

e-learning course – April - June 2007

# Bio-energy for achieving MDGs

## Powering Rural Poverty Alleviation with Renewable Energy



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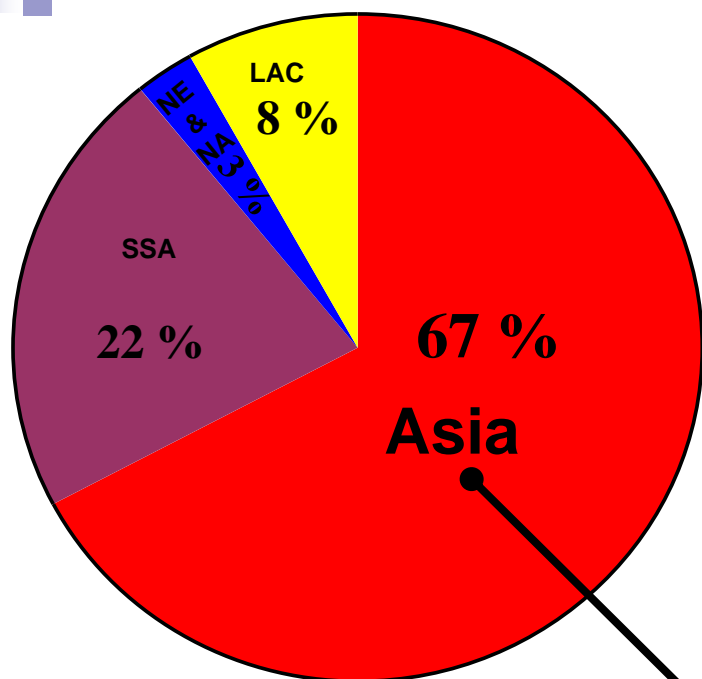
# CONTENT

 **Poverty in Asia**

 **Rural Poverty and Energy**

 **Pro-poor Renewable Energy**

## POVERTY IN ASIA



**900 million of  
extremely poor people  
live and work  
in rural areas**

*landless people,  
smallholders, pastoralists,  
fishermen, tribes,  
female headed households,  
displaced people*

# POVERTY IN ASIA

Most of the poor...

+ live in rural areas with  
low agricultural potential

+ live in remote areas  
and harsh climates

North-Western China

East-Central India

+ cultivate dry and  
marginal lands

375 million in Asia



# Poor Rural Households

## RURAL POVERTY and ENERGY

- More than 5 people
- Limited land ownership (<0,1) mostly dryland; limited livestock ownership
- Limited assets and equipment; house built from non permanent material
- Limited access to electricity and access to water from manual tube well
- Rudimentary cooking places and equipment
- Income dominated by wage labor (agricultural and non-farm)
- Dependence on natural resources and sensible to external shocks
- Up to 70% of the budget to food expenditure, mainly rice and other staples



*Photo: R. Bourgeois and A. Nugraheni, Sumbawa and Karangobar, 2006*



## **Some Facts**

**There is a correlation between energy availability and poverty. Around 1.6 billion people - living in the developing countries - with no access to any type of commercial energy.**

**Up to 95% of energy generated by inefficient burning of fuelwood, dung and plant wastes: expensive, insufficient to meet basic human needs (nutrition, heat and lighting), nothing left over for productive uses**

**Vast amount of time spent gathering something to burn  
Pressures on the environment  
High pollution levels in low-income dwellings  
Burden for poverty-stricken women and children**

