WOMEN AND SUSTAINABLE ENERGY

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NEWSLETTER OF THE NETWORK FOR WOMEN AND SUSTAINABLE ENERGY

Contents

Women in Kenya using a "Better Bonfire Kiln". The women, who were involved in the testing phase, now use the kiln for commercial purposes (Photo: Courtesy of Time Jones, ITDG)

News from the Editors

Women and Energy at the World Renewable Energy Congress–VI: Progress and Dialogue

Guest Editorial

Barbara Farhar

Barbara Farhar was the key-note speaker at the Gender & Energy workshop and has written this editorial based on preparatory work by Rona Wilkinson of Intermediate Technology Consultants and Alison Doig of the Intermediate Technology Development Group, the guest editors of this issue of ENERGIA News. Much of the contents of this editorial is based on presentations made at a special side session on gender and energy at the World Renewable Energy Congress held in Brighton in July 2000.

Women and Energy at International Meetings

Women and energy sessions at international meetings help spread the word to energy colleagues – who are mostly men - about the importance of considering women in energy programmes and energy policy. If we are interested in mainstreaming gender concerns, then we make progress when men and women together speak about, discuss, and consider gender and energy issues, as they did at WREC-VI.

The issues that link women and energy have been well articulated at meetings and in literature over the past five years. Energy problems in developing countries largely affect women because women spend far more time than men on basic subsistence activities, such as gathering fuelwood, carrying water, and cooking. Some women spend up to 12 hours a day on these types of activities. Women's heavy workloads in subsistence activities limit their participation in income-generating activities.

Globally, 2 billion people are directly exposed to the burning of coal, wood, and other biomass. More than half of the global exposure to particulates is of people within buildings in developing countries, mostly women and children. The health effects from this indoor air pollution include lung disease, acute respiratory infection, lung cancer, adverse pregnancy outcomes, chronic bronchitis, and eye conditions. Exposure to carbon monoxide is of more health concern to women than to men.

Gender and energy issues require both technological and policy solutions. Understanding is growing internationally on the linkages among women, energy, and sustainable development. Agenda 21 called for governments to actively implement programmes for environmentally sound technologies, in consultation with women, for clean water, an efficient fuel supply, and adequate sanitation. The sustainable energy community can work to actively involve women in the design of technologies and in their application. The advice and knowledge of women about cooking, water, food, medicine, and their roles in energy supply and use, can be actively used to improve the effectiveness of sustainable energy technologies and to support sound economic development that improves the quality for families, communities and for the women themselves.

Women at the 1998 World Renewable Energy Congress meeting in Florence, Italy, produced the following findings on gender and energy: (1) that women are the group most affected by energy scarcity and related environmental degradation, both economically and through negative health impacts; (2) renewable energy holds great potential for improving the quality of life for women because it can reduce the time and human energy needed to meet daily needs while helping to improve indoor air quality; (3) women's role in energy is so critical that women should be involved in energy decision-making; and (4) much better empirical data than currently exist are needed on gender and renewable energy.

Women and Energy at WREC-VI

The three feature articles in this issue of ENERGIA News are based on presentations at the WREC-VI workshop session on Energy and Gender, and discuss ITDG/IT Consultants field experiences with practical projects and programmes that have improved women's livelihoods – in the framework of energy projects to improve access of the poor to energy services - in three countries: Kenya, Zimbabwe, and Nepal. The article by Stephen Gitonga and Lydia Muchiri considers the barriers (local and institutional) that women face in accessing energy supplies in Kenya. It details the successful stoves programmes and the positive impact they have had in empowering women to become producers and managers rather than just consumers. Tinashe Nhete details the constraints faced by rural Zimbabwean women, briefly analyses why some energy programmes and initiatives have not worked, and touches on recent work that encourages the participation of women. The article by the late Chris McMenemy et al. describes two case studies from Nepal and discusses the need for community involvement and participation as well as the development of institutions at local and regional levels if energy projects are to be sustainable and help poverty alleviation.

In the training resources section of this issue, Maggie Foster of ITDG explains the livelihoods approach used in these projects, and how it can be used to improve poor women's access to energy.

The World Renewable Energy Congress is predominantly attended by male, Northern-based, engineers. The fact that an Energy and Gender workshop was held in one of the mainstream sessions, and its participants were a good mixture of stakeholders in the energy and gender field is a considerable achievement. Prof Sayigh, Chairman of The World Renewable Energy Congress explains in this issue why he encourages these sessions, and considers them important.

An interview with Lalitha Balikrishnan of the All-India Women's Conference (who chaired the Women and Energy session at WREC-VI, together with Judy Johnson, then of the British Commonwealth Science Council), completes the presentations on the WREC.

Recent Initiatives – and Future Dialogue

Progress is being made. As evidence of the beginnings of gender and energy mainstreaming one can mention programme initiatives on gender and energy, such as the United Nations Development Program (UNDP) Women in Energy Project, and the Gender Facility Initiative of the Energy Sector Management Assistance Program (ESMAP) of the World Bank. In addition, gender has emerged as an important theme at key meetings such as Village Power '98, and the ENERGIA workshop on Improving Women's Access to Energy, Enschede, The Netherlands, (November 1999). Many other activities, too numerous to mention, have also occurred.

In gender and energy, let us continue our dialogue - with men, with scientists and technologists, with policy makers, with development organisations, and among ourselves - respectfully, with compassion, integrity, and perseverance. Only through mutual respect and open communication can the world's women - and men - achieve a higher quality of life, in which the safety and well-being of all are ensured and the contributions of all are valued. ■

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Networking Around the World

Danish Foreign Aid: a bright-headed, yet footloose energy policy

Johanne Gabel

An insistent tap on the Ministry shoulder.

