

GENDER, HOUSEHOLD ENERGY AND EMPOWERMENT

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In looking at the energy conflict on the empowerment of women it is indispensable that energy policy and practice be directed towards addressing its male bias and increasing women's adequate participation in energy institutions. Social and institutional participation of women is crucial to the context of empowerment and critical for a sustainable and equitable development of energy sector.

INTRODUCTION

More than half the world's population lives in rural areas, nearly 90 per cent of them some 2.8 billion in the developing countries. The vast majority of these people are dependent on the traditional fuels of wood, dung and crop residue, often using primitive and inefficient technologies. For many, this combination barely allows fulfillment of the basic human needs of nutrition, warmth and light, let alone the possibility of harnessing energy for productive uses which might begin to permit escape from the cycle of poverty. Demographic trends risk exacerbating the situation. Most of today's 2 billion people without adequate energy services are in rural areas, but urban populations are projected to grow more rapidly. Far from easing rural energy-poverty, this is likely to reinforce policy makers' preoccupation with urban issues, while increasing competition for rural energy supplies. It is calculated that an amount of energy roughly equivalent to 7 per cent of the world's electricity production today could cover basic human needs. In an age of apparently advanced technological and management skills, we have failed in this relatively modest challenge. Dependence on traditional fuels will long remain a reality, given its level (reaching over 95 per cent in some countries). It is not so much their use that is wrong, as the manner in which they are being managed and used, not always at a sustainable rate. Inefficient technologies and appliances mean that precious wood fuel resources are wasted and high indoor smoke pollution severely impairs health. The burden of this

traditional energy use falls disproportionately on women. Gradually a transition to modern energy systems (which may utilize traditional energy sources) must be achieved if sustainable economic activity is to be realized in rural areas. As much traditional energy use occurs outside the market sector, data on it is geographically inconsistent and discontinuous. This statistical invisibility of much rural energy use reinforces its neglect and hampers the development of effective policy. In addition, the enormous variety of energy use patterns, even within quite short distances, makes extrapolation dangerous. While precision is difficult most energy in rural areas is used for residential purposes, predominantly for cooking. Energy in itself may not be a basic human need, but it is critical to the alleviation of starvation. Staple foods, on which poor people depend, are often inedible when raw and energy is needed for food production and preservation. In cold climates it is also essential for adequate warmth. As incomes rise above subsistence levels, energy for lighting, refrigeration and productive activities (especially agriculture) brings new possibilities for education, health and other community services as well as income enhancement. Even small quantities can be critical to breaking the poverty cycle. At least initially, gross energy consumption may actually decline as more efficient, modern energy technologies are introduced, before a broader range of energy applications takes it higher. For example, for equivalent light output, kerosene lamps are much more energy-intensive than electric lighting (World Energy Council 1999).

ENERGY-INFORMALITY

In the developing economies a substantial share of employment is indeed in informal category and women in all age groups depend on the informal sector more heavily than men. Women are over represented in this sector in the sense that their share in the sector is higher than their share in total labour force. Most women tend to be own account workers and only a few are heads of micro enterprises. Relatively lower level of education among women, compared to men, seems to explain, in part, this gender differential in informal employment. Discrimination in the labour market also explains in part the disproportionate concentration as it limits women's access to formal and wage employment. Women also face additional constraints because of their homemaking and childcare responsibilities, which limits their participation in formal employment. Even within the informal sector more women than men seem to be in poor quality employment. In Latin America more women seem to be in the unpaid categories than men. In

Africa the proportion of unpaid workers working in family owned enterprises among women appears to be relatively high compared to other regions. The causes for participation in the informal sector can be economic and non-economic. Economic reasons are related to unemployment and an inflexible formal labour market, a declining real price of capital and the high cost of formal production. Besides, non-economic causes are concerned with a greater flexibility and satisfaction in work, a complete use of workers professional qualifications and increased leisure time. There are two groups of factors, which determine the decision to become active in the informal sector, more specifically, the structural as well as opportunity factors. The structural factors consist of financial pressure, socio-psychological pressure and institutional constraints. The opportunity factors consist of individual background, skills, education, living condition or non-individual components, environment, values, standards etc. (Sarkar 2004).

