

GENDER AND ITS PLACE IN THE ENERGY SECTOR

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Abstract

Gender is recognized as a critical factor in the effective management of development sectors such as agriculture, health care, forestry, water, and education in developing countries. Gender is not similarly appreciated when it comes to the energy sector, which is mistakenly viewed as gender-neutral and technology-driven. Yet women are the chief producers and consumers of energy at the rural level and they hold the most potential for driving sustainable development, despite being disproportionately effected by the lack of access to state energy services. Why has energy lagged behind other sectors in this regard? How has gender theory and practice contributed to this lag? How can national planners incorporate gender into energy planning? This article analyzes these topics, presents recommendations, and explores the potential for gender analysis in social and environmental impact assessments. It suggests that poverty and economic development cannot be fully addressed without taking into account gendered access to energy services.

Introduction

Energy is one of the most important components of sustainable development, affecting peace and security, the environment, and social and economic development. Energy policy and infrastructure are critical factors in economic growth, transportation, and the provision of services. Despite the prevalence of modern energy systems in developed countries, however, more than two billion people in the developing world have no access to modern energy services and still rely solely on traditional fuel sources such as wood, biomass, charcoal, and animal waste. Reliable and affordable access to energy is, consequently, a vital link in poverty eradication.

For countries working toward the goal of poverty reduction, expanding energy services to rural communities is a key component in national-level energy planning. Rural communities are often the last to be integrated into a national energy infrastructure because of the lack of density and income potential for investors. Yet they are also often the poorest and thus most in need of access to energy to spur economic and social development.

One factor in the poverty-energy nexus remains a critical but missing element of national energy planning: accommodating the unique needs of the end users in rural communities, primarily women. The most direct route to improving the quality of life in developing countries is to improve women's access to energy resources, because it is women, as the chief producers and consumers of energy in rural areas, who have the greatest impact on improving the social and economic conditions of their families and communities. With limited access to clean, reliable energy services, women spend up to five hours per day collecting firewood and four hours a day engaged in labor-intensive activities (World Resources Institute 1994; Food and Agricultural Organization of the United Nations 1996). This lack of energy access prevents women from moving beyond subsistence chores to promoting the sustainable development of both their families and their communities.

Donor agencies such as the World Bank, recognizing the link between energy infrastructure and economic development, have invested millions in loans toward building new energy systems. These same agencies also understand that involving women in development leads to improvements in a country's economic, health care, and educational growth. These two paths have been followed simultaneously but independently. Merging the two strategies is the critical next step in national energy planning.

Taking Gender into Account

Why should planners take gender into account when considering national-level energy policy? Gender plays a critical role in determining who does what within a society with regard to the production of goods and services. It also determines who controls these vital energy resources. This role is particularly relevant in rural areas, where access to natural resources, land rights, and loans are limited (Fortmann and Bruce 1988).

As primary caretakers in the household and as workers outside the home, women are linked to the energy sector in many ways, albeit indirectly. Women throughout the developing world are heavily engaged in activities that require energy as an input, such as cooking, pumping water, transporting and selling goods, establishing small enterprises, and collecting fuelwood. Women also have the primary responsibility of providing health care for their families and educating their children. These activities all require access to energy resources. Energy poverty, consequently, disproportionately affects women, and girls are the first to be pulled from school to help their mothers in time-consuming tasks such as collecting firewood.

Why Are Gender-Driven Energy Policies Important?

Energy is a prerequisite to improving livelihoods, education, and economic opportunities within rural communities (Balakrishnan 2000). Women's lives are at the center of these activities. The greatest impediment to increased energy access for women is that macro-level planners view energy solutions as technology driven and gender neutral, failing to take into account that men and women, who have different societal roles, also use energy differently. Governments and multilateral agencies, for example, tend to favor large-scale central power systems and the importation of liquid fuels over small-scale grid or off-grid systems. This approach, however, fails to take into account the fact that central power systems serve urban areas and business interests first, leaving populations in rural communities behind. The result of such policies is that social and economic development is hindered as women must spend their time searching for fuel and attending to their families' short-term needs rather than focusing on their families' long-term development.

