

Food Security, Bioenergy and Rural Development in the Developing World.

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SARD

*Major adjustments are needed in
agricultural, environmental and
macroeconomic policy, at both national
and international levels, in developed as
well as developing countries, to create
the conditions for sustainable
agriculture and rural development
(SARD).*

This will involve education initiatives, utilization of economic incentives and the development of appropriate and new technologies, thus ensuring stable supplies of nutritionally adequate food, access to those supplies by vulnerable groups, and production for markets; employment and income generation to alleviate poverty; and natural resource management and environmental protection.

The main - and often only - sources of energy for household use and food production are diminishing supplies of woodfuels, along with biomass residues and human and animal power. Dependence on these traditional energy sources is associated with poverty, health risks and human drudgery

In global terms, woodfuels represent about 7% of the world's total primary energy consumption, most of which (76%) are used in developing countries, where about 77% of the world's population live

(WEC, 1999-2003)

In the developing countries, wood energy represents 15% of total primary energy consumption, although this figure conceals important differences at the sub-regional and national levels. For example, there are 34 countries where woodfuels provide more than 70% of the energy needs and the dependence of 13 countries is 90% or more

(WEC, 1999-2003)

Developing countries must be assisted to meet their energy requirements in agriculture, forestry and fisheries, as a means of achieving sustainable development.

They will have to accomplish a transition from the present energy supply of mainly fuelwood and other biomass fuels and animal and human power to a more diversified resource base, increasingly utilizing renewable energies and a more modern use of biomass, to attaining sustainable livelihoods and improving the living conditions of rural populations.

The effects of globalisation and increasing economic integration have led to the rich getting richer and the poor getting poorer in the last 20 years. UN statistics provide evidence of the widening gap between rich and poor:

(WB, 2000/2001)

In nine years, the income ratio between the top 20% and the bottom 20% has increased from 60:1 to 74:1. Eighty countries have less revenue than they did a decade ago.

(WB, 2000/2001)

The assets of the 200 richest people exceed the combined income of 41% of the world's total population. The assets of the top three billionaires are more than the combined GNP of all least developed countries and their 600 million people or their income is more than the GDP combined of the 48 less developed countries in the world.

(WB, 2000/2001)

*Wealth extraction causes poverty,
and poverty causes hunger and
energy overuse.*

*From the 4 600 millions of people living in
the Third World:*

- 968 millions lack access to safe water;
and*
- 2 400 millions lack access to sanitation
(HDR, 1999, 2000,2001).*
- 2000 millions do not have access to
less spensive basic medicines like
penicillin.*

Sustainable Energy is fundamental to the great challenges facing the world at the beginning of the 21st century: how to eliminate the obscene levels of poverty without further polluting the planet or worsening climate change

Two billion people have no access to electricity and up to three billion depend on bio-mass (wood, charcoal and dung) to meet their household energy needs. The UN Commission on Sustainable Development has called access to Sustainable energy a "prerequisite" for halving poverty by 2015.

Women are the major users of traditional and biomass energy resources for household and income-earning activities, and they also play major roles in the use of modern energy by households:

Biomass fuels account for 80% of all household fuel consumption in developing countries, mostly for cooking, which is done primarily by women. Women have practical interests and applied expertise in the burning properties of different fuels, fire and heat management, fuel-saving techniques, and the advantages and disadvantages of different fuels and stoves.

Given women's crucial roles in and contributions to food security, any efforts to reduce food insecurity worldwide must take into consideration the factors and constraints affecting women's ability to carry out these roles and make these contributions, with a view to removing the constraints and enhancing women's capacities.

Agriculture can support the vitality of rural communities through maintaining family farming, rural employment, cultural heritage and sustainable development. It also can make positive contributions to biological diversity, recreation and tourism, soil and water systems, bioenergy, landscape, food quality and safety, and the welfare of animals - but none of these outcomes are automatic, they often require policy mechanisms to facilitate them.

The basic fact that agriculture serves multiple functions is widely recognised. As early as 1992, world governments at the Rio Earth Summit recognised the: "multifunctional aspect of agriculture, particularly with regard to food security and sustainable development". (Agenda 21, Chapter 14).