Unlike modern fuels, the supply of biofuels such as wood and charcoal are still largely uncontrolled and based in the informal sector. Rural populations generally supply themselves from surrounding forests and from trees in the landscape, in most cases in quantities that do not exceed sustainability limits. The supply of biomass fuel for the cities is also uncontrolled and in most cases, biomass production is unsustainable. Wood is felled in state-owned forests by dealers, but the cost of replacing the trees is not paid, with the result that forests are deteriorating rapidly around major cities. Past efforts to relieve the resulting firewood shortage by encouraging farmers to grow trees have largely failed because the costs of this far exceed the short term costs of gathering fuel from existing forests (French 1986). However new efforts to empower local communities to manage the forests in their areas in a sustainable way for the production, among other things, of biomass fuels are encouraging, particularly as this could provide income sources for the poor within the community. In most developing countries the majority of informal sector enterprises are owned and operated by women, with women making up the largest proportion of the work force. Despite this, the contribution of women entrepreneurs to national economies is not explicit in national statistics, leading to the development of policies that do not deal with the specific barriers faced by women linked to their gender-defined roles. Their enterprises tend to be concentrated in a relatively narrow range of activities such as beer brewing, knitting, dressmaking, crocheting, cane work and retail trading. These activities tend to have disproportionately low rates of return compared to the activities undertaken by men. However despite the low financial returns, women's enterprises provide important sources of household

income, even in male-headed households. Women headed enterprises are frequently located in the home and these cottage industries tend to be overlooked by agencies because they are in the informal sector, which is diffuse and difficult to reach. When women are forced to close their enterprises, it is often for non-business reasons and linked to factors associated with working from home. The low rates of return prevent inward investment, hindering innovation and expansion, which are regarded as key factors in enterprise sustainability (Grosh and Somolekae 1996). There is little research to explain what forces drive these startups and shutdowns, and how gender influences these processes. Women's access to resources (such as credit, land and education, which are recognized as key factors in micro enterprise development) is significantly less than that of men. Generally, research in small and medium-scale enterprise sustainability indicates that a lack of working capital is one of the two most common causes of enterprise failure (Grosh and Somolekae 1996). Women's access to decision-making within the household and community is also restricted, reducing their ability to influence processes and resource allocation. Given the disproportionate number of poor women in rural areas, research which takes into account gender aspects of the transformation of structures and processes could make a significant contribution to the development of gender equitable sustainable livelihoods. The role of energy in the sustainability of women's enterprises is also not well understood. In food processing enterprises it has been estimated that energy costs are 20 to 25 per cent of the total inputs, which would suggest that technological interventions could increase the scale and profitability of these businesses. The types of enterprises that women are traditionally involved in are energy intensive and rely on biomass fuels. Even in rural areas, women may have to buy fuel wood to run enterprises such as beer making (McCall 2001). An important issue is what sort of mechanisms can assist women in gaining access to improved energy services. Grain mills, which are very popular with women, since they improve product quality as well as reducing women's labour, are typically only provided by the private sector, and are still absent in many rural locations. A much more systematic approach is needed, possibly with some form of incentive to encourage the spread of mills to areas not yet served. A general rule that can be learnt from attempts to introduce technology for women is that if it does not reduce the labour in household tasks then, no matter how beneficial the technology, it is likely to have low acceptance. There are positive examples of women taking up energy technologies that have contributed to increasing their incomes. It is found that women's groups in Ghana use LPG for

fish preservation, giving them a better quality product than when using wood, and enabling them to reach export standards, considerably improving their income (Mensah 2001). Women may in fact be best entrants to become energy entrepreneurs. It has indicated that improved stove programmes in India run by women tend to be rather successful because they are able to more easily approach their clients (Sarin 1984). However energy entrepreneurship could extend beyond stoves to include energy services, for example the supply of and even the repair of, modern energy appliances such as solar panels. There is an enormous need for agents in rural areas who can distribute such equipment on a viable basis, notwithstanding with some support in the short term. Women who live in rural areas know and understand local circumstances and needs and may have a much clearer idea about the energy services that rural people desire. In addition a woman may be able to sell more effectively to other women, since access to female clients is not hindered by social constraints. This may in fact be the best route to greater women's participation in household energy choice.

Poor rural people struggle for energy for cooking. Biomass fuel accounts for 76.3 percent of the total fuel in rural industries such as paddy parboiling, smithies, potteries etc. (Eusuf 1997) and is the common fuel for the domestic rural sector. Wood fuel has become scarce over the last few years through deforestation. Its share as a percentage of total biomass fuel had decreased from 63 percent in 1981 to 22 percent in 1990 (Douglas 1981). Biofuels can damage people's health, because they give off smoke that contains many hazardous particles. Studies of rural areas show that smoke levels inside dwellings often far exceed safe levels recommended by the World Health Organization (2000). Cooking with biofuels does not cause health problems everywhere, but in houses that have poor ventilation it can be as dangerous as smoking cigarettes. A study in Gambia, for example, examined the health of 500 children under five years old. It found that children who were carried on their mothers' backs as they cooked in smoky huts were six times more likely to develop acute respiratory illness than other children. Studies of women in Nepal and India exposed to biomass smoke but who did not smoke themselves found that their death rate from chronic respiratory disease was similar to that of male heavy smokers. The use of biofuels can also damage the environment. The search for fuel wood often involves chopping down local trees. Higher income countries also depend much less on biofuels than do poor countries. The best schemes for improving rural energy may therefore fail if other policies prevent economic growth. An important aspect of this involved looking at women's work and its

