalable and replicable models

- Examples in countries such as Bangladesh have demonstrated large scale deployment of Solar Home Systems with Energy Efficient Lighting
- Limited to lighting and are missing in explicit linkage to livelihood creation

Significant drop in equipment cost especially of Solar PV

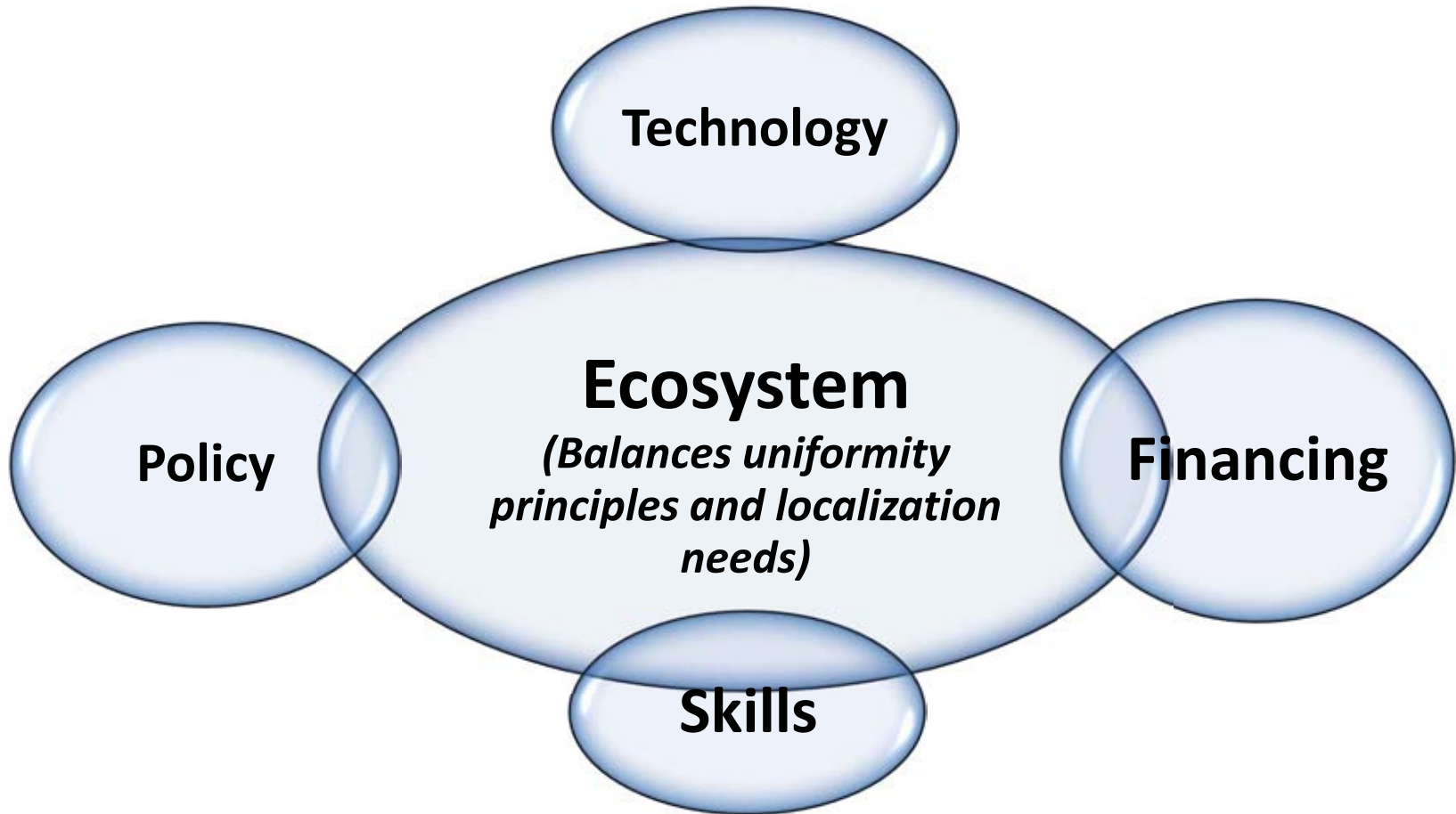
- Potential for economically viable large scale deployment

Too many equipment providers rather than complete solution providers

The States vs. Centre conundrum

- Lack of co-ordination between the Central ministries, and then between Centre and the States
- Is a state led bidding and monitoring better, given low institutional capacity?

