Poverty, Climate Change and Knowledge Institutions
TERI-UCT Joint Side Event at COP 18

Side Event Room 7

Doha, 29 November 2012

Poverty, Climate Change and Knowledge Institutions
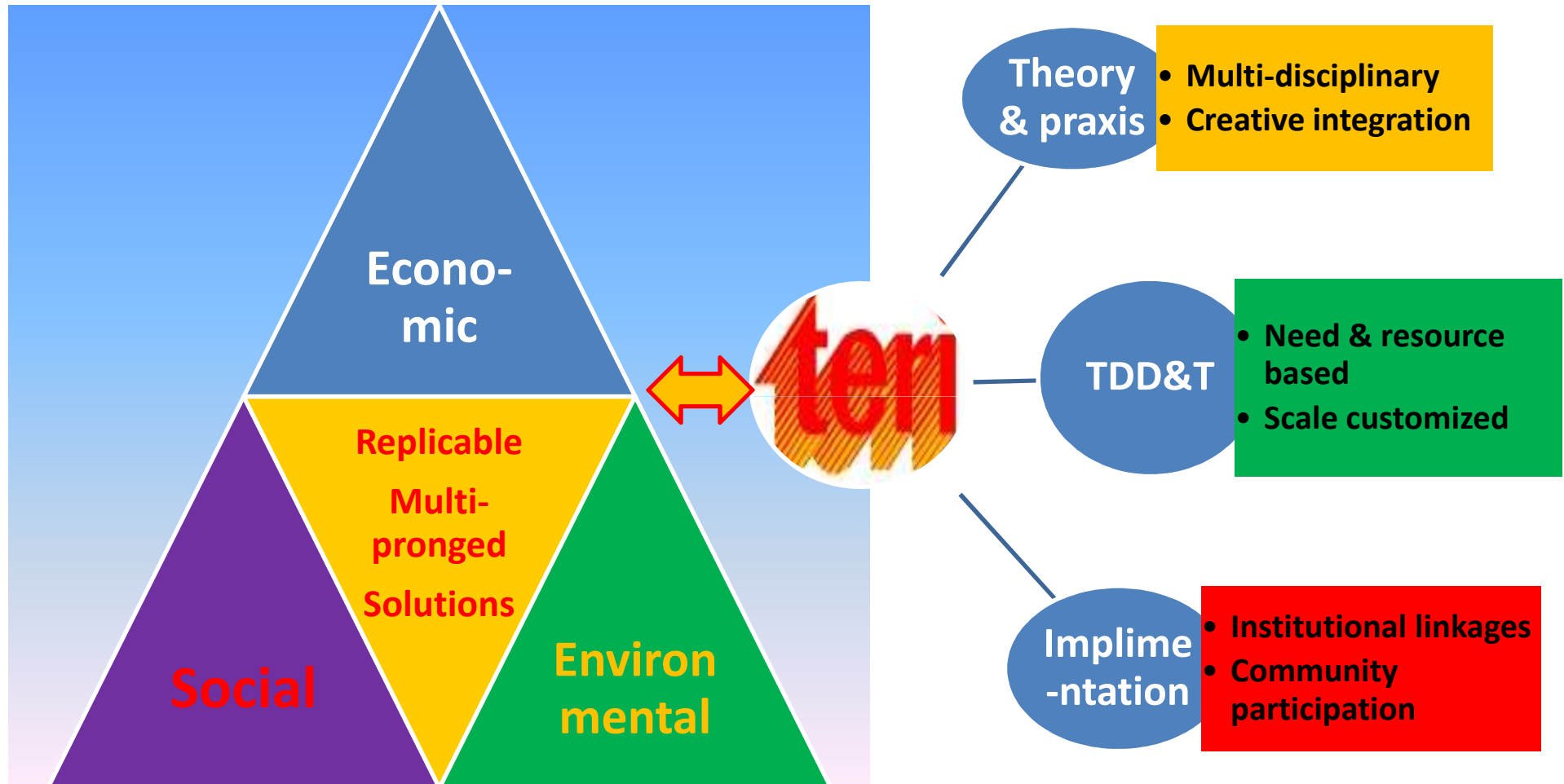## TERI-UCT Joint Side Event at COP 18

Role of Knowledge Institutions in Catalyzing Climate and Development Action: The TERI Experience