A critical starting point for governments eager to improve wealth distribution and access to energy resources would be for national energy planners to recognize the role women play in energy consumption and production in rural areas. By developing policy initiatives that reflect gender distinctions and break down consumption patterns in households and communities, planners at the national level would be exposed to the variety of ways that gender dictates who the end user is and would be better able to provide cost-effective services in planning infrastructure for energy distribution. Gender-based rate structures, in which fuels used for "gendered activities" such as cooking are subsidized, may be one mechanism of enhancing energy access. If planners view macro-level pricing structures as inherently linked to other national goals, such as reducing poverty and encouraging economic development in rural areas, gender-based rate structures may be accepted by governments as a natural step toward fulfillment of such goals.

Disaggregation Has Yet to Occur

The energy sector has produced data that is well-researched, categorized, and disaggregated and has a long tradition of differentiated policy for the poor, industry, agriculture, and other sectors. In planning large energy infrastructure systems to distribute natural gas, kerosene, hydropower, or electricity, disaggregated pricing schemes are used to serve various sectors of the market. Industrial and agricultural sectors, for example, have different rates than do rural household or manufacturing sectors. In both developed and developing countries, some of these rates are deeply subsidized to further national or regional development goals. This pricing system is possible only because the energy market is one of the most disaggregated markets in the world. Given the emphasis placed on data analysis to make energy markets more efficient and responsive, it is thus surprising that planners do not consider gender when establishing consumption and pricing mechanisms.

As mentioned earlier, planners tend to regard energy as gender neutral, failing to recognize that women and men tend to use energy differently. The perception of

energy as a gender-neutral commodity, however, is reinforced by a lack of accounting of women's work in the home and the informal economy as well as by the failure of gender theory to acknowledge the link between gender and energy. In that disaggregation is acknowledged to be critical to understanding and responding to the market, the "lack of statistics about how, why and how much energy is used by men, women and children is not the reason but an indication that attention is not being paid" to this issue (Parikh 1995).

Illuminating the Invisibility of Women's Labor

In both developed and industrialized countries, only 34 percent of women's work is recognized and included in the United Nations System of National Accounts (United Nations Development Programme 2000). Women's informal and non-monetized work is entirely absent from most national economic data sets, and this invisibility carries over when it comes time to set national energy policy. The undervaluing of women's work, due to women's participation mostly in the informal sector, "makes it difficult to reduce their drudgery" (United Nations Development Programme 2000). A recent World Bank United Nations Development Programme (UNDP) case study on Bangladesh states:

Energy policies and international donor agencies have sought to increase the supply of energy, assuming this would propel economic development without considering demand or the local level context. This focus on economic growth patterns has accentuated the oversight of gender agendas in energy planning, because women's unpaid labor contribution to the gross domestic product is often inadequately accounted for. (Berthaud et al. 2004)

Energy policy is particularly driven by economic growth patterns, and its tariff schedules are based upon disaggregated production within industry, agriculture, commercial, and residential sectors. Women's labor, if absent from this data, will also be absent when setting up pricing strategies at the national level.

Planners, furthermore, tend to view consumption patterns of a "household" as a homogeneous entity. Households, however, are complex cultural systems where intra-household decision making for cooking, lighting, and economic activities are disaggregated by gender. And, finally, the traditional fuels used in rural areas are often omitted from the national energy inventory because there is little cash economy in these areas of developing countries.

Energy and Gender Theory

Given the prevalence of women's work in the informal economy and the lack of gender disaggregation or analysis in the industry as a whole, policy makers have to date ignored the relationship between gender and energy in promoting sustainable development. Until recently gender theory has failed to recognize this link. Gender theory has evolved over time, providing a nexus between women's work and the environment. These theories, however, have not provided an adequate entry point for energy into the gender and development equation. As a result, gender and energy continue to lag behind other gender-environment sectors.

The slowness of gender theory to recognize the direct link between women and energy can be attributed in part to the unique characteristics of energy in comparison to other environmental sectors: the gender-environment link is more subtle with energy because of its use as an input, which constitutes an indirect relationship, rather than an output, which constitutes a more direct, visible link between gender and the environment. The manner in which gender theory has been integrated into development practice over the years, however, also led development planners to emphasize, unintentionally, certain environmental sectors over others.