significance for total production, a perspective that raised the question of energy sources, including the energy expenditure of women labour. It has also led to a broader shift in thinking about energy with linkages to women's gestured position and reduction of poverty, for example, economic and political linkages, which ranged from inappropriate pricing policies and subsidies for the fuel. In these emerging perspectives, it was noted that from the perspective of the rural women, the energy crisis was a fuel wood crisis; the dependence of large sections of the world's population on hitherto unexamined forms of biomass energy was pointed out, and it was noted that for many, deforestation had meant that in some cases it was more difficult to cook the food than to grow it. In spite of these merging perspectives the dominant paradigm continues to observe energy as large-scale, capital intensive technological projects run by professional experts, which ignores the actual definition of energy as the capacity for doing work and overcoming resistance.

ENERGY-EMPOWERMENT LINKAGES

It is imperative to look into the linkages of energy and empowerment of women in the area of the opportunity cost (that is alternative income earned) of women's labour time saved by the energy projects. Whether or not a farm household seeks greater efficiency in fuel use (an improvement which will cost some money) depends on the opportunity cost of labour in biofuel collection and cooking. The lower the income or production lost by women spending more time in collecting, the less will be the incentive to adopt improved stoves, or to switch to more efficient commercial fuel. If employment or self-employment were available, it would be preferable to earn cash as a worker and buy biofuel than collect it. If women's possible labour time saved by improved stoves has no alternative income-earning possibilities, even if women were the household decision-makers, they would not make a decision in favour of spending cash to acquire improved stoves. The effect of women's unvalued labour time holds good even with respect to labour of children (girls, in particular). To the extent that the education of girls is not valued (because they will go away after marriage and the investment in their education will be lost to their parental families), there will be no pressure to economise on the labour of girls, who also do part of the labour of biofuel collection and cooking. The needs of domestic or reproductive labour are the least addressed in energy development. In the market-dominated system, the extent to which reducing the drudgery of domestic labour and its health hazards are dealt with depends on the

extent to which women's work is monetized. It also requires attention to what are now 'women's needs' in the existing division of labour. For instance, changes in house or kitchen design to promote more gender-equal roles (sharing of domestic labour between women and men) and to make the labour less hazardous need to be integrated into new architectural practices. But this requires both more women as architects and energy experts and consultation with women user of energy systems, so that they can participate in their design, and changes in gender relations, which makes these energy changes necessary. Can energy play a leading role in stimulating these changes? It is not energy itself that has certain inevitable consequences, but the economic and social situation in which technologies are introduced, and the balance of forces at any time. Certainly systems of cooking, house cleaning, house washing etc. which reduce the labour in these activities, may make it easier for working couples to share domestic duties. But it is also possible for such energy uses not to inevitably lead to such changes in sharing. Japan is a good example of all the available energy uses not leading to any sharing of housework between the two genders. So long as women do not insist that their careers are not subsidiary to those of their husbands, and that housework be shared or socialized (even commercialized in parts, like laundry washing of garments, or preparation of meals), there need not be any change in gender relations, no matter what energy is available. Feminists have long argued that the family cannot be seen as a philanthropic institution in which the welfare of all is uniformly the principle of distribution of labour and benefits. Supplementing the gender inequalities are the age-based hierarchies, which both extends/reproduces nurturance as well as oppression. The family is not a sacrosanct institution inside which the law cannot reach. In fact, one of the advances of the feminist debate of the last few decades is to extend the notion of human rights from merely regulating relations between the state and individuals to one between individuals within and across families, in a famous slogan 'the personal is political'. And the family also needs to be reformed, both in relations between the genders and in relations between the generations.