Doha, 29 November 2012

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TERI and Sustainable Development

Economic

Replicable

Multi-pronged

Solutions

Social

Environmental

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Theory & praxis
- **Multi-disciplinary**
- **Creative integration**

TDD&T
- **Need & resource based**
- **Scale customized**

Implimentation
- **Institutional linkages**
- **Community participation**

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30 Pro-active years

This presentation:

TERI Experience

Insights for International Climate Policy

Concepts

Cases

Technology

Capacity Building

Finance

Differentiation

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Select TERI Solutions

Solution	Since	Countries	No. of Projects
Solar Multi-utility / Smart Mini-grid	2000/ 2011	India, Bangladesh	44 units
Lighting a Billion Lives	2007	Afghanistan, Pakistan, Nepal, Bangladesh, Myanmar, Uganda, Ethiopia, Kenya, Malawi, Mozambique, Ghana, Niger and Sierra Leone	1600 villages
Improved Cook Stoves	1980	India, Uganda, Ethiopia, Kenya	2000 in year 2012; Target 100, 000.
Biomass Gasifier	1984	Thailand, Myanmar, Sri Lanka, Uganda, India	600+ (Thermal) 40 (electrical)
EE in Glass Foundry	2005	India, Bangladesh	120

Before Climate Change

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The TERI Model

Knowledge Synthesis
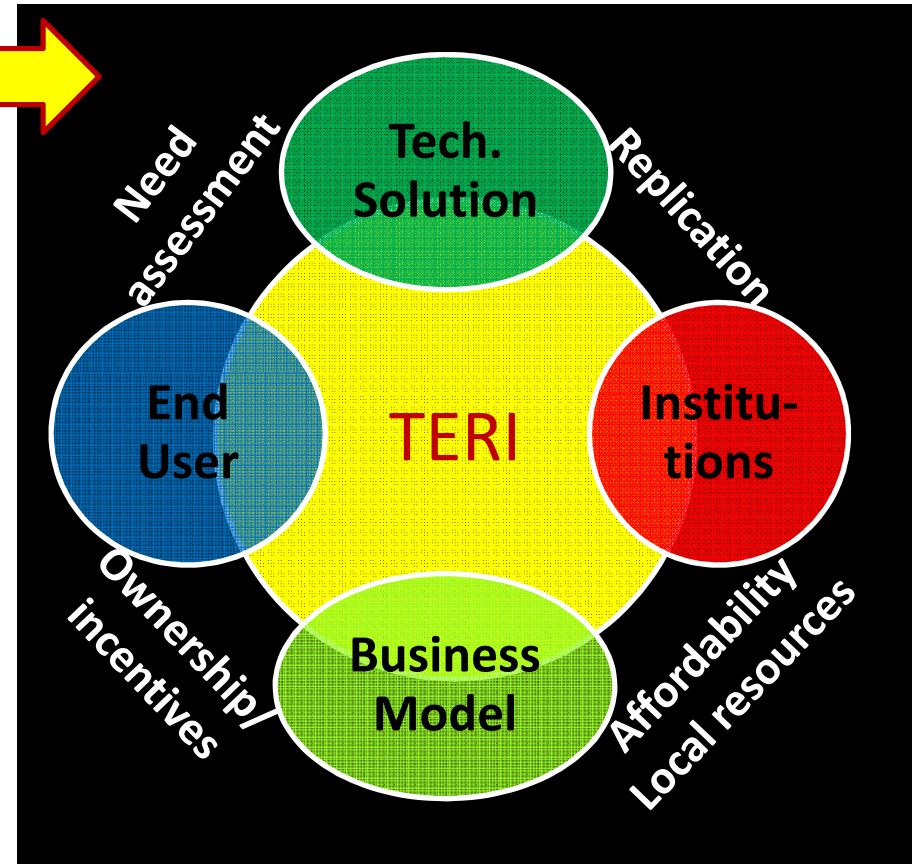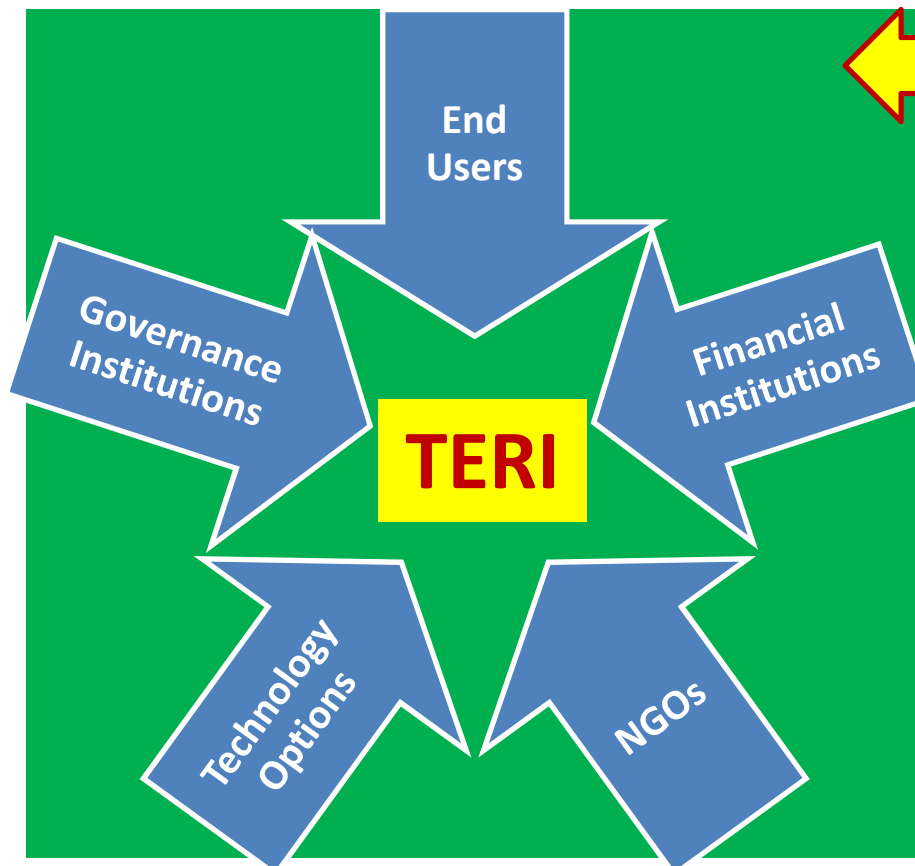
Knowledge creation