**Constraints**

**Cost: distance, dispersion, accessibility**

**Political will: no priority for rural poverty and energy**

**Short-term returns: not likely**

**Technology: not designed for the rural poor people**

**Transfer: capacity to reach millions of people**

**Electrification is unlikely to solve the problem**

—————→ **explore and develop alternative sources**

—————→ **potential for using local sources of renewable energy**

## **Key Issues**

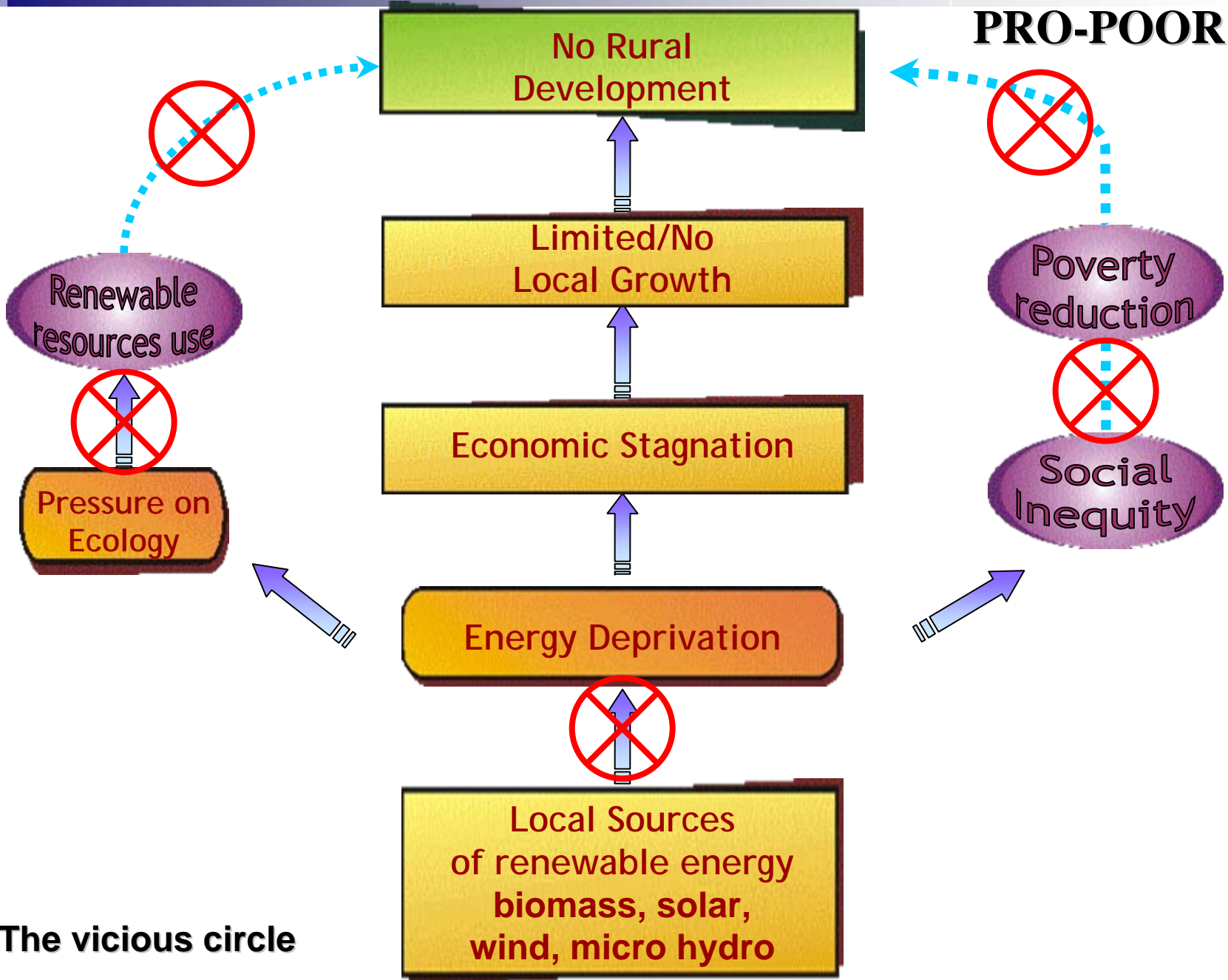
**For low-income rural communities, energy is a crucial factor for getting out of poverty traps.**

**Actions providing poverty-prone rural areas with access to energy are stepping-stones towards progress by rural communities, while also easing urban poverty**

