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Gender-sensitive energy policy research should question the potential for transformation of gender roles in any energy transition or project (Photo: Bertus Haverkort)

Gender, Energy & the MDGs

Towards Gender-Sensitive Energy Policy Research and Practice

Elizabeth Cecelski

This special issue of ENERGIA News presents the results of an DFID KaR (Department for International Development UK) research project on "Gender as a key variable in energy interventions: are we asking the right questions?" The project brought together some of the world's foremost experts on gender and energy in a Collaborative Research Group on Gender and Energy (CRGGE). The group included policy researchers from France, Kenya, India, the Netherlands, the Philippines, South Africa, Uganda, the UK and the US, who further involved other researchers in their networks and countries. The challenge

was to move towards a framework for gender and energy policy research and practice in the 21st century, a framework that would be credible both for energy and for gender researchers and practitioners. We also wanted to build capacity in our own institutions to do policy research on gender and energy, and to influence the international energy policy research agenda as well as practice. Working on the project was rewarding, because it provided the basis for continuous (and continuing) interaction among researchers, practitioners and networks on their research, and their practical policy and programme work, related to gender and energy.



Participants, including support staff from AFREPEN, at the CRGGE Meeting in Nairobi, Kenya, May 2005
 Sitting (L to R) May Sengendo, Anoja Wickramasinghe, Govind Kelkar, Jyoti Parikh, Elizabeth Cecelski, Feri Lumampao, Maggie Matinga. Standing (L to R) Joy Clancy, Lizzie Chege, Monica Shio, Alex Ndiritu, Dorothy Mwera, Andrew Barnett, Yacine Diagne, Wendy Annecke, Dev Nathan, Sheila Oparaocha, Stephen Karekezi, Michel Matly

Bringing a gender perspective to energy policy research faced us with two intertwined challenges in credibility. First, what evidence is there that energy has a key role to play in gender and poverty? This question was addressed by an empirical review – from a gender perspective – of linkages between energy and the first seven Millennium Development Goals (MDGs): measurable progress on poverty, education, gender equality, child mortality, maternal health, HIV/AIDS, and environmental sustainability. The article by Dutta, Matinga, Panjwani and Cecelski summarises the findings of this study and identifies areas where there is “good evidence”, “some evidence” and “insufficient evidence” to convince policy makers.

Development of a credible analytical framework for gender-sensitive energy policy research through an iterative process involving expert meetings and eight case studies by CRGGE members was the focus of the second part of the project, summarised as articles in this special issue. How can current research frameworks such as sustainable livelihoods and gender analysis be used to more effectively analyse gender as a key variable in energy interventions? What are the key elements and the “right questions” to ask in gender-sensitive energy policy research in the new millennium?

Most women and energy research from the 1970s through to the 1990s remained largely within a “women in development” framework. Energy services were presumed to benefit women as members of households and to contribute to their welfare, even if women did not participate in decision-making or implementation. Later, women began to be viewed instrumentally by the energy sector, as energy

consumers whose views needed to be taken into account to ensure adoption of new energy sources, or as promoters who could contribute to meeting targets for dissemination of improved stoves or renewable energy technologies. Since 2000, the energy sector has been obliged by new development thinking including the MDGs to more seriously consider poverty alleviation and gender equality as goals in their own right to which energy access can contribute. Raising the visibility of gender in the sector has been a valuable outcome of earlier approaches, but recent energy, poverty and gender frameworks go further in asserting the transformation of gender relations and human rights as essential to the energy mandate. Sustainable livelihoods, gender analysis, and feminist political ecology offer new ways of understanding linkages among gender, energy and poverty, and new criteria for gender-sensitive energy policy research. These have been explored and applied in the eight case studies under this project.