WOMEN, ENERGY AND DEVELOPMENT

Most of the few women working in the energy sector do not address gender aspects. This may be due to the fact that women in extreme minority positions in their professional work are subject to an enormous pressure to adaptation. Usually, they are struggling to be acknowledged as experts,

and thus frequently outdistance themselves from other women. To take on the position of the 'disadvantaged' in this situation and this is how women are seen in terms of women promotion and women approaches would mean to risk the hard won acceptance of their expert reputation. Even the few women who oppose to the pressure to adaptation and do concern themselves with gender aspects do not 'mainstream' these aspects, but often address them in the frame of volunteer work or private initiatives, separate from the 'real' energy policy and energy planning within their professional work. As a consequence, there is a complete lack of gender mainstreaming in the sense of screening of all politics to their different impacts on women and men. As a sphere related to technology, energy is a highly male dominated issue. Given the fact that women routinely work a few hours more per day than men in most regions of the world. The importance of increasing women's leisure time has been noteworthy. Importantly, leisure is not a function enjoyment, but a function of self-development, and thereby a function of production and empowerment too. But then the factor of the gendered control of household income comes into the picture. The key decision- maker in the household does not treat the leisure or labour time of all its members equally. The leisure time of the men and boys is viewed more favourably than the leisure time of women and girls. It is a common knowledge that women in rural Asia routinely wake up an hour before men and go to sleep an hour after men. Further, they do not have much time to rest in between, while men usually rest when they return from the fields. In a village of Hani people in Yunnan, China, it has been noticed that money was spent on acquiring cassette players (with which men could listen to music in their substantial leisure time) rather than on getting piped water or improved stoves, both of which would have reduced women's working hours. Similar reports came from the villages of Punjab, in India. What this means is that in any process of empowerment, anticipation of leisure time and expectation of enjoyment on the part of women have to be continually cultivated, the more so because self-sacrifice and denial of pleasure have been important part of their cultural socialization. How do the inequalities of power, between North and the South, between States and groups affect the flow information and cultural exchanges in the new energy paradigm? More of the information and cultural features will flow from those who are more powerful. But this predominance is due not only to power but also to the acceptance of the values of the powerful as those, which are valid for the whole world and represent the future of all peoples. The market process/ economic and technological globalization takes place in a social-cultural context where there is substantial

inequality of ownership of assets/ property and a lack of agreed criteria of distribution justice that provide a basis on which property and capability redistribution could be considered. It is necessary to consider the empowerment implication of property ownership and to consider whether the asset titles that have led to existing inequalities are responsible for social and institutional exclusion of women, and very much so in energy institutions. Given South Asia's shared cultural history of classic patriarchy and specific forms of violence against women, it is not possible to give priority to cultural ethos of have a programme for change that concentrates on values. It is misleading for the social scientists and planners to regard values as the foundation of a society. Also, there is flattening out of the antagonism between culture and economy. Cultural forms and practices no longer stand apart from economic reality of energy structures and call it into a question, notably, in relation to travel and tourism the impact of informational society for instance, call centers in India, or the garment industry in Bangladesh. Cultural relativism arguments cannot be used to defend inequality. A discriminatory practice, however, culturally entrenched, has to be ended. A long history of discrimination does not justify the existence (e.g. slavery, untouchability, prostitution). Substantive equality also happens to be essential to the economic and social prosperity of a country. By denying itself energy and intellect of half of the population, a discriminatory society stifles its own economic and social growth and condemns itself to continued underdevelopment, as noted in reports from Indonesia and other countries in Asia and Africa. Social and institutional inclusion of women is pivotal to the context of empowerment and crucial for a sustainable development of energy.

CONCLUSION

Women and their opinions have long been overlooked in the process of development. In the use of energy technologies too, their role has been either minimized or totally neglected in the policy formulation as well as project design despite the fact that women are the primary users of energy at the household level. Poor households have to adopt few strategies to accommodate the impact of increased direct and indirect energy costs on their already limited household budget. Firstly, they have to change the type of energy they use, switching to cheaper options. This will involve a shift down the energy ladder. Secondly, poor households have to reduce their overall consumption of energy in a variety of ways such as reducing the number of meals cooked per day , switching over to cheaper, usually less nutritious, food and in extreme cases reduced the

amount of food consumed etc. and finally, the poor have to cut down their expenditure on non-energy goods. Access to energy options should be promoted through setting up distribution channels that are nearer to the users. In addition to this, financing mechanisms that promote access to energy services for the rural and urban poor should have strategies to address the needs of women and poor men who are in most cases excluded from such initiatives. Such access to energy services can enable women to get into income earning activities that will not only benefit them but also the members of their households, including support to the income earned by the male spouse. Strategies to enable women to participate in decision-making should be promoted, especially in cases where energy policy planning and implementation of programmes are being undertaken. The demand for energy services is influenced by decisions made on the use of the service, who uses it and who will benefit. Women and men have different needs and uses of energy due to the differences in the tasks they undertake in both the household and workplaces. Decisions on household expenditure within the available resources therefore tend to favour the demands of men and male children due to the patriarchal set-up of decision-making. Headship of household also plays a role here, since in those households where women manage the household income they are able to decide and make acquisition of energy services a priority concern. Access to energy is therefore hindered by the decisions of the users and the benefit envisaged.

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