

# Access to energy in rural areas: Issues and challenges



## Workshop on Expanding Access to Energy

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**Brahmanand Mohanty, Ph.D.**

Regional Adviser for Asia, French Environment & Energy Management Agency

Visiting Faculty, Asian Institute of Technology



***Pro-Seed Project: Enhancing Energy Services in the***

# Why is access to energy important?



Sources: IEA 2007 and UNDP 2006  
(Data for 1995 and 2004)

# Millennium Development Goal



## Millennium Development Goal (MDG) as a boost for increasing access to energy services and improving the life of the poor

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equity and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability



# Access to energy: the rural dimension



## Why rural areas?

- 50% the world population lives in rural areas (nearly 90% in least developed countries)
- In spite of considerable efforts over the last decades
  - 2 billion people dependent on traditional biomass for cooking
  - 1.7 billion remain without electricity
- Situation getting worse due to increasing attention given to cities

## What is access to energy all about?

- It is not just about “bringing the power grid to the villages” but
- Making energy available in various forms for a range of services needed



# Linkage between general poverty and energy poverty



## Energy poverty goes hand in hand with general poverty

- To eradicate poverty, energy should be available, accessible & affordable
  - Poor have fewer energy options than the rich
  - Poor have difficulty in paying for the energy services
  - Poor often pay more than the rich for an equivalent energy service
- Problem of remotely located dispersed population
  - No access to basic energy services, information or market
  - Inadequacy of off-grid alternatives to generate income & improve living standard
  - Schemes with subsidized technologies that are not sustainable
  - Poor servicing and maintenance



# Energy, poverty and gender



**70% of the 1.3 billion people living in poverty are women**

- Rural women are major suppliers and users of wood and residue fuels
  - Long hours spent on fuelwood collection (drudgery and opportunity costs)
  - Indoor air pollution and impact on health and safety
- Women exert themselves to pump water & process post-harvest food
  - Lack of electrification in rural areas
  - Limited scope for income generating activities
  - No access to potable water and refrigerated medicines



# Rural electrification: gap between statistics & the reality



**Most governments focus on grid extension and yet many rural people actually do not benefit from it**

■ **Some typical reasons**

- Too high costs of extending to isolated hamlets
- Poor quality of power supply as compared to urban areas
- Techno-economic constraints
- Lack of reliable repair and maintenance services
- Paucity of funds to extend renewable energy schemes



# Rural energy planning & policies



## Poor planning and policies to meet the modest rural energy needs

- Rural consumers have very modest energy needs
  - Only 1% of the world commercial energy would meet basic cooking needs of 2 billion people
  - Only 7% of the world electricity production would cover the needs of all those who have no access to electricity grid
- Planning process follows top-down rather than people-led approach
  - Lack of mobilization of all developmental actors (public entities & economic players) and no consultation with intended beneficiaries
  - Rural energy issues not integrated with other aspects of rural development



# Challenges of promoting use of renewable energy



## Renewable energy-based stand-alone or distributed generation systems well suited to areas with little scope for grid expansion

- Some typical constraints to the development of such systems
  - Weak institutional structure
  - No reliable information on needs & supplies
  - Over-emphasis on grid extension
  - Lack of fiscal and financial incentives
  - Weak technology R&D
  - Poor link between R&D and manufacturing
  - Inadequate training for capacity enhancement



# Challenges for fuelwood production & use



**Traditional fuels will continue to play a sizeable role but will need to be managed better and used sustainably**

- **Poor policies for sustainable wood production**
  - Inefficient land-use policy reforms
  - Insufficient fuelwood plantation initiatives
- **Inadequate policies for their efficient utilization**
  - Poor mechanisms for development and marketing of improved stoves
  - Lack of assistance and training of charcoal producers so that they can adopt more efficient kilns



# Are energy subsidies necessary?



## Energy subsidies on conventional energy sources are deterrent to off-grid rural electrification

- Some of the key issues to be addressed
  - Lack of transparency in establishing rules for energy subsidies for off-grid energy (well targeted, service extended to less affluent households)
  - “Smart subsidies” unavailable to provide off-grid modern energy services
  - Inefficient practice of subsidizing operating costs rather than assistance to reduce initial costs
  - Subsidies not adopted as strong incentive for cost minimization
  - Subsidies used to reduce hardware costs rather than market development (e.g.



# Public-private partnership



## Public-private partnership is the key to scale up access to energy

- Efforts needed by the public authorities
  - Strengthen institutional capacity
  - Consult communities as stakeholders and final beneficiaries
  - Engage civil societies for dialogue and advocacy
  - Involve financial institutions in developing suitable financing mechanisms
- Efforts needed by the private players
  - Realize that there is wealth at the “bottom of the pyramid”
  - Develop innovative ways and means to tap that wealth by involving local

