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Gender and renewable energy in rural Nigeria

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The paper examines ways in which increased attention to renewable energy and gender linkages can help promote development, as well as work towards meeting the target set out in the millennium development goals. It argues that poor women in rural areas generally rely on burning traditional biomass fuels which impact negatively on their well being. The paper explains that increased access to renewable energy sources can contribute to the achievement of the millennium development goals relating to eradication of extreme poverty, hunger, improvement in health, education and environmental sustainability as well as empowerment of women.

Key words: Gender, renewable, energy, rural, Nigeria, millennium, goals

INTRODUCTION

Energy is one of the basic requirements of human societies. It is vital for human life and for technological advancement. In general energy can contribute to widening opportunities and empower people to exercise choices. The demand for energy today is far greater than ever in our highly technological world. It is well known fact that high rate of industrial growth of any country is function of the amount of energy available in that country and the extent to which this energy is utilized.

However, there are more than 2 billion people who are unable to obtain clear, safe fuels and must rely on burning traditional biomass such as wood, dung and crop residues (UNDP, 2000). Without access to efficient and affordable energy sources, they have very limited opportunities for economic and social advancement. Most of these people live in the rural areas of the developing countries. The majority (nearly 70%) of Africa's people live in rural areas, particularly in sub-saharan Africa where rural poverty is great and increasing and is accompanied by chronic hunger, malnutrition and disease (IFAD, 2002b).

Nigeria is an energy resource rich country blessed with fossil resources such as crude oil, natural gas, coal and renewable energy resources like solar, wind and biogas (Okoro et al., 2007). The utilization of renewable energy sources in Nigeria remains quite limited. The use of solid biomass such as firewood is prevalent and constitutes a major energy source for most rural dwellers in Nigeria, unfortunately, its continuous usage leads to degradation (Manafa, 1995)

A focus on gender issues is particularly important in this context since a disproportionate number of people

living in hunger and extreme poverty are women in the rural areas. These women depend on subsistence agriculture to feed their families and are disproportionately affected by lack of modern fuels and power sources for farming, household maintenance and productive enterprises. Wood, dung and crop residues serve as the primary fuel sources. It is principally the women and children who carry out task of collecting these fuels. Increasing degradation of these natural resources causes them to spend more time and physical effort finding and bringing home the fuel they need. There are also serious health impacts associated with burning traditional biomass fuels. Open fires in the home produce unventilated smoke which women and children who are most often in the house are exposed to high concentration of carbon monoxide and other pollutants. The exposure increases the risk of diseases, burns to children and injuries to women from carrying wood. Further, a range of inter-related quality of life, economic and environmental consequences of household energy use impact on health through such factors as time women spend collecting scarce fuel and restrictions on educational and economic activities (Schirnding et al., 2000).

Worldwide, renewable energy research and utilization are now being given more attention since it is more environments friendly and more affordable and available especially for the poor since this energy is mainly derived from the wind, water, sun and biomass. Renewable energy can be more accessible in rural and poor environments, not only because it is cheaper, but also because the technology used to produce it is simple and more easily affordable. This technology can also be generated

and developed by communities themselves.

The commercial energy requirements for satisfying basic needs in rural areas are modest. These modest amounts of energy would offer great increases in amenities and promote sustainable development. Expanded energy sources are therefore needed in the rural areas to provide mechanical power for agriculture, food processing, water pumping and irrigation, electricity for lighting, refrigeration, communication, commercial enterprise and community services.

From a development point of view, an expanded access to energy services is needed especially for the poor, the majority of whom are women. Alleviation of poverty in accordance with the targets set out in the millennium development goals will require greatly expanded access to energy sources that are affordable, reliable and of great quality.

This paper discusses some gender issues and energy linkages as they concern achieving the millennium development goals. It presents recommendations on ways of promoting a wider understanding of the importance of recognizing gender differences in decision-making on energy and rural development.

Gender and renewable energy

Gender refers to the socially constructed roles and socially acquired behaviours and expectations associated with men and women (World Bank, 2001). It defines the different needs, priorities and perspectives of men and women in different societies. Renewable energy on the other hand is energy generated from natural resources such as sunlight, wind, rain, tides and geothermal heat, which are renewable (naturally replenished). These include

- i) Biofuels
- ii.) Biomass
- iii.) Geothermal
- iv.) Hydro power
- v.) Solar power
- vi.) Tidal power
- vii.) Wave power
- viii.) Wind power

Energy is considered an enabling medium for economic development. It helps people in cooking, heating or cooling their homes, pumping water, lighting houses and work places, receiving information and getting entertainment. Energy plays a critical role in increasing productivity, living standards, health, literacy, education and livelihoods. Many energy analysts express surprise when women are mentioned with regards to energy saying "Energy is there for all to use. What difference does it make who uses it?" (Parikh, 1995). This response fails to take into account the fact that men and women may ex-

perience energy differently. The roles of men and women differ and as such their usage of renewable energy differs. Women especially in the rural areas, tend to use energy more for income generating activities like cooking and selling food items.

Today as the awareness in gender issues grows, it becomes important to examine the gender dimension of every aspect of life, in order to better serve both men and women equally. Gender is also important not only because men and women use, benefit from and access energy differently, but because sometimes the opportunity of one of the sexes may impact the opportunity of the other. Moreover, examining the gender concerns will help determine the barriers towards equal access, use and control over energy resources and help find solutions to serve men and women. This includes examining and understanding how men and women differ in terms of usage and control over resources as well as addressing women's needs, roles and priorities in addition to bridging the gender gaps.