In the eight case studies carried out by the CRGGE and presented in the articles in this special issue of ENERGIA News, creative research approaches are used by leading gender and energy researchers to explore a pressing policy issue in the gender-energy-poverty nexus in their country or region. Although the case studies were not planned to be comparative, and draw on diverse approaches, they can be loosely grouped into three thematic areas:

Impacts on Women and Men

Three case studies looked at the differential impacts on women and men of renewable energy projects that generate electricity. In **Sri Lanka**, new bioenergy initiatives based on using the country’s large biomass resource for electricity generation, were examined by Anoja Wickramasinghe in terms of the effects on women and men in two schemes, one community-based and run by users, and the second providing feedstock for the national grid. The study reveals that modern “dendro-energy” plants can create enterprise opportunities for farm biomass production as well as generate clean energy for rural electrification. The impacts on the poor and women in these two cases

depend primarily on how supply of the feedstock is organised, but also on whether the local community receives the electricity supply themselves. In the commercial, grid-connected project, supply of biomass feedstock is handled by landowners and capital investors rather than by women who are the traditional suppliers of woodfuel. The community-level plant provides wider opportunities for women through the community organisation and its focus on households supplying feedstock for generating electricity for themselves. In this model, modern dendro-energy plants do have potential to provide a strategic means of reducing poverty while addressing women's needs.

In the **Philippines**, Approtech-Asia explored the interactions between gender and renewable energy. In a community micro-hydro project in an indigenous area of Kalinga, respondents reported effects on women's and men's economic roles, on their health and wellbeing, and on their socio-cultural and political situation. Two rice mills reduced women's drudgery in rice pounding, and cooperation with another village around the micro-hydro project is believed to have eased tribal conflicts. Women played leadership roles by being involved in the church organisation implementing the project. In a PV battery-charging project in Southern Leyte, electricity motivated women to better organise their household work at night and explore livelihood and income activities. It also made families feel more secure and safe.

In **Uganda**, a deliberate gender strategy improved the impact of solar home systems and a solar-PV battery charging station by ensuring that women were targeted for credit and sales, according to May Sengendo's study. Gender analysis by solar companies and village banks resulted in significant benefits for women as well as men, and supported women's empowerment, especially combined with support and encouragement to income-generating activities. Spouses often pooled resources and cooperated in order to finance loans and women became more active in joint businesses. Both men and women were trained in maintenance, battery charging and usage. Girls' education benefited as they were able to study later at night after completing domestic chores.

Gender in Energy Policy

Two case studies examined gender aspects of energy policy: the first, in Himachal Pradesh, India, studies the impact of clean fuel access policy on women's empowerment; and the second, in four countries in east and southern Africa, analyses the role of gender research in power sector policy.

In **Himachal Pradesh, India**, Jyoti Parikh examines the hypothesis that the state policy of kerosene and LPG subsidies is related to the empowerment of rural women and their health in the traditional fuel system. Empowerment level and access to energy are in fact correlated in Himachal Pradesh. Both of these are higher than the all-India averages. Even within Himachal Pradesh, the two districts with different access to fuels have correspondingly different levels of women's empowerment. But though there has been fuel-switching, especially in towns, women still largely bear the drudgery of cooking with traditional fuels. The main obstacle is affordability, not availability, and wood fuels are still cheaper. It is not possible to conclude that better access to energy has actually caused women's relatively high empowerment levels in Himachal Pradesh, since these depend on many factors.

In **eastern and southern Africa**, the inclusion (or not) of gender in national power sector policy is examined by AFREPREN researchers in four countries, and how gender and energy research can influence this. Power sector reform in the region has not considered differential impacts on women and men. A review of energy sector policy documents revealed a growing awareness among policy

makers and in policy statements but that this is backed only by vague policy objectives. Policy making in the region's energy sector has been male dominated with little consultation of end users and producers. Gender research could have a more effective impact on the policy process through a thorough understanding of the sector and interests; credible, relevant messages; and appropriate alliances and "chains of legitimacy" between beneficiaries, gender researchers, NGOs, and policymakers.

Energy Transitions and Gender Relations

Three case studies explored changes in gender relations associated with the transition to modern fuels. In **China and other parts of rural Asia**, Govind Kelkar and Dev Nathan's study links women's and men's participation and status in the labour force to the adoption of new fuels and appliances. The low opportunity cost of women's labour limits the adoption of improved stoves, while women's entry into income-earning activities appears to promote a fuel transition. While the severely negative health impacts of biomass fuels make public subsidy of alternatives desirable, this will not necessarily result in fuel switching by households so long as the value of women's labour remains low. This is shown in fieldwork from Yunnan, China, and a number of other Asian countries. The critical area of intervention is likely to be in providing commercial fuels for women's income-earning activities.