Though feminist theory and practice has shifted over the years, both remain focused on the direct link between women and the environment. The narratives derived from both women in development theory (WID), in which efficiency is the determinant of women's decision making, and ecofeminism, a social movement that considers the oppression of women and nature as interconnected (Ruether 1992; Mies and Shiva 1993), reinforce a view of women as caretaker, which requires a visible and obvious relationship between women and nature that draws upon the romantic notion of women working the land. Maintaining such a narrative moves the gender-environment debate forward in a general sense and for some specific sectors but not as aptly for energy, which, as an indirect input into women's work, is considerably less visible. Neither WID nor ecofeminism, furthermore, approached development as context specific (Zein-Elabdin 1996), and it is this element, more than any other, that defines energy planning.

The integration of gender theory into development also resulted in the development of separate programs targeting women, rather than the integration of gender elements into existing programs. Women in this context became "a special case" and were treated differently from the mainstream. While certain environmental sectors might have been well served through gender-specific projects, the energy sector was not; because gender has an impact on the magnitude, use, and revenues of these energy systems, gender-based planning must happen in the earliest stages of the planning process. By separating women out from this process, gender theory had the unintended consequence of marginalizing those for whom the projects were intended, namely women. In the case of energy planning, the results of this approach were isolated energy projects that were not integrated into community-based or off-grid planning. While subsequent theories such as gender and development (GAD) and women, environment and development (WED) eventually emerged to replace WID and ecofeminism, the legacy of WID and ecofeminism remains and continues to influence development planning.

Incorporating Gender into Energy Planning: Some Successful Examples

Rural communities are the last to be "hooked up" in national energy projects because of the lack of density and income potential for investors. When planning takes gender into account, however, energy begins to reach the rural poor, supporting economic growth and development. Several recent examples of gender-responsive planning support this hypothesis. The government of Mali, with support from UNDP, recognized the potential for economic development and

poverty reduction and set a goal of serving 10 percent of Mali's rural population and improving access for eight thousand rural women (United Nations Development Programme 2001, 61). In response to requests from women in participating villages, decentralized energy systems (known as multifunctional platforms) were developed to serve three villages, with a plan to expand the program to more than 140 villages over time. The multifunctional platform consisted of a diesel engine, providing off-grid energy for grinding, processing agricultural products, pumping water, charging batteries, and running lights. As part of the government's gender-responsive approach, women were also trained to operate and maintain the engine, as well as sell energy services to local customers (United Nations Development Programme 2001, 63; Diagana 2001). By the year 2001, 149 engines were operating. According to a UNDP evaluation, all systems were self-sustaining, freeing time for women and increasing income-generating activities such as seed oil extraction, production of shea butter, and rice dehulling.

Despite this success, however, obstacles remain: UNDP reports that explicit integration of this project into national energy planning remains a challenge. "Although there is considerable knowledge and awareness of the platforms in Mali, there is little evidence that the concept is being integrated explicitly into national energy, industrial, or other sectoral development plans. Case studies should be set up to analyze how the energy freed by the platform is spent and to create an indicator of human energy; this analysis should be done in collaboration with Mali's National Direction of Statistics and Information" (United Nations Development Programme 2004a.)

In Bangladesh, electric grid extension to rural areas will not be viable for another twenty years. In conjunction with the UNDP, an engineering team conducted a survey on energy use inside the household and held a series of gender-based consultations where they identified women's skills and solicited ideas to design an appropriate energy service and delivery mechanism (ENERGIA News 2001, 12). Women in the community identified electric lighting as a high priority. As a result, the project replaced traditional kerosene lamps with battery-operated lamps, improving indoor air quality and lighting for rural households. The lamps use small portable batteries that are rechargeable by a small diesel generator the women run at a battery charging station (Energia News 2001, 12). Through a microenterprise funded by UNDP, a women's cooperative began to manufacture the lamps. Selling two lamps a day provides wages equivalent to a skilled laborer, raising the woman's income and social status.