The key challenge facing Nigerian energy sector is the provision of modern energy services to a majority of the population, to facilitate economic development and poverty reduction. A significant proportion of the Nigerian populations live in rural and peri-urban areas, where access to modern energy is lowest and its improvement more costly. In the electricity sector load-shedding is a recurring strategy in some cities but most part of the country in recent times are in total darkness. This is the problem of insufficient electricity supply which in fact has major implications for industry and the national economy.

Although it is increasingly documented that energy service and not energy per se, is the issue (UNDP, 2001; Wamukonya 2001), providing an affordable and desirable service that elevates productivity remains a challenge. Provision of the energy is not by itself a sufficient condition to meet development objectives. The additional challenge is to integrate the appropriate energy service into national and sectoral development planning, while availing the other complimentary factors to trigger sustained development.

In the face of these challenges the questions remain; how can women access renewable energy considering the rural conditions and how this energy if accessed can impact on their lives.

Women's access to renewable energy

Access of women to energy as a whole differs from that of men especially when dealing with the poorer categories of society. Access to energy is also linked to various limitations and social and financial barriers. Rural conditions including harsher traditional gender division of labour and social restrictions as well as poorer demographic experiences, impose greater constraints at 2 levels. First, as members of the female gender and second, as rural female gender. The interaction of these 2 levels of

of disadvantage with poor demographic profile present formidable obstacles to rural women's exercise over their human/women's rights in most spheres of life including access to energy, education and public activities.

Restricted freedom to mobility for example in some communities limits the access of women to some forms of energy and the services they make possible. Women and girls for example are sometimes restricted from moving during night hours or using the internet for those, in the urban areas because of social barriers and limitations.

Scarcity of rural-gender disaggregated data restricts the extent of analysis. For example, the UNDP's effort in 1995 human development report to relate rural to urban women's literacy produced only limited results for the above reason.

Further when financial resources are limited, the distribution of resources within the household is impacted by gender, among other factors. Men and women may have different priorities and as such, the priorities of men are more likely to be taken into consideration. While women's priorities in accessing resources of renewable energy may lie in having access to machines that facilitate domestic chores as well as those that may lead to income generation. Men's priorities may lie in improving their own income generation opportunities or on seeking information, training or entertainment.

While access to energy resources may be available to men and women, control over these resources remains only in the hands of men. To improve access of women to energy resources, provision of credit, technical information and knowledge are necessary for them. All these facts influence women's access and control over renewable energy as well as their ability to respond and be included in programmes and developmental interventions and to address gender differences.

How renewable energy can help women

Poor women in rural areas of developing countries generally have a more difficult time compared to men due to their traditional socio-cultural roles. They often spend long hours collecting fuel wood and carrying it back home over long distances. The time and labour expended in this way exhausts them and limits their ability to engage in other productive and income-generating activities. Their health suffers from hauling heavy loads of fuel and water and from cooking over smoky fires. Their opportunities for education and income generation are limited by lack of modern energy services and as a result their families and communities are likely to remain trapped in poverty (UNDP, 2001).

Shifting to renewable energy will positively impact women's health as they will no longer be exposed to smoke and carbon monoxide when they cook as it is with wood and charcoal. Renewable energy will also alleviate the drudgery of fuel wood collection and promote gender

equality and women's empowerment. Shift to modern energy for lighting, cooking and productive activities will positively impact women's literacy, education and economic activities. Particularly, education of women is known to produce powerful effects on nearly every dimension of development, from lowering fertility rates to raising productivity to improving environmental management.

Linkages with the millennium development goals

Since the world summit on sustainable development of 2002, it has become more and more accepted that energy is a critical impact for development and for achieving the millennium development goals. Increased access to energy will facilitate the fulfillment of most of the MDGs including combating extreme poverty and hunger and empowering women. It will promote both MDG1 (reducing poverty and hunger) and MDG2 (achieving universal primary education) because girls are often kept home from school to help their overburdened mothers with fuel collection and food processing. Also MDG3 (promoting gender equality and empowering women) will be achieved. Empirical research shows that modern energy services are important for the empowerment of women, because they improve women's health, reduce their time, poverty and sometimes gives them more options in their work. This can help women negotiate for their strategic needs both in the household and the community. With respect to MDG4 and MDG5 which call for improvements in children's health and maternal mortality rates, cleaner fuels will reduce the hazards associated with smoky indoor fires and carrying heavy loads of wood. Women, especially those in the rural areas can also be primary actors and beneficiaries with regard to MDG7 (ensuring sustainability) given their traditional roles as managers of wood and biomass fuel suppliers and other environmental resources.

Conclusion

Nigeria has long been one of Africa's largest oil producers, a major supplier of crude oil to the world markets. Nigeria is rich in both fossil and renewable energy resources. However her usage of renewable energy such as hydro-power, geothermal and solar energy is still low. Nigeria has good radiation sites that can boost the development of solar energy, yet research efforts and government attention in that direction have yielded little results (Niger Power Review, 1989).

The state of Nigerian electricity which has moved from load-shading to total darkness in most areas has increased the drudgery rural women go through in sourcing for fuel wood from marginal forests. This is better appreciated when one considers that women now spend more time in foraging for fuel than they spend in cooking their food. The use of power generators has also increased the carbon monoxide emission as well as destroyed

many lives.

Provision of modern renewable energy services to facilitate economic development and reduce poverty among the rural poor, of which women are in majority, is the key challenge facing Nigeria's energy sector. Improved energy sources can be an entry point for supporting rural development, offering opportunities in time and labour saving, income generation, health improvement and social empowerment of rural dwellers especially women; as well as the principal route to achieving MDG-related benefits from energy.

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