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Bioenergy in Rural Areas of the Developing Countries in the Context of Globalisation

By Ramón Pichs, CIEM - Cuba

The human development paradigm contains four main components

- Productivity, referred to economic growth as a subset of human development;
- Equity, in terms of equal opportunities;
- Sustainability, focusing on the access to opportunities for present and future generations;
- Empowerment, with regard to the requirement of full participation of people in the decision making process.

Three dimensions of Sustainable Development (SD)

- *Economic sustainability* assumes that social and environmental dimensions of sustainable development must be defined with economic considerations (i.e. economic efficiency in resource allocation) in mind;
- *Social sustainability* assumes that economic and environmental dimensions must be defined by taking into account social considerations (i.e. intragenerational and intergenerational equity);
- *Environmental sustainability* assumes that the economic and social dimensions must be defined by considering environmental constraints.

Main Lessons for SD Strategies

- ***Integrative approach => SD as a multidimensional process => economic, social and environmental sustainability***
- ***Long term perspective.***
- ***Intragenerational and intergenerational equity.***
- ***Consistency with the priorities of most of the regional population***

Main Lessons for SD (2)

- *The role of the State in SD policies.*
- *Synergies between basic areas of human development (energy services, education, health services, food security, etc.).*
- *Governance => stable political environment, responsible government, and social values oriented to equity.*

Financial resources for sustainable development

- *Availability of funds & efficiency in using those funds.*
- *Adverse implications of financial crisis, foreign debt, flight of capitals, contraction in FDI, declining ODA.*
- *Potential sources of additional resources: reduction in military expenditures; elimination of trade subsidies in the North; cancellation of foreign debt; increases in ODA.*
- *South – South cooperation.*

Sustainable energy

According to the *World Energy Assessment 2000*, sustainable energy refers to that energy which is produced and used in such a way that supports human development with a long term perspective, considering social, economic and environmental dimensions.

"New energy paradigm"

Promoting energy saving and renewables (including bioenergy)

=> Technological transformations:

- to mitigate the adverse impact of energy sector on the environment.
- to reduce the economic vulnerability derived from the dependency on fossil fuels.

Potential for sustainable energy (including bioenergy)

- Theoretical Potential.
- Technical Potential.
- Economic Potential.
- Market Potential.

Obstacles and barriers for bioenergy in the context of neoliberal globalisation

- Current policies tends to underestimate renewable energy sources, as bioenergy => in many cases, biofuels are often neglected in political, economic & social agendas (for instance, the New Energy Policy of USA, May 2001).
- Adverse implications of large-scale privatisation projects in the energy sector.
- New trade initiatives as the Free Trade Agreement for the Americas (FTAA).

Bionergy in rural areas of developing countries

Rural Population (% of total population):

- **Africa: 62%**
- **Asia: 65%**
- **Latin America: 25%**

=> High dependency on traditional biomass fuels in rural areas + Inefficient energy use.

The Latin American Case

Latin America is the most urbanised developing region. However, 60% of the population depends on firewood and charcoal as domestic fuels. In general, traditional use of biomass fuels accounts for more than 30% of total energy requirements in the poor countries of the region such as El Salvador (35%), Nicaragua (42%), Paraguay (50%), Honduras (55%), Guatemala (62%) and Haiti (75%).

Bioenergy in Rural Areas of Developing Countries (Economic Dimension)

- Rural development (rural income).
- Agriculture.
- Energy services (renewable energy source => widely distributed & locally available).
- Technology (new technologies for the utilisation of bioenergy as industrial energy source at competitive prices).
- Efficiency & safety.

Bioenergy in Rural Areas of Developing Countries (Social Dimension)

- Poverty alleviation.
- Population development.
- Health.
- Food security.
- Water availability.
- Gender approach.
- Cultural perspective.

Bioenergy in Rural Areas of Developing Countries (Environmental Dimension)

- **Sustainable forest management.**
- **Biodiversity conservation.**
- **Mitigation of Climate Change.**
- **Land Use**

Lessons for policy makers / Issues for discussion

- Internalising environmental implications of the several energy sources => Comparative analysis & integrative approach.
- R&D / Institutional Capacity.
- Access and diffusion of relevant information.
- Synergies among UN Conventions on SD.

Lessons for policy makers / Issues for discussion (2)

- Technology transfer & Co-operation (including South-South Co-operation).
- Long term perspective.
- Comprehensive approach.
- Flexibility of energy systems.
- Efficiency and safety.

SUMMARY

Promoting bionergy requires:

A. Multidimensional Analysis (reference to the multipurpose uses of biomass, the multidimensional character of the problems associated to the unsustainable use of traditional fuels in rural areas of developing countries, etc.) => To consider the economic, social and environmental dimensions.

B. Policies and supportive programmes:

- Global context (Equity Issues, Technology Transfer, Co-operation)
- National context (Capacity building, national priorities)
- Local context (community participation)

=> Proper consideration of potential & barriers for each case.

C. Technological Component in Response Strategies:

- Supply side (provision of bioenergy).
- Demand side (bioenergy use).