And in Brazil, off-grid photovoltaic energy provides power to the Avani de Cunha Lima Agricultural Family School in Valente, Brazil. Through support from USAID and Winrock International, the school now has lighting for classrooms and a quail hatchery, as well as a thoroughly modern computer lab with Internet access via off-grid clean power that is tied to a wireless access tower (USAID 2001). The quail hatchery is run by students. PV energy provides lighting to incubate the eggs, and as a result of this program, girls, as well as boys, began to have access to the internet, learned business and agricultural skills while running the hatchery and selling eggs to the community, and could study in the evenings. The cumulative impacts, in this case, included promoting girls' attendance in school

and their participation in activities that will support their livelihoods in the long term. Gender studies have shown that girls' participation in school increases with greater access to energy, as they can study in the evening, feel more secure and safe, and overall, girls' participation tends to lead to broader, long-term community benefits (UNDP 2004c, Clancy and Skutsch 2003, Oxaal 1997). In rural areas, where girls traditionally attend school in smaller numbers than boys, energy services lead to greater equity by providing a safer environment and more opportunities to study in the evening when girls are less likely to be working in fields or doing chores.

How Gender Can Be Incorporated into Macro-Level Energy Planning

For national energy planning, an effective gender-based approach takes into account different social, cultural, and economic realities based upon gender differences. This requires a shift in institutional thinking from the "just add gender" approach—adding gender on top of an existing project—to a systematic redesign that takes into account women's energy needs at every stage of project planning. To plan national-level energy infrastructure, disaggregation at the village level is necessary. This disaggregation includes (a) data analysis; (b) participatory consultations; (c) product design; (d) evaluating attitudes and perceptions of the product and the design; (e) macro- and micro-level pricing; (f) product marketing; and, (g) training on system maintenance and mechanics.

Planners must avoid lumping all women together in one "user group." Gender differences are heavily context-specific to the community in which the project is being carried out, and these differences must be analyzed. Clearly understanding the beneficiary is critical to the success of both micro- and macro-level energy projects. Planners need to examine the time trade-offs required with different energy systems and whether certain systems are likely to place additional burdens on women's lives. To avoid such unanticipated consequences, women should be part of the team that develops the policies, participating in both system design and receiving training in system maintenance. Such an approach is particularly important where the policies serve local communities with specific programs. One can learn from the experience of a renewable energy project distributing biogas stoves in India. This project ultimately failed because women had not been involved in the program from the outset; the design, testing, and monitoring of the stoves was conducted solely by men. Though the women were to be the project's beneficiaries, by the time they were included they had no stake in the project and, therefore, little interest in the stoves (Dutta et al 1997; Cecelski 2000; Dutta 2003).

Through multidisciplinary teams that include social scientists and anthropologists, energy consumption can be gender-differentiated and therefore designed with the customer in mind. For example, planners that take gender into account would know that women are the primary users of water pumps and so would not design pumps that are too large and too heavy for women to operate. By making explicit the link between gender, energy, and development, the national planning process sets the tone for incorporating gender into micro-level planning.

National-Level Planning

Is it possible to incorporate gender into energy policy making at the macro level? The answer is yes. Rural electrification, off-grid renewables, and energy pricing plans are all established through national energy policy. Energy rates are determined by pricing mechanisms that take into account distribution, type of service, and consumption patterns. Gender-based rates would establish affordable pricing specifically targeting a woman's consumption patterns based upon the fuel needed for a "gendered" activity. These rates, it is important to note, do not refer to separate rates established for men and for women. Instead, these rates target activities necessary for social and economic development. For example, given that certain fuels can be used for household lighting, enabling children to study in the evenings and women to engage in income-generating activities, a subsidized "education rate" could be established for those fuels, which could also be sold wholesale to the women with the intent of developing a secondary market and providing income generation to the women of the community.

Most of the attention given to gender in energy pricing has been within the household sector. As mentioned earlier, women's work is not confined to the household; it spills over into agriculture, food processing, and manufacturing (Parikh 1996). Activities, from brick and coal making to preparing food for kiosk sales, all need fuel. National energy pricing structures could include fuel rates established to provide economic development assistance for microenterprises and manufacturing within rural communities. If the principles of pricing include cross-subsidization to promote weaker groups within the society, then such pricing should be brought into natural resource, poverty, and economic development policies.

