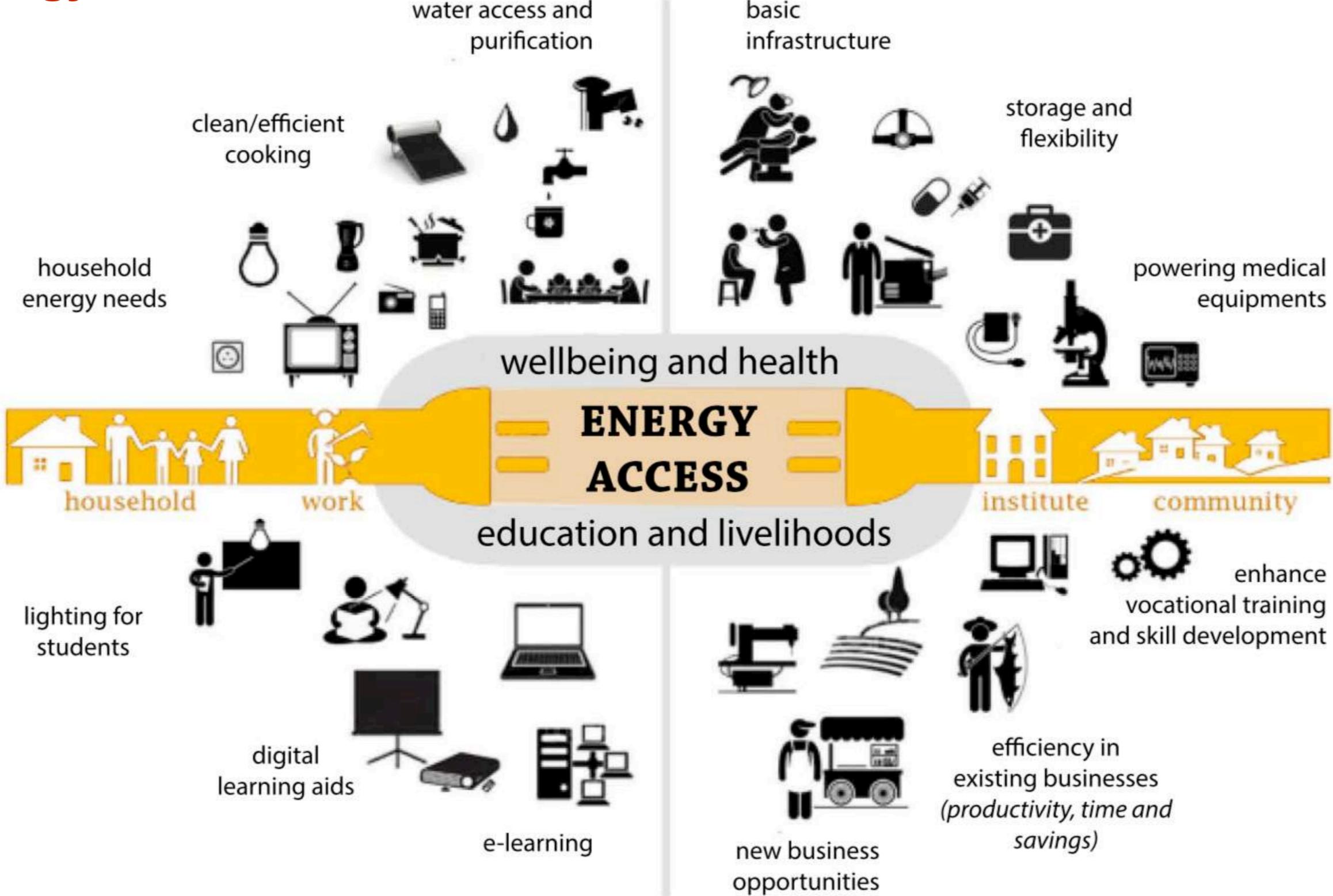




ECOSYSTEMS APPROACH FOR  
DECENTRALIZED RENEWABLE ENERGY:  
LESSONS FROM INDIA



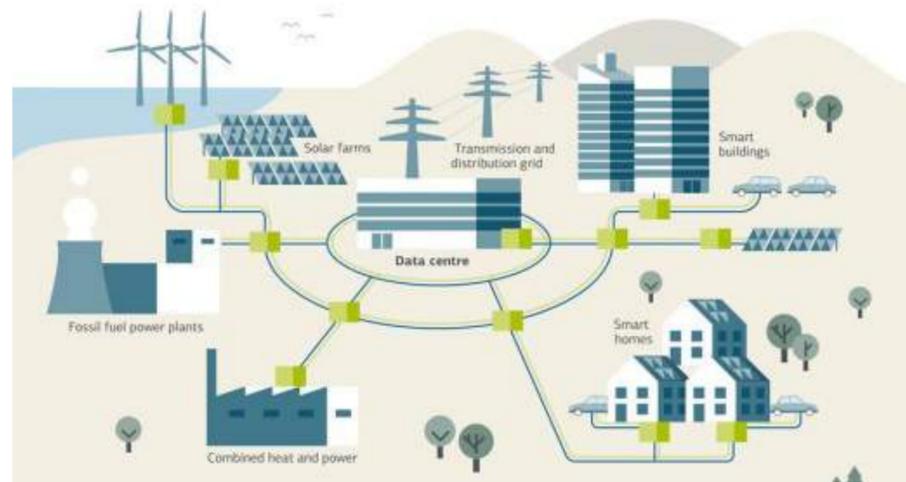
# Why Energy?



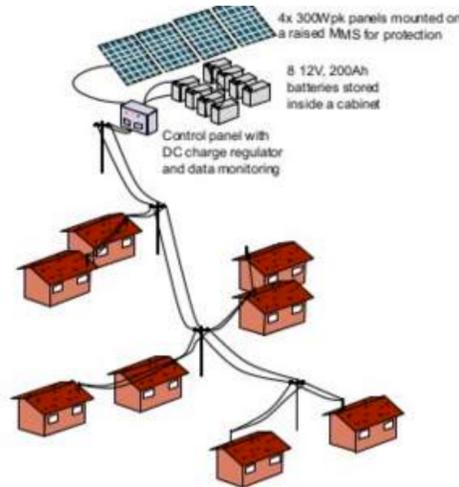
# Delivery of Energy - Different Distribution Models

## Energy Solutions Should be Holistic & Appropriate:

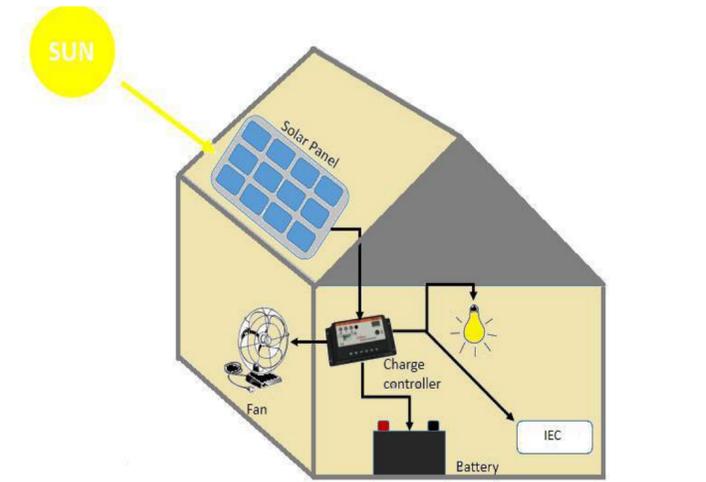
*A look the spectrum of available energy solutions*



Centralized Grid



Decentralised Micro Grid



Decentralised Individual PV Systems



Solar Lamps/Pico Systems

What determines the distribution model?

- Geography and Terrain
- Infrastructure - eg: Connectivity
- Ownership
- Affordability and Financial Inclusion

# Energy Access: What it should mean

UNRELIABILITY

ONLY ENERGY  
ACCESS

≠

DEVELOPMENT

KEY CATALYST FOR OTHER DEVELOPMENT

MUCH BEYOND BASIC HOUSEHOLD NEEDS

SOCIALLY INCLUSIVE AND HOLISTIC

- Energy Access means for both off-grid and on-grid
- Increased urban poverty also leads to energy poverty
- Statistics of the number of people without electricity does not mean anything when its measured from a development perspective.
- Cross sectoral element to critical development verticals like:
  - Education
  - Well being and Health
  - Livelihoods
- Potential for innovation is beyond lighting: income generating products, water related, health specific etc.
- Solutions to Energy access a perfect blend that makes the society inclusive, safeguards the environment and drives true development.