**Renewable energy is a priority in poverty-prone area:**

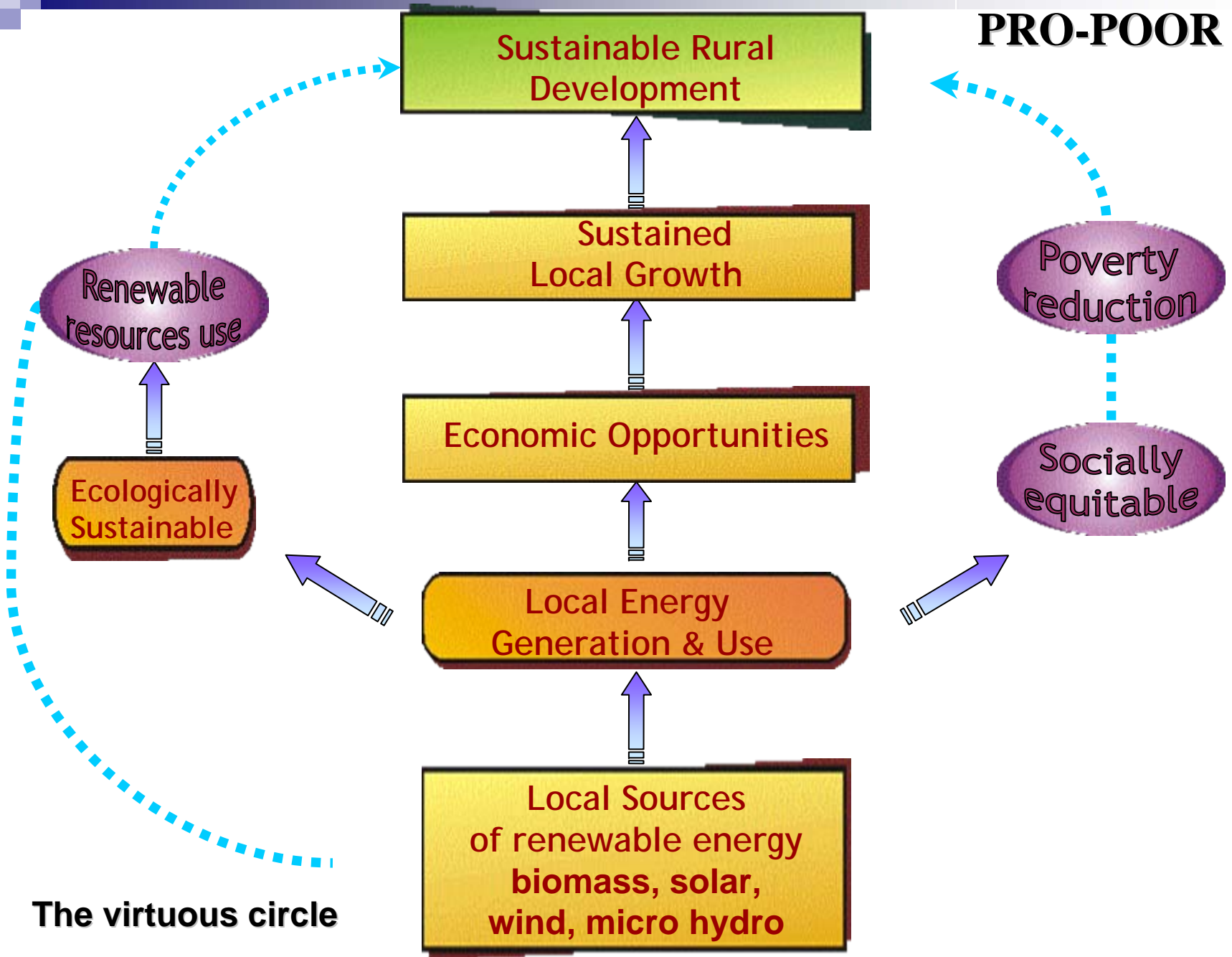
- Sources are available locally**
- Transformation is possible locally**
- Products can be used locally**
- Multiplier effect on income, health, education, infrastructure, market, dignity**

# PRO-POOR RE



The vicious circle

# PRO-POOR RE



The virtuous circle

## 1. Energy = Life

Humans first use energy to eat and work. For all who have enough to eat, renewable energy is an answer for environmental problems; for the others it is a matter of life. **“How can rural poor populations benefit from opportunities generated by progress in renewable energy research and development?”**