Planners must also avoid a technology-first approach, which results in oversized or undersized systems and, ultimately, a high failure rate for an otherwise proven technology. To understand the gender effects of a particular energy intervention, each component must be analyzed. For example, though liquid propane gas (LPG) may be available, the size of the tank may be too large for a woman to easily transport home and too expensive if they are living in a cash-poor economy. In response to this dilemma a cooperative solution is currently being developed by UNDP and the LPG industry to design smaller LPG cylinders that are both more affordable and transportable (United Nations Development Programme 2004b; United Nations Development Programme 2005).

One successful example of a gender-based energy project is the Winrock International photovoltaic (PV) off-grid water pumping systems in the Mamirauá Sustainable Development Reserve (Winrock International Brazil Clean Energy Group 2004; USAID Brazil Energy Program 2003). This program's goal was to provide off-grid clean water and energy to rural communities along the Amazon River in Brazil. Its success is due in part to the PV systems being sized both to deal with the limitations of the technology and to fit the needs of the village. Equally as important to the project's success, however, was that project planners brought the village into the planning process at the outset, identifying project staff with deep familiarity of the region, which increased the legitimacy and participation among the villages. Five years after the inception of the program,

gender-based participatory research methods were employed to evaluate program impacts. The evaluation found that the water pump increased time available for household chores, participation in the village cooperative, and fishing. It also found that water pumps placed in the center of the village provided less benefit than the water pump that had piping leading directly to each household in the village. Finally, it was shown that in order to keep the system up and running, including women in the maintenance and training of the system ensured continuity of the systems over time.

Credit and Pricing Options

Obtaining financing for any project, let alone energy systems, is particularly difficult for women in developing countries. In Kenya, for example, it is illegal for women to own titles to land, yet land is the required collateral for any loan. This policy makes it impossible for women to obtain credit to develop an energy-intensive small business, which typically requires a large amount of start-up capital. While women contribute to the majority of agricultural labor and food production, they receive less than 10 percent of the credit going to farmers because banks require that loans be provided to the wage earner or property owner, conditions many women in rural areas cannot meet (Cecelski 2000, 29).

In countries where a woman needs her husband's signature or must provide collateral to obtain a loan, programs can be designed to provide micro loans specifically for sustainable energy provisions for new or expanding business operations. These credit programs are designed to encourage deployment of cleaner fuel technologies (such as LPG, more efficient fish smokers, and biogas digesters) by targeting new and expanding businesses while supporting rural enterprises.

Credit mechanisms are also essential and must be easily accessible by women. "Policies that support credit opportunities for women must address the collateral and revenue-stream requirements of commercial credit organizations and take into account the legal status of women that might exclude women as borrowers" (United Nations Development Programme 2001, 11). Planners can address this issue by establishing credit programs with collateral requirements that women can meet. In rural areas the poor may have a difficult time paying for energy because of seasonal income. Increasing flexibility of payments over the year can help address this issue (Saghir 2005, 15).

Affordability

The affordability of energy is determined by national policies; national policies, in turn, dictate the fuels that will be subsidized. Fuel subsidies can result in either greater access to fuel supply for women or, in practice, difficulty in obtaining fuel supply due to competing demands. In India, a kerosene subsidy was established with the intent to provide rural communities with cheaper kerosene in comparison to diesel. Because kerosene and diesel have a similar chemical composition, kerosene can be replaced with diesel for some uses. Businesses caught onto this loophole and began to switch from using diesel for industrial purposes to kerosene to reduce their costs. The subsidy became a burden on the country: the fuel didn't

get to the villages because of heavy demand by industry; kerosene was used in place of diesel in autos; and the women in the villages did not get access to the kerosene. Eventually the subsidy was removed.