- **Need based customization**
  - USD 5-20 thousand, 4-8 Months Payback
  - Local resource based

- **Climate benefits**
  - CO_2 Neutral
  - 1 liter Diesel: 3-4 kg biomass
  - Adaptation (Post-Tsunami Myanmar; health)

- **Development benefits**
  - Clean energy & health
  - Employment
  - Empowerment

- **Business model & Capacity building**
 - Locally owned and managed

- **Financing: DfID**

A household lit by gasifier

Cumulative growth in biomass gasifiers deployment

Rural electrification

MSME-textile (dying)

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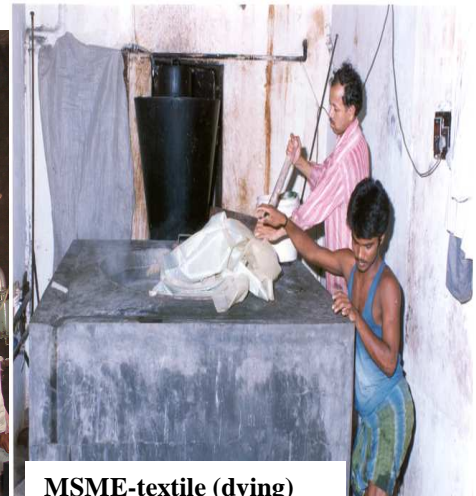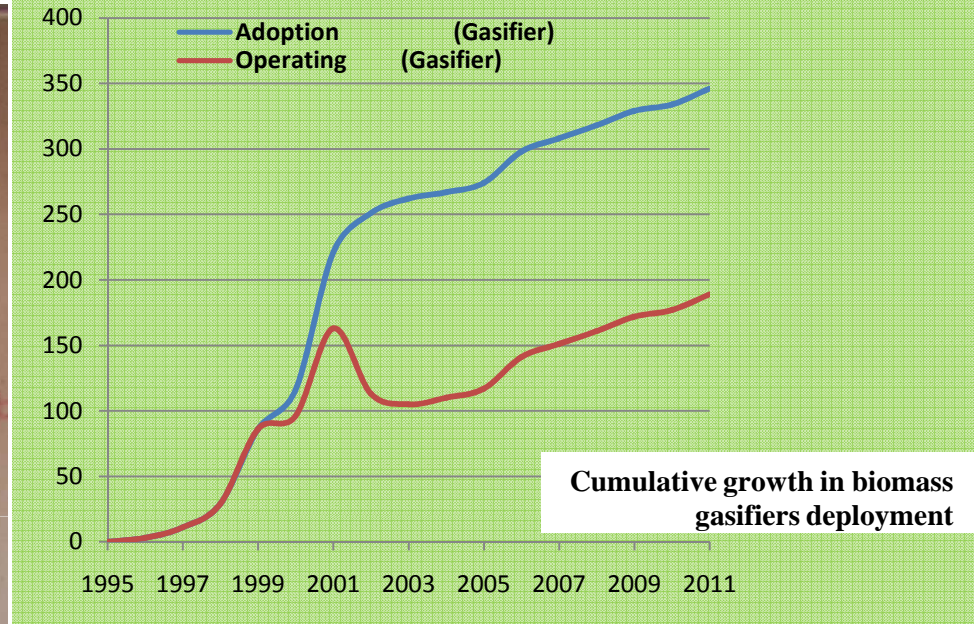
Solution2: Improved Cook-stoves (TERI patent)
Need assessment: clean and efficient fuel, local resources