In an urban township in **South Africa**, Wendy Annecke relates the changes in domestic roles including cooking to gender equity in the new constitution. Are women's domestic burdens released through saving women's labour (practical needs), or by sharing the gender division of labour within the household (strategic needs)? The findings of this study are that access to modern energy services (in this case, electricity) can facilitate shifts in gender roles and responsibilities in the domestic sphere – if backed by serious institutional support for gender equality. The reasons are two-fold: firstly, women know they have legal backing to assert their rights, and men are pushed by the legal system to accept this. Secondly, electricity makes it easier for men to perform domestic chores because they are not too burdensome or demeaning.

Michel Matly draws lessons from experience with rural electrification in **Europe and the US**, on the ideology of women's electrification and how this may apply to developing countries today. Rural electrification was 30 years later in the US than in Europe, but quickly reached urban levels. In Europe, rural electrification was used mainly for lighting, radio and some farm equipment. In the US, federal funding was used not only to develop grids, but also to provide access to electric productive equipment and domestic appliances. The latter quickly became the bigger success. Rural electric cooperatives were able to cut costs by 30-50% compared to the existing large private and public utilities, and showed that the poor could pay. Women's desire for home appliances drove the rural market and high load, bolstered by home economics, provided a ready-made ideology for the electricity industry. Electrical appliances relieved women of drudgery and allowed them to work more efficiently in their homes, and go out and get paid work. Developing countries should also consider this model of "women's electrification."

Conditions for Positive Impacts on Women

Positive impacts of the energy interventions on women were found in all the cases, ranging from time saving and drudgery reduction, to income generation, to social and economic empowerment; these impacts could be negative as well as positive however. Benefits for women as well as men were more likely to be found in the following instances, where:

- A deliberate gender strategy is followed in project planning and implementation (Uganda);
- The policy environment supports energy policies and programmes favourable to women's needs (South Africa, Himachal Pradesh, eastern and southern Africa);
- A community-based organisation in which women already actively participate is involved in the project (Philippines, micro-hydro site; Sri Lanka, decentralised site);
- Existing or changing gender relations in the society values women's labour and favours women's equal participation in the energy intervention (Philippines, PV battery-charging site; Mosuo, Yunnan);
- Industry objectives coincide with women's interests (US rural electrification).

Where gender relations (or attention to gender relations) are a key variable in energy interventions, it is more likely that energy will have a significant impact on gender equality and indeed on household and community poverty as well. Where energy interventions address (or at least do not discourage) women's equal participation, the potential for benefits is much higher.

A Checklist for Gender-Sensitive Energy Research

There is no "ideal" gender-sensitive energy policy research framework. However these four elements provide our experience on what gender-sensitive energy policy research looks like:

1) Partnerships and a process for gender experts and energy experts to work together. A central part of the DFID KaR/ENERGIA research project was the creation of a Collaborative Research Group on Gender and Energy (CRGGE) of leading experts who were also involved in policy advocacy. Researchers included both women and men, and both energy researchers (with an interest in gender and poverty) and gender and poverty researchers (with an interest in energy), who had shown a long-term commitment - through the ENERGIA network - to policy research on gender and energy. The goal was to create a safe but challenging space to share experiences, give and receive mentoring, and contribute to the project research process through their own research and case studies. A key element in this effort was the engagement of the CRGGE in an active dialogue to "speak the same language". Two face-to-face meetings to develop methodology and review results together, technical and institutional backstopping by ENERGIA, peer review of outputs within the group, capacity-building of junior researchers, the integration of results into other institutional and network activities, and group definition of partnerships and research needs were all part of the process.

2) Linking research to policy by understanding the gender-energy-poverty nexus. Many studies on gender and energy have been at the micro- and household level, descriptive of women's problems and obstacles. While valuable, this information has not always been related to specific policy issues of relevance to energy policy in the given country. Fundamental in the CRGGE approach was how to link micro and household-level research on gender and energy with critical and current energy policy concerns for the governments, utilities and other big players in the country or region. The background and historical poverty-gender context had to be understood, as well as the energy supply, consumption and policy situation in the country, by first reviewing literature both on gender and on energy, and building on past research in these areas. These were then related to one another, to make clear how energy policy is influencing and could be influenced by the poverty-gender challenge.