The World Bank discourages subsidies and states that little evidence exists that subsidies have worked well at helping the poor purchase fuels. However, some level of cross-subsidization occurs in both developed and developing countries. When energy rates are determined by pricing structures that take into account distribution, type of service, and consumption pattern, rates differ from sector to sector. The pricing of fuels for cooking, illumination, schools, health facilities, and small enterprises should be less expensive than pricing for industry or transport. "Special consideration is often given to weaker sections of the society. For example, pricing of electricity for agriculture differs for industry. Pricing of gasoline for motor vehicles is different from pricing of kerosene for cooking" (Parikh 1995).

One possible approach is to design a rate structure specifically targeting a particular energy demand identified through household surveys. As illustrated earlier, one example of such a rate structure could be a gender-based rate to incentivize energy use for home illumination in the evenings: given that lighting in the evening promotes studying and microenterprise, the price for such lighting would be set at a rate to promote this use. Imagine, for example, that a woman in Kenya uses firewood and charcoal for cooking and buys a small jerrican of kerosene that will last her family a month. She pays nothing for the fuelwood because she grew the trees in her garden, and she pays fifty schillings for the kerosene and 250 schillings for a month's worth of charcoal. The kerosene is used for lighting the house in the evening, when the children are doing schoolwork. The charcoal is used for cooking and the firewood for heating. In response, a planner could establish a rate structure for kerosene and for a fuel replacement for charcoal. This special "education rate" is applied to kerosene for lighting the household in the evenings, thereby providing an added benefit to the woman of the household who can conduct income-generating activities in the evening while the children study. The planner coordinates this activity with other education and poverty-reduction programs, potentially offsetting any subsidies through such coordination. The rate is set such that small, fixed payments can be paid over a period of time, providing more flexibility for those that cannot afford monthly energy tariffs.

Pricing that is affordable must, of course, be accompanied by fuel availability. Although this seems obvious, there have been numerous cases where subsidies that have targeted rural households have been usurped by industry, rendering the fuel unavailable, even in cases where women could afford to make the purchases.

Subsidies and Taxes

Import taxes that are applied to some fuels and not to others affect women's ability to pay. Gender-sensitive policies consider the effect of subsidies and tariffs on women. Subsidizing fuels that target women requires understanding the cost of current subsidies for other fossil fuels. An example may be establishment of a national policy to provide a zero tax rating on particular fuels and their associated

appliances and distribution network. A zero tax rate coupled with a reduction of existing subsidies on kerosene facilitates the movement of LPG into the rural sector and evens the playing field for LPG delivery and targets women's businesses, effectively reducing energy poverty in rural communities. Additionally, if there are high subsidies on fossil fuels, such as those that often exist on kerosene, those subsidies should be made visible when comparing costs of different energy options, so a true cost comparison can be made when considering new power sources. The construction of a new micro hydropower plant, for example, might seem expensive compared to the existing cost of kerosene. Once the subsidy is removed, however, a better comparison can be made.

Discussions have been ongoing about the prospect of developing a system to get around this distribution problem and to ensure that those entitled to receive a subsidy get the fuel. A more expensive but cleaner option than kerosene, LPG is considered the next step up on "the energy ladder," a ladder which describes energy movement from animal dung (the bottom rung) to firewood, kerosene, and then, finally, to electricity (the top rung). An effective LPG distribution system would require the use of smart cards by those entitled to subsidies. Swiping the smart card, which is similar to swiping a credit card, would act to release the valve and distribute LPG to the appropriate beneficiaries. Without the smart card, distribution would be disabled.¹ Of course, this is a technological solution and may not be feasible in small villages. The point is that better regulation might reduce the stealing of kerosene. Pricing should be kept separate for industrial and residential sectors to ensure subsidies intended for households get to those individuals.

Distribution must also be considered with gender in mind. A distribution system that provides small portions of fuel can be more easily carried by foot than larger systems. A photovoltaic water pump must be designed so that the pump system is not too tall and not too heavy, so women in the village can easily utilize it. For LPG, distribution of LPG cylinders in two-kilogram rather than twelve-kilogram containers makes the use of LPG as a household fuel more likely.