# Energy Access for Livelihoods

Energy Efficiency

Affordable Financing



Sewing machine with efficient motor, belt and pedal; combined with appropriate financial models

# Energy Access for Livelihoods

Energy Efficiency

Affordable Financing



Efficient huller, polisher, de-stoner etc for remote tribal and rural areas- dependent on diesel

# Livelihood solutions across Textiles, Agriculture, Crafts and Micro-Entrepreneurship



Egg Incubator



Agri Processing Machines



Power Hammer



Pottery



Rope Making Machine



Cotton Picker



Chilli Grinder



Efficient Loom



Milking Machine



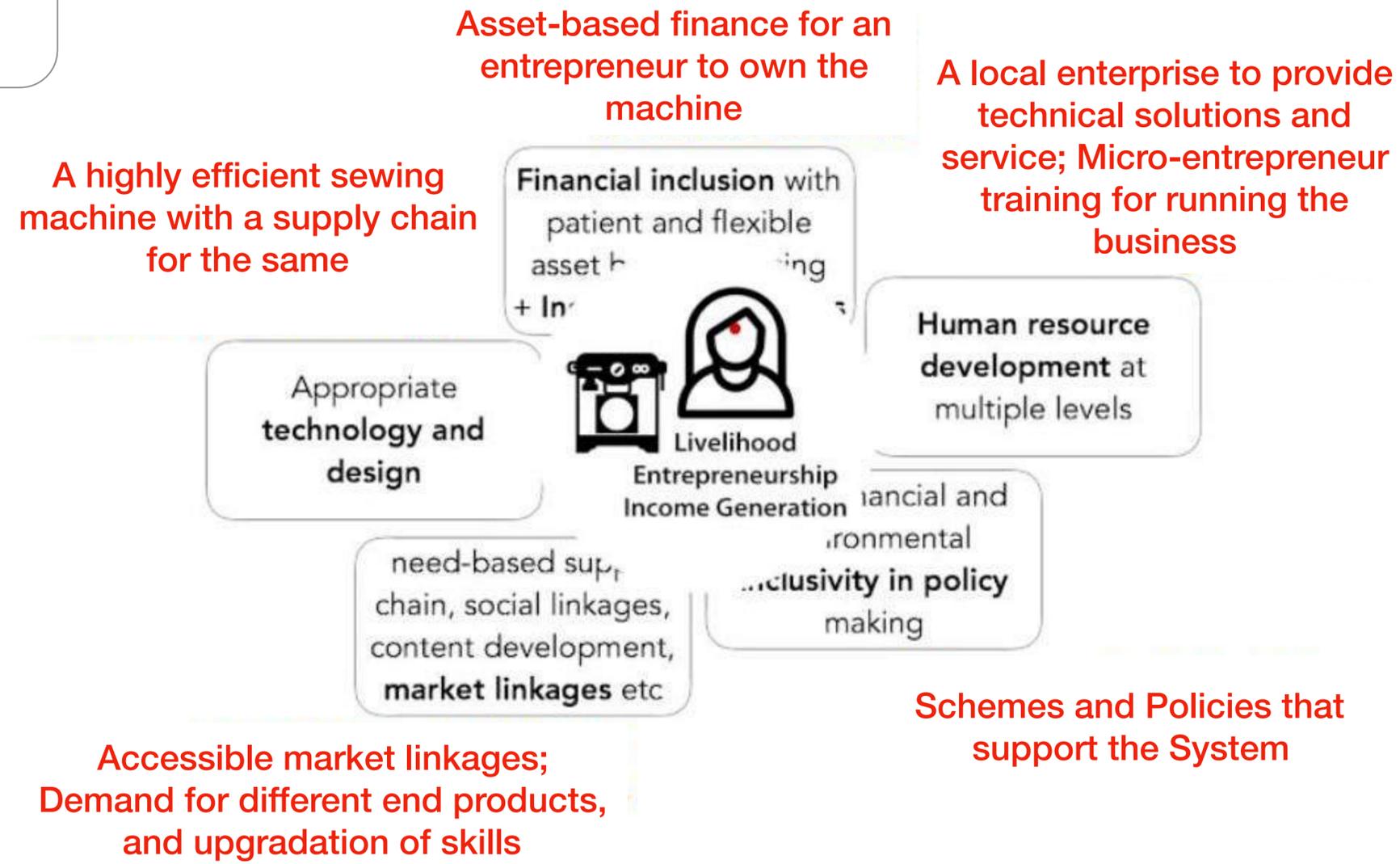
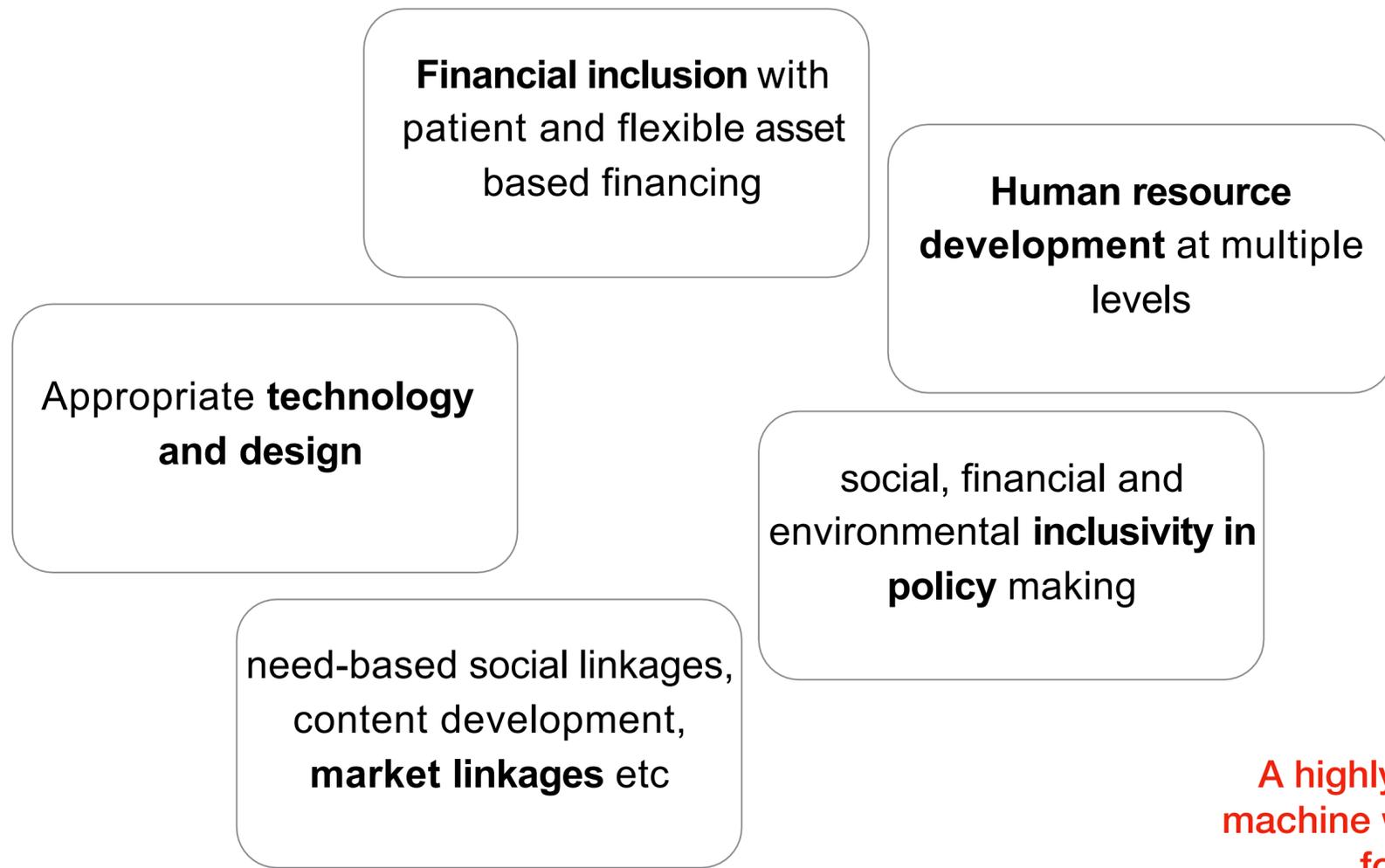
Blacksmith