3) Using appropriate research frameworks and methods from gender and from energy research. Gender analysis was the most commonly used framework for analysis in all of the case studies. Although this seems obvious, disaggregation of data by gender (men and women,

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boys and girls) has not routinely been used even in some gender and energy studies. Gender analysis methods started by gathering data about the gender division of labour and women's access to and control over resources and benefits. The *sustainable livelihoods framework* helped to focus attention on energy for women's productive uses, and their control over assets. The poverty and gender experts found it useful to take a fresh look at energy issues, as outsiders. The sustainable livelihoods framework was found to be weak though in understanding women's reproductive roles, and the interactions between reproductive and productive labour that may be mediated by energy access; and this may be because it is not systematic in using gender analysis tools including time allocation study and intra-household analysis. Combining elements of sustainable livelihoods with gender analysis proved effective. *Feminist political ecology* relates

the gendered use of natural resources to institutions, policy, and macro-economic systems. Some elements were taken for use in specific case studies as relevant.

CRGGE researchers used a wide variety of tools and methods. Most important in all of the studies were policy and institutional analysis, the use of both qualitative and quantitative data, and the inclusion of people's perceptions. The importance of drawing on a range of methods from a number of disciplines through the use of interdisciplinary teams was evident to the group, but case studies were sometimes weak in terms of their economic and financial analysis on the one hand, and their energy analysis on the other. This would need to be strengthened in future research. Some of the case studies showed how important insights could be gained from analysis of the energy supply chain, in addition to the more common end-use analyses in gender and energy research (e.g., analysis of biomass feedstock supply in Sri Lanka, kerosene depots in India).

4) "Asking the right questions" about gender, energy and poverty.

What are the "right questions? At the final review meeting, CRGGE researchers contributed to developing a set of "right questions" that can be an agenda for gender-sensitive policy research in the future, and included aspects such as:

- *Evidence about impacts of energy projects and changing access on women and men.* Gender-sensitive "research" should be an operational part of every energy project's monitoring and evaluation design. Have energy projects or better access improved the wellbeing of women as well as men? Have they met women's welfare and practical needs? Have they gone beyond this and transformed gender relations at the household, community and/or national level? Has energy had an impact on gender equality and women's empowerment? Up to now, there are only a few good models of gender-sensitive approaches in large-scale or mainstream energy projects that practitioners can draw on and replicate.

- *Rhetoric gap between policy and practice on gender and energy.* Exposing the gap between energy policy rhetoric and the reality of women's lives is a critical function of gender-sensitive energy policy research – do energy budgets, policy statements and project practice reflect women's needs? Do poverty documents such as Poverty Reduction Strategy Papers reflect the reality of women's energy situation? The CRGGE research found the collection of gender-disaggregated data to be the single most powerful and essential tool in providing evidence to policymakers to motivate them to engender energy policy, as well as for the actual process of integrating gender into energy planning and implementation.

- *Culture and ideology in gender relations in energy.* What are the ideologies that influence gender relations and women's empowerment in the energy sector? That is, what are the reasons behind changes in gender relations and how does energy access affect or how is it affected by these changes? In the case studies, these ranged from the way that women's labour is economically valued, to the political climate and legislation on human rights, to the home economics ideology in rural electrification, to sexual violence and the power relations between women and men.

- *Political economy of change in gender and energy.* What are the "Drivers of Change" (a DFID research methodology on the political economy of change) in gender and energy? What incentives and disincentives do the various participants face and how can these be modified? What coalitions or alliances for "pro-poor" and "pro-women" change can be effective in the energy sector? In terms of research methods this might lead to the need to examine the concerns of the opposing factions and to "put our work in their language". In terms of policy impact, gender and energy researchers and advocates need to be active participants in direct and formal energy decision-making processes and structures. Networks such as ENERGIA and other women's networks and organisations can help nurture a "new deal" for women's representation in the energy sector. As elsewhere, bringing men on board will be key to them accepting gender equality in the energy sector.

In all the "right questions" above, the "potential for transformation" is the critical element. A bargaining model of the household and society is assumed in the gender analysis, with both conflict and cooperation analysed as important forces. Property relations, social relations, labour relations, and decision-making relations are important at the household, community and national level. Possibilities for women to change their power and position through negotiation are explored. What is the potential for transformation of gender roles in any energy transition or project? That is the fundamental question in gender-sensitive energy policy research in the new millennium. ■

Based on: E. Cecelski and the CRGGE, "From the Millennium Development Goals Towards a Gender-Sensitive Energy Policy Research and Practice: Empirical Evidence and Case Studies", Draft Synthesis Report to DFID KaR on Research Project R8346, December 2005.



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