Harmonizing National Energy Planning with International Efforts and Micro-Level Planning

Within the realm of gender theory, it has taken more than twenty years to comprehend the full importance of the need to redesign development projects to take gender differences into account. A gender lens must be incorporated into development projects by doing more than simply conducting a "gender analysis." Redesigning project implementation at the micro level, and policy planning at the macro level, must be informed by a gender lens that goes beyond disaggregating needs. Rather, it requires a multilevel approach. In taking into account different social, cultural, and economic realities based upon gender differences, a gender-energy link should be incorporated into international indexes as well as micro-level planning.

At the household or micro level, a full analysis and disaggregation of who uses what, where the access points do and do not exist, and the economic structure of the community must be understood. Dianne Rocheleau, Barbara Thomas-Slayer,

and Esther Wangari (1996) argue that “incorporating a feminist analysis can illuminate the ways in which gender positions both men and women vis-à-vis institutions that determine access to land, to other resources, and to the wider economy.”

At the international level, an energy-gender index could be developed whereby energy projects are measured against a country's gender and poverty-reduction goals over time. This indicator would provide a country-to-country comparison and, like the Human Development Index (HDI), would measure a number of different factors including, for example, cumulative time savings for women from no longer having to search for fuel, improved levels of education for children from better lighting after dark, improved health due to drinking and irrigation water availability, and increased income generation from small enterprises.

Incorporating Gender in Social Impact Assessments

In the United States, projects that fall under the National Environmental Policy Act (NEPA) require environmental impact statements to analyze socioeconomic and environmental justice impacts at the local level. Multilateral financing agencies, such as the Asian Development Bank, require environmental impact assessments (EIAs) to authorize loans and approve private sector investment operations. The World Bank, additionally, requires environmental and social assessments for nonstructural adjustment lending projects. Environmental impact assessments are naturally a frontline tool in facilitating disaggregated analysis of energy projects by gender. It seems reasonable to consider a policy shift to institutionalize gender analysis within the context of environmental impact assessments. Such disaggregated analysis helps planners understand who will benefit within the community and target the project more precisely to the various needs identified among different sectors within a community.

Though gender analysis is a starting point, the incorporation of gender into required EIAs provides a tool for planners to consider negative impacts and alternative projects with regard to gender. A gender impact assessment based upon an EIA model, for example, was recently implemented in the Netherlands under a Dutch instrument called the Emancipation Effect Report (EERs). In Mieke Verloo's (2001) critique on gender mainstreaming, he analyzes the Dutch experience of implementing gender-impact assessments. Verloo concluded the strength of the Dutch experience was that the gender-impact assessment was applied successfully as an evaluative tool at the national level to analyze nine policy areas including education, justice, tax policy, and agriculture. Critical points of attention included the political support for the instrument, the translation of conclusions to alternatives, and the fact that the analysis was neither too time consuming nor too costly. He points to findings from an evaluation of the impact-assessment process by Woodward and Meier, which argued, first, that it is absolutely critical that an assessment not only analyzes the solutions proposed, but also that it critiques the way policy proposals construct the problems in the first place; and second, that gender assessments were conducted at too late a stage, when policy plans could not realistically be changed (Verloo 2001).

Conclusion

National energy policy making cannot proceed without a strong link to poverty policy making, both of which must encompass gender. Planners at the national level must view energy planning as an integrated part of a larger poverty-eradication scheme. If planners view pricing tariffs as an integrated strategy with other national goals such as reducing poverty and encouraging economic development in rural areas, gendered energy pricing may be more readily accepted as a natural step toward fulfillment of such goals.

A national energy policy that fosters human and economic development can only be realized under conditions that enable gender-sensitive energy planning. Because energy use is an input in other work, and much of women's work within rural communities is outside the monetary system, women's work is not integrated into national economic statistics. This invisibility has aided the assumption that energy is gender neutral simply because it does not show up in statistics or official disaggregation. Including a gender perspective in energy planning will lead to greater empowerment for women, and this empowerment is a prerequisite to sustainable development. To achieve this, planners must eliminate the invisibility of gender in energy planning, disaggregate consumption by gender to fill in the data gaps, establish gender-based local and national energy planning, and ensure that national energy policy making does not proceed without a strong link to poverty policy making.

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Endnote

¹ From personal communication with J. Parikh in 2001.