**Addressing:
Access + Availability + Quality + Sustainability
in an Integrated manner**



Need for a more systemic ecosystem addressing information, institutional, policy, and financial barriers in an integrated manner; compared to existing isolated entrepreneurship based models.

What we hear the market needs...

PPP approach: *Government to set policy and move out of execution*

Mini-grids: *Define technology that is scalable as opposed to solar home systems*

Cluster based approach: *Incentive for private developer with larger consumer base (including productive load)*

Single window non-Govt. financial interface for both subsidy and debt:
Rather than disaggregated roles of Govt. on Subsidy and FIs on loans

Skills needed for sustainability

- Current skill gaps exist at all levels including:
 - *Maintaining equipment*
 - *Community involvement (for tariff collections)*
 - *Govt. interface (for land requirements and law & order support)*

Technical Assistance/Financial support for linkages to livelihoods

Key questions

Need for Financial Support from the Govt. (Subsidy)?

- *If 'yes'*: Who should take the lead between the state and the center
- *If 'No'*: Concessional Finance through FIs to be provided to Pvt. Players
 - *Possible land acquisition and Law & order issues*: Pvt. Sector manages in all other sectors

Should rural household tariffs be fixed?

- *If 'yes'* : Would require additional subsidy for financial viability
- *If 'no'* : Difficult to convince as would the use of Govt. funds mandate a fixed low tariff charged to households?

Exit Policy comfort be provided to the private developers?

- Exit policy options that may be provided to the private developers:
 - *Pack the equipment for deployment elsewhere*
 - *Sell the equipment at a particular price*
 - *Function as Input based distribution franchisee*
 - *Sell power to the Grid using Net metering*

Need for Regulatory clarity

- Clarity needed on issues of tariff's and exit policy as discussed above and other issues such as licensing of distribution network etc
- Should technical standards be defined?

Our attempt to design a project...

Basic Contours

Viability Gap Fund (VGF) based bidding to select private developers and outcome based disbursement

Clustering of villages – *includes both electrified and poorly-electrified*

Use of Mini-grids vs Solar Home Systems to ensure scalability

Financial intermediation for disbursement of subsidy and possible debt window

Collection and O&M responsibility on Private Players

But questions remain on 'way ahead'...

Divergent views

Establishing linkages to improvements in means to earn livelihoods

- Challenge exists to use the existing community based institutional setups within villages such as Jeevika and Self Help Groups – *Could also be used for collections*
- Mini-grids to help growth and even inception of commercial establishments

Small granular systems vs. larger systems

Smaller entrepreneurial players vs. encouraging larger players (with better access to finance and technical standards) to enter the markets

Standardization of equipment (through defined robust technical specifications) vs. letting the successful player demonstrate quality of equipment that meets service standards

Other Enablers

Learning loop through staying connected

- Forum of Off-grid operators

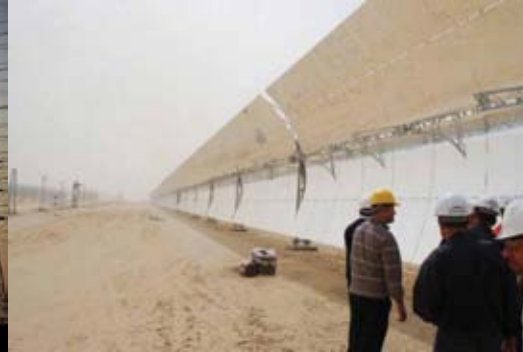
Technical standardization

- Defining the kind of mini-grid equipment
- Inclusion of solutions such as smart metering
- Certification of equipment

Development of right skills

- For detailed rural village and household level surveys
- For maintenance and tariff collections: Co-opting ITIs and other rural educational institutes to design specific courses for local youth

The key aspiration from enabling policy is a joint co-ordination between MNRE and MoP and at State level to come with State wide Rural Electrification Plans – with clear demarcation of where Grid based power is not a feasible option and use of DG&S model



Thank You!