- **Customized**
  - Cooking style
  - Fuel type
  - Retro-fitting extra components
- **Affordability / willingness to pay**
  - 2.6 billion people
- **Business model**
  - Energy Access Network around Locally managed energy enterprises
  - Subsidies through value chain
- **Climate & Development Benefits**
  - Smoke: 60-70% less
  - Cooking time: 40-50% less
  - 36% more energy efficient than conventional stoves
  - @40% cost of similar commercial mode
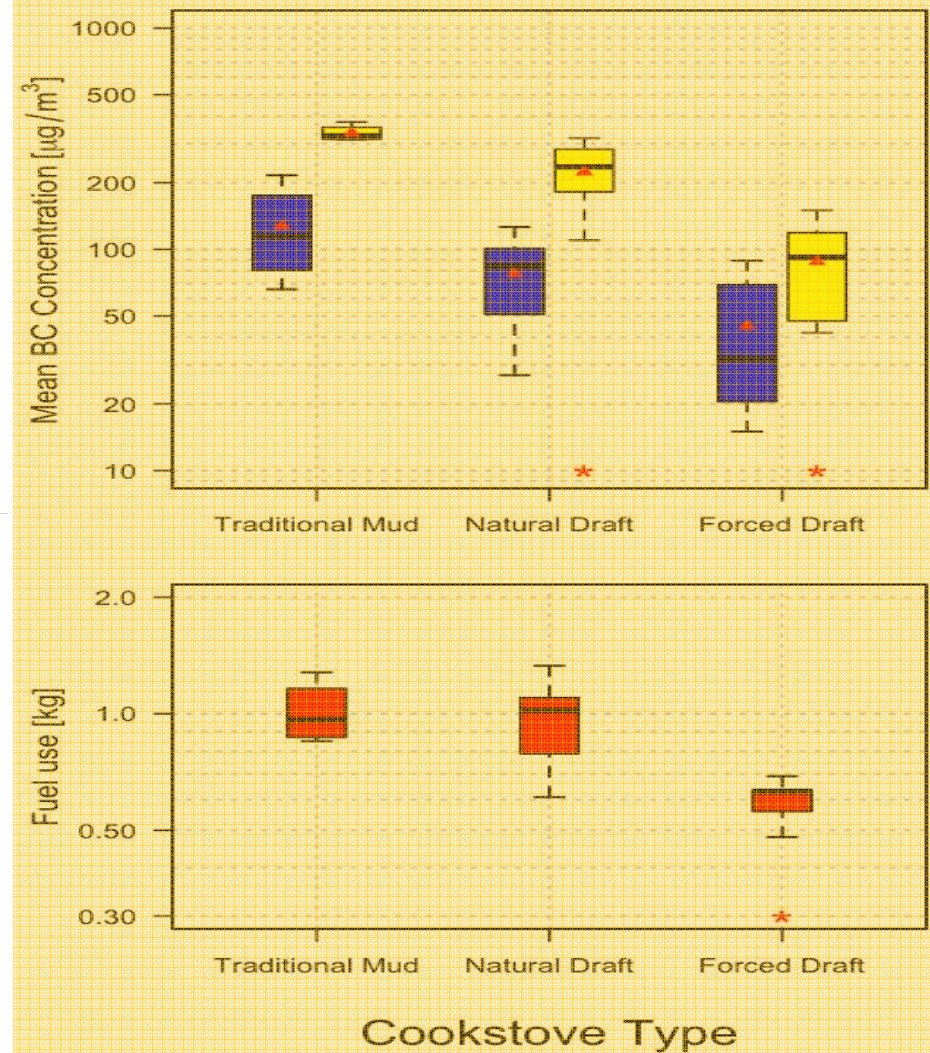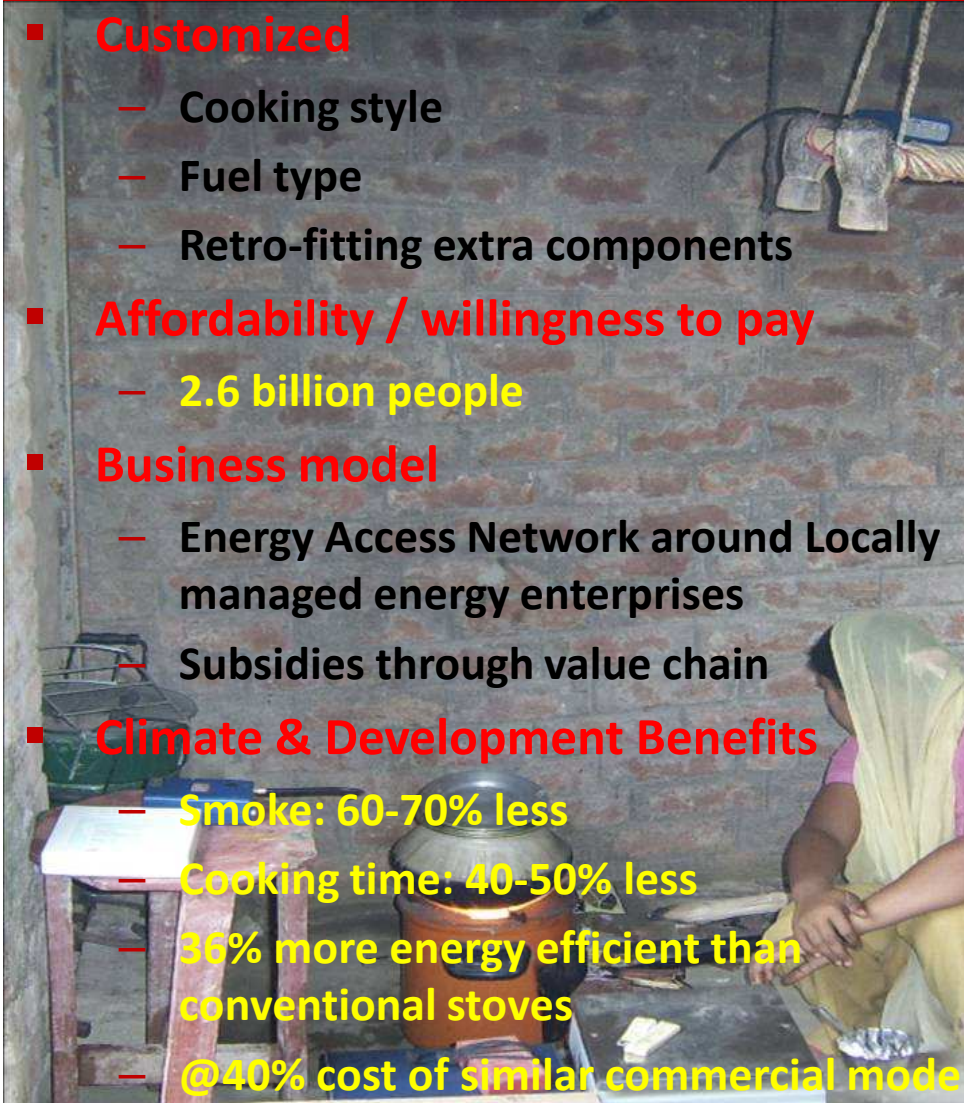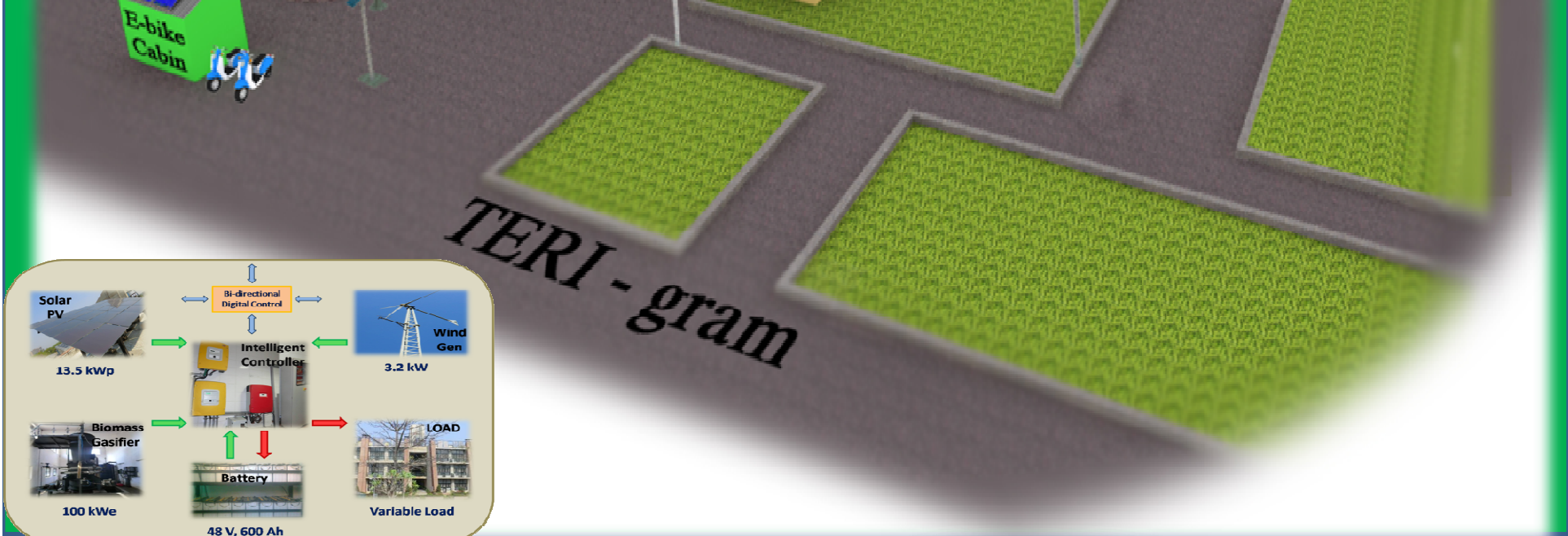
Solutionn3: Lighting a Billion Lives