The world already grows more than enough food to feed everyone. About a billion people now don't have enough food to meet basic daily needs, but that's not because there's not enough food. There's more food per capita now than there's ever been before -- enough to make everyone fat. There's enough to provide at least 4.3 pounds of food per person a day: two and a half pounds of grain, beans and nuts, about a pound of fruits and vegetables, and nearly another pound of meat, milk and eggs.

It's a myth that most of the food is grown in the rich countries.

The US and the other industrialised countries are the world's major food importers, importing 71% of the total value of food items in world trade.

The US imports 54% more in farm commodities than it exports much of it from countries where the majority lack a healthy diet. The US is in fact the biggest food importer the world has ever seen.

US exports of corn and other grains for human food to reduce malnutrition and starvation are another myth

- For every one-ton of US corn exported in 1996 to one of the 25 countries with the world's most serious malnutrition problems (Category 5 countries, with at least 35 percent of the population undernourished), 260 tons were exported to a wealthy (OECD) country.*
- 20 percent of the total US corn crop is exported; two-thirds of these exports go directly to the 28 industrial OECD countries, where it is mostly used for feeding animals*

Future food security will mainly depend on the interrelationships between political and socio-economic stability, technological progress, agricultural policies and prices, growth of per capita and national incomes, poverty reduction, women's education, trade and climate variability

Planners and policy makers need to be able to link energy requirements with specific objectives of agricultural and rural development, such as food security, agro-industry development, and sustainable farming practices. This requires specific studies and data indicating the energy intensiveness of different farming techniques for important food and other crops.

Energy price policies seldom regard the economic conditions of rural populations. If rural development is to be achieved, energy inputs must be made available, and this might require special efforts from the society as a whole - e.g. subsidizing energy inputs in order to maintain the expected low costs and high quality of agricultural produce, as generally demanded by urban populations.

In order to promote food security strategies with the necessary energy inputs, policies and methodologies should consider the critical linkages between agricultural production, agricultural-based industries (food, beverage, tobacco, and textiles), distribution and commercialisation, and the rest of the economy.

Agricultural growth is the most important contributor to manufacturing and service activity in the Third World, not only stimulating agro-industries, but the rest of the economy as well. In this context, energy from biomass is an added benefit.

Low-input farming techniques, such as integrated pest management, low-tillage cultivation, use of residues, green manures, and other organic fertilizers, may play an important role in sustainable agricultural development.

Poverty, bioenergy and climate change.

Agriculture is itself responsible for about a third of greenhouse-gas emissions.

Much of the 40% of human caused methane comes from the decomposition of organic matter in flooded rice paddies. About 25% of world methane emissions come from livestock. agriculture is responsible for 80 percent of the human-made nitrous-oxide emissions through breakdown of fertilizer and that of manure and urine from livestock.

It seems so unfair that agricultural activities, responsible for generating food would compete with the environmental pollution created by industrial processes. The eternal debate among development and survival. The developed countries should also understand the real impact of their emissions into the atmosphere and finally implement the international agreements already signed for that purpose.

The "energizing" of the food production chain - both quantitatively and qualitatively - based on diversified sources and a better use of commercial energy is one key to achieving food security and improving the living conditions of rural populations. However, breaking the current energy bottleneck must also be sustainable - environmentally sound, socially acceptable and economically viable.

The basic needs of the two billion poor people who lack access to modern energy services should be covered in a way that does not further damage the environment. This aim demands to identify two key challenges for energy planners and policy makers:

Challenge number 1: Energy for cooking and food security.

- *Poor people spend up to a third of their income on energy, mostly to cook food. Around three billion people in the developing world use biomass, such as wood, dung, charcoal and agricultural residues, for cooking and, in cold regions, heating.*

Challenge 2: Getting electricity to the rural poor

- *A major challenge will be to provide electricity to the rural poor. Electricity is needed to power small industry and enterprise, run health clinics and light schools. Without it rural poverty will never be eradicated.*

Strategies for sustainable development

- *Energy must be seen as an integral part of overall developmental goals and other sectoral development plans and strategies*
- *Policies should correct the "energy deficit" in rural areas, where consumption is below subsistence level and barely cover cooking, heating and illumination needs*

- *The food security/energy nexus must be assessed to identify the best technological and economic strategies for meeting energy needs in food production. Sustainability will depend on integration of food security and energy policies.*
- *Specific policies and programmes should be targeted to rural women, children and other groups responsible for collection and use of energy, mainly fuelwood*