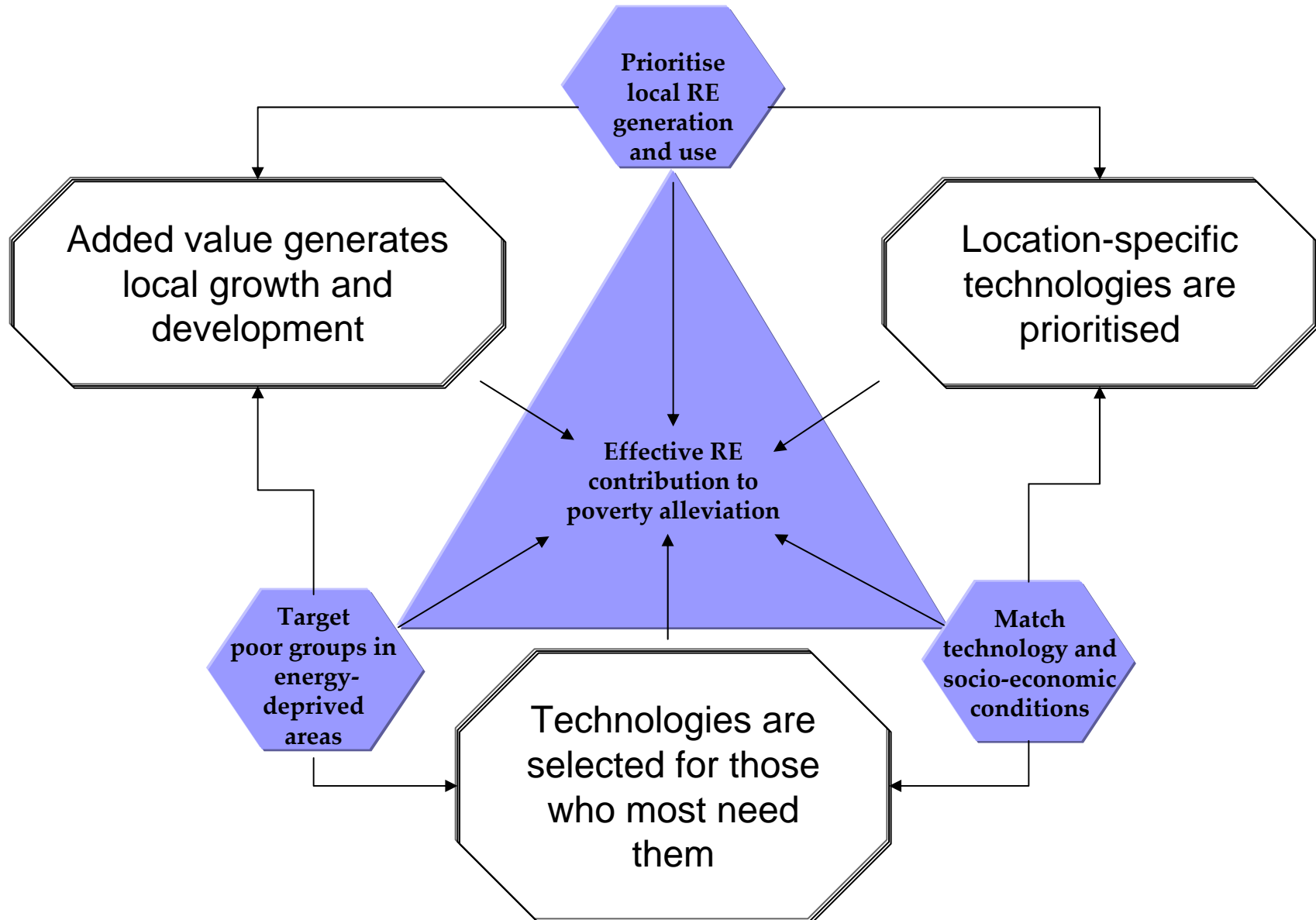
## 2. Growth ≠ Development

Producing and exporting energy is not enough if we don't want to let again rural areas behind and miss the (RE) train. The question is not what policy is needed to promote RE development but: **“What can we do for including rural pro-poor development in energy policies?”**