Digital Services



Refrigerator



# Energy Access for Healthcare

## DECENTRALIZING HEALTHCARE VIA ENERGY ACCESS

OPTIMIZING SYSTEMS FOR HEALTHCARE : First Points of Referral and Care



# Moving beyond **Electrification** to **Energy Access**

## **COMMON MISCONCEPTIONS**

**Technology centric-** viewing technology as the singular important piece of puzzle without paying attention to finance or delivery models

**One model approach-** trying to fit a preconceived solution to a problem irrespective of need, culture, geography, customer segmentation

**Superimposing solutions-** Not creating solutions suited to local contexts.

**Off grid vs on grid-** solving a problem of access, affordability, availability and reliability irrespective of the presence of grid. Still trying to rationalise need for centralised energy models vs creating new pathways of energy supply & distribution

**Energy = Electrification** - Energy means electrons and that in itself will automatically bring about development

**Silo Thinking-** Not listening to the “energy” issues from a health, education, livelihoods or built environment perspective. Rather being prescriptive about what the model (mini-grid/standalone/central) or intervention (lights/duration of use) should be.

Electrified but benefits of energy access still not reach communities and households- **QUALITY, RELIABILITY and AFFORDABILITY** continue to be a barrier to development

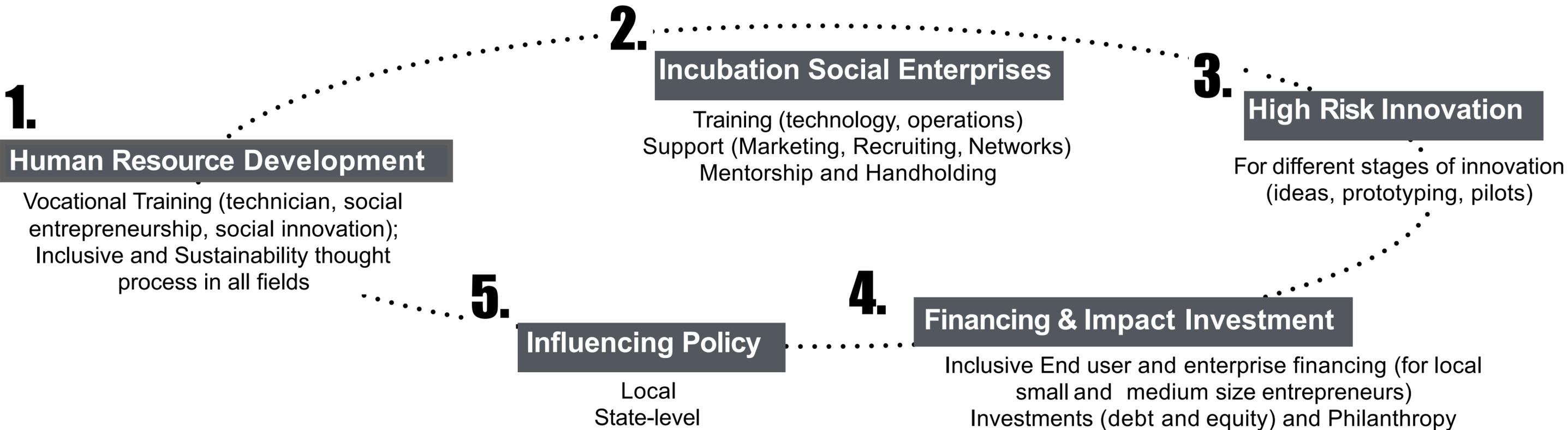
# Ecosystem for Energy Access

**Finance-** Loan terms designed according to paying capacity and off-setting current energy costs; Setting Targets with Banks; Revolving Fund; Guarantees

**Service and Maintenance-** Incubation of Local Energy Access Enterprise- technical training and establishing servicing networks



# What needs to be done- Ecosystem for Decentralised Renewable Energy Access





**Thank You**

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