Business model: Flexible, local entrepreneur, capacity building, Innovation

Funding agency

Funds

TERI

Technology supplier

Financial institution

Products

Loans

Energy enterprise

Rent/sale and after sales support

End user

The French Case

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Empowering women artisans — Jammu & Kashmir

Encouraging women to become entrepreneurs — Uttarakhand

Affordable solar lighting service — Punjab

Catalyzing rural market for solar lighting — Uttar Pradesh

Better illumination for producing craft goods income — Haryana

Trained local technicians provide after sales services — Bihar

Environmental awareness in rural communities — Rajasthan

Additional hours for business operations — Assam

Helping midwives with childbirth — Madhya Pradesh

Lanterns rented every evening — Meghalaya

Lighting for the elderly and disabled — Maharashtra

Bringing light to the remotest corners — Arunachal Pradesh, Manipur, Mizoram & Nagaland

Solar lighting for tuition classes in the evening — Karnataka

Solar lighting for betel leaf cultivation — West Bengal

Providing lighting through Common Service Centers — Tamil Nadu

Clean indoor environment for household work — Jharkhand

Lighting up residential schools — Chhattisgarh

Furthering the education of girl children — Andhra Pradesh

Lighting for Primary Health clinics after dark — Odisha

| 370,400 Lives Illuminated | 1486 Villages implemented | 1500+ Green jobs created | 74,300 households lit | 21 States covered | 100+ training & capacity bldg workshops held |

Smart Mini-Grid

TERI is highly integrated KI

THE RETREAT

Biomass Gasifier

Diesel Gen-Set Room

E-bike Cabin

TERI - gram

Solar PV
13.5 kWp

Bi-directional Digital Control

Intelligent Controller

Wind Gen
3.2 kW

Biomass Gasifier
100 kWe

Battery
48 V, 600 Ah

LOAD
Variable Load

To Replicate TERI Experience:

NETWORKS & RELATIONSHIPS

Knowledge Institutions

Financial Institutions

Local Institutions
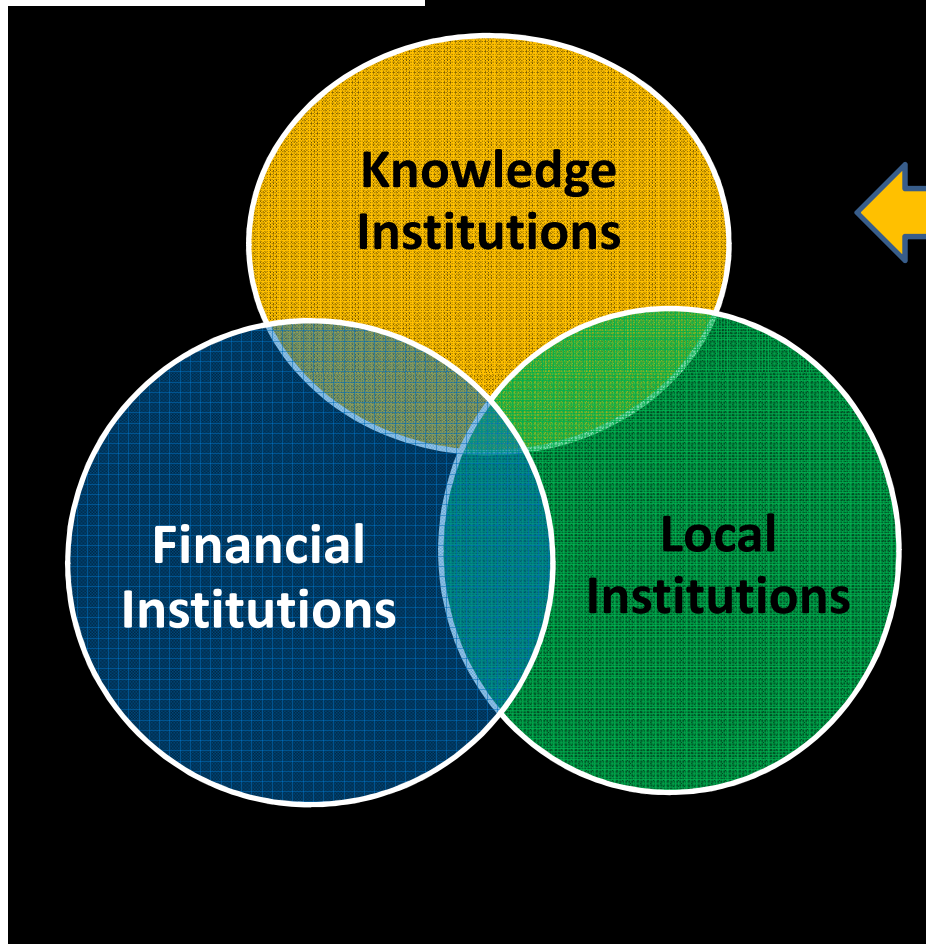
Customize solutions to local needs and resources

Local capacity building: people and institutions

End-user Ownership

Encourage pro-activeness of KIs

INTENTION

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Messages for international climate policy

TDD&T
- **Build on the tacit knowledge of KIs in Developing Countries (capacity building)**
- **IPR should not hinder ownership by end-use**

Finance
- **Multiple Business models**
- **Grant is most effective**

Differentiation
- **Local needs and circumstances matter**
- **Groupings are necessary for replication and scaling-up**

Thank you
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