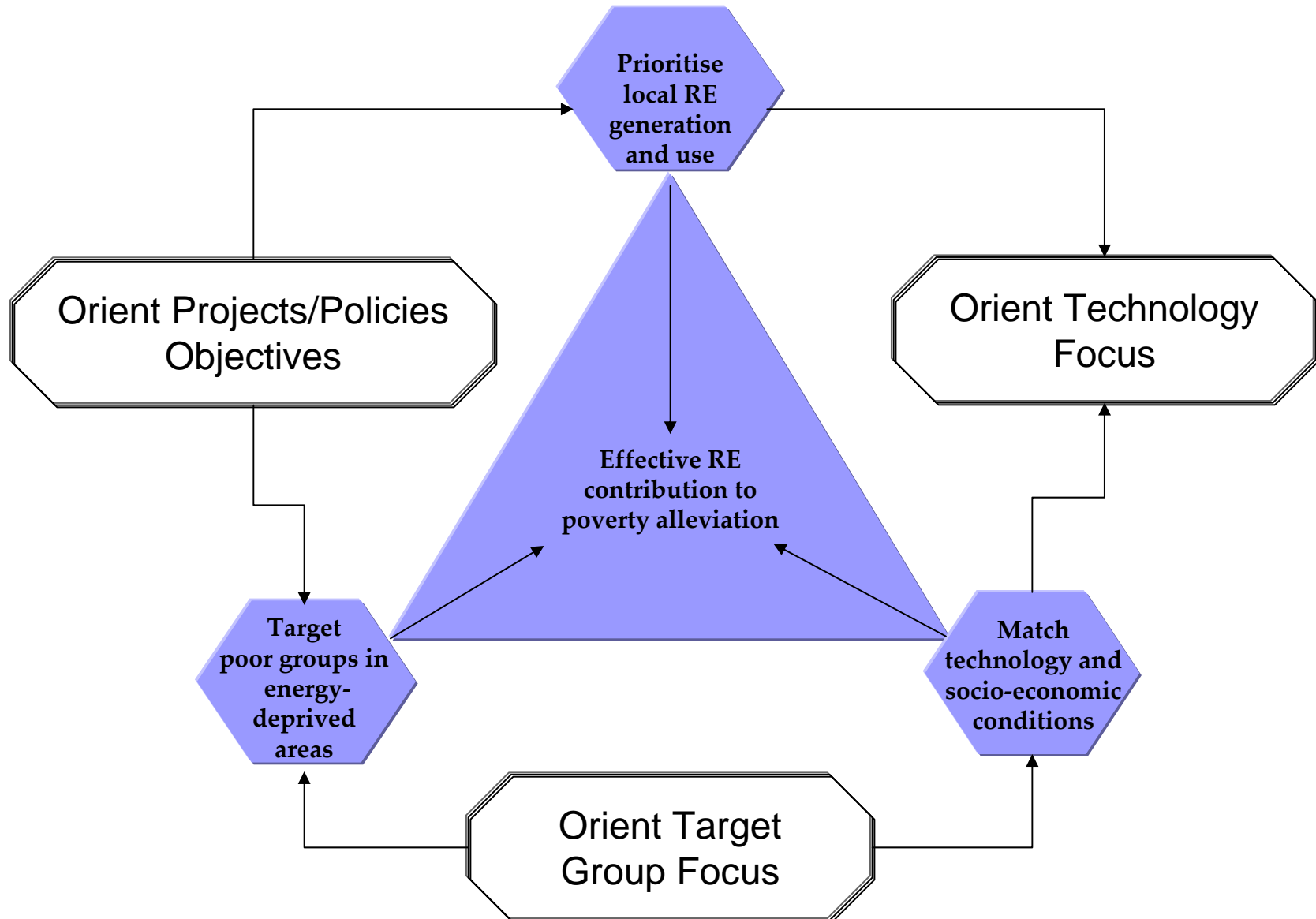
## 3. Technology = Instrument

Technologies for renewable energy generation fail if they are not sensitive to rural socio-political or economic constraints, or if they have not taken into account gender or land and resource tenure issues. The question is not how much KWeq can we produce but: **“How much can technology improve the life of the rural poor populations?”**

## Pro-poor Strategy in Renewable Energy Development



# Financing Pro-Poor RE development



## Benefits expected from RE production:

**Improve health** (*conservation of medicaments and food, food preparation/cooking...*)

**Generate jobs** (*building/operating facilities, new possible activities/business, time saved from gathering sources of energy...*)

**Increase income** (*new/additional jobs, value of unused products*)

**Induce self-reliance** (*from "dirty" waste to "clean" energy, autonomy, time for education, attractive living environment...*)

### STRATEGY

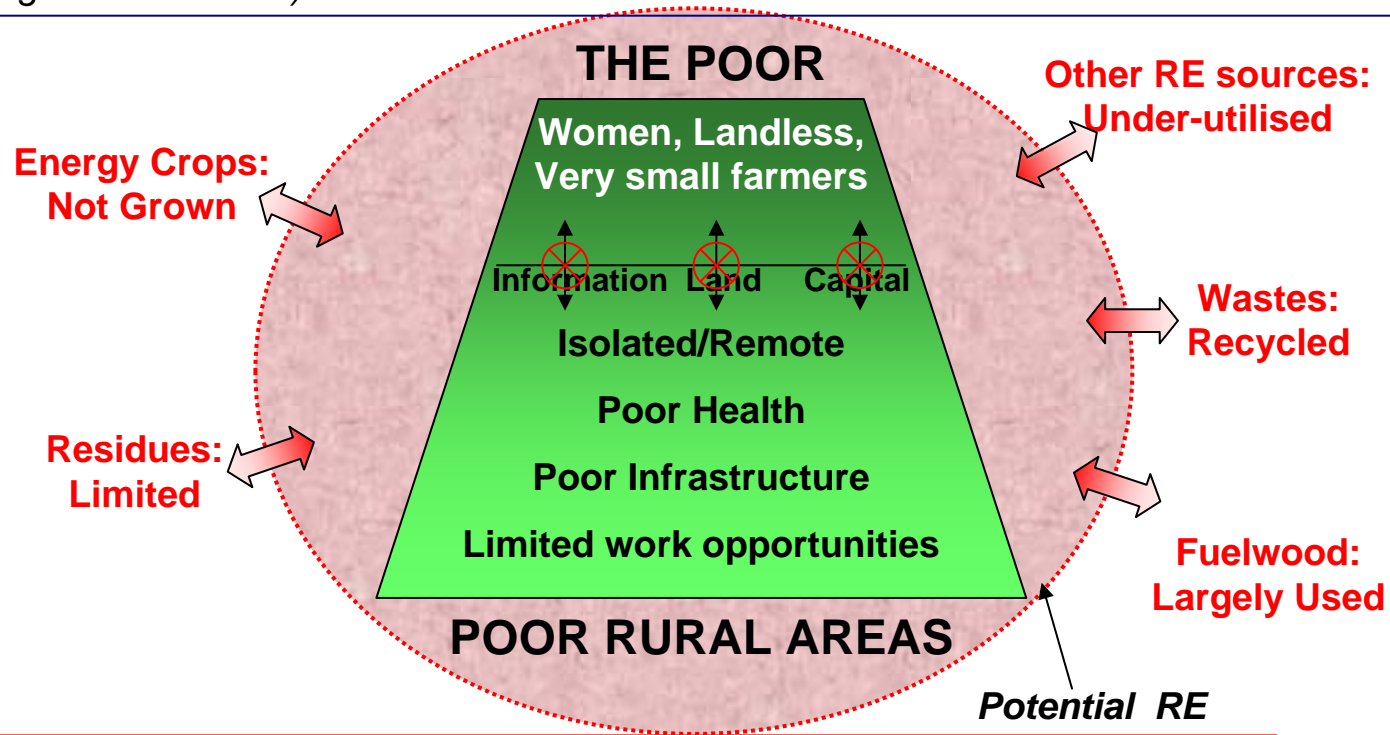
Political commitment

Promote local development and use before expansion

Quick impact with lasting effects

Include the poor in creation/operation jobs

Sharing of knowledge, knowhow, experience



## Constraints to RE production by and for the rural poor:

**No/limited resources available from own assets** (*landless, small farmer*)

**Cost of access to poorest areas** (*transport, isolation*)

**Availability of ready-to-use technologies** (*no focus of R&D on tech for the poor*)

**Energy crops compete with food crops for land, capital** (*priority to local food security until food surplus is secured*)

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