That was the outcome as speakers at the debate on Sustainable Energy in Danish Development Assistance reminded the Danish Minister of Development Co-operation of the necessary footwork if the new Energy Sector Policy is to have a practical impact.

If the policy is to be of practical use to development workers in the field, it will have to provide direction. Imparting such guidance is a task for the Ministry. That was the call from speakers at the debate on Sustainable Energy in Danish Development Assistance that took place on September 5 2000, in the Landstingssalen of the Danish parliamentary building. The debate was arranged by the Danish umbrella organisation, Forum for Energy and Development.

The Minister of Development Co-operation, Jan Trøjborg, outlined the Ministry's new Energy Sector Policy at the meeting and, since the policy will receive its finishing touches in near future, was somewhat cautious in his response to policy questions. 'It is still too early. We need to discuss this draft further before we can come up with concrete answers', the Minister said. This failed to answer an urgent question posed by the assembly; namely, how do we move from the drawing board to real collaboration on a mutual basis; and change from supply-side – the producers and governments – dominated co-operation to one that listens and responds to the demand-side – that is, the poor? These are the intentions as set out in the draft Energy Sector Policy discussed at the meeting. The draft has not been disseminated to a wider public, on the grounds that it is still being developed by the Ministry.

The three overseas speakers that were present, Elizabeth Cecelski, of the *ENERGIA* International Network, Tania Urmee, from the Grameen Shakti Bank in Bangladesh, and Masse Lo, from the ENDA

Panel from left to right: Jan Trøjborg, Danish Minister for Development Co-operation; Elizabeth Cecelski, ENERGIA; Masse Lo, ENDA, Senegal; Tania Urmee, Grameen Shakti Bank, Bangladesh; Finn Tobiesen, Danish Organisation for Renewable Energy, Denmark; Knud Vilby, Development Consultant, Denmark (Photo: Courtesy of Jerry Bergman)

network in Senegal, all commended the draft, but looked forward to its elaboration in the final paper. They hoped that it would then grasp the nettle by its root – the implementation of the policy. 'What methods will Danida (Ministry of Development Co-operation. *-ed.*) use to carry out this nice policy', Elizabeth Cecelski asked the Danish Minister. She continued, 'Sooner or later you have to answer that to get down to the bottom line: what is the difference between this and the previous energy policy of Danish Development Assistance, in a way that Embassy staff and future partners can understand and relate too?'.

The Minister replied by asking what the popular organisations have to offer. Including, implicitly, the question as to whether organisations, in the North and in the South, have the capacity required to fulfil the role as spokespeople for the poor. This led the chairman of the Forum for Energy and Development, Mr. Hans Bjerregård, to admit to a lack of such capacity in more than one Danish NGO and suggested that Danida contribute to the strengthening of the NGOs. At the same time, he invited other parties in the civil sector, in particular those in the private sector, to co-operate with popular organisations in providing the needed capacity. On the other hand, the chairman did emphasise the years of experience that NGOs have had in listening to the needs of poor people and in bridging the gap between different groups of people.

'The principles in the new policy are not new; what is new here, is that it is now official Danish policy', argued Finn Tobiesen from the Danish Organisation for Renewable Energy. Mr. Masse Lo offered detailed guidance in how to describe target groups in order to focus efforts. Furthermore, he advocated using, and learning from, the United Nations Framework Convention to Combat Desertification. This had been used successfully in the implementation of work at the regional as well as the national level, on topics such as how to build a national financing mechanism.

Ms Tania Urmee showed examples from her work with small-scale loans for the purchase of photovoltaics by the poor, who repay the loans through small repayments based on manageable rates using income derived from the very access to working light. Elizabeth Cecelski suggested concrete monitoring measures and goals - both qualitative and quantitative – that should be worked into the Danish policy. This would help direct the policy and its attempts to combat poverty through aid to women.

Addresses of attendees and minutes of the meeting are available at http://www.inforse.org/projects.php3 ■

◆ The author of this report, Johanne Gabel, is the Information Officer of the Forum for Energy and Development and has been employed in the secretariat since May 1999. Johanne is currently working on public relations, as web-master and editor of the Danish newsletter of the Forum, and is responsible for the presentation of materials. Johanne has a M.Sc. in Economics and Languages.

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International Programmes: Focus on

World Renewable Energy Congress: Energy and Gender

Professor Ali Sayigh

It is always our desire to highlight the importance of energy and gender in all our conferences. The search for energy in most developing countries, and in particular for cooking and hygiene purposes, is of prime importance to all women in the developing world. Discussing the social, economic and cultural needs jointly with the search for energy has made the World Renewable Energy Congress (WREC) a focal point for discussing the gender issue. The Brighton Congress was no exception; Intermediate Technology Development Group (ITDG) - UK, National Renewable Energy Laboratory (NREL) - USA, Commonwealth Science Council, All India Women's Conference and The Department for International Development (DFID), teamed up to throw some light on, and to discuss, the implications of energy and gender. This area of the Congress normally attracts more than 50 experts but still requires further development to understand the background and to alleviate the suffering of women in search of energy in their developing countries. The World Renewable Energy Network (WREN) gave this issue significant attention in its 1996, 1998 and 2000 conferences, and it will be a major topic in our next Congress in Cologne, Germany, in June/July 2002.

Looking at the World Renewable Energy Congress 2000 in Brighton, we can identify several leading papers contained within the proceedings on this issue. The World Renewable Energy Congress is also keen to collaborate and work with two well-known teams in the world who have devoted most of their work to this topic. They are the All India Women's Conference and *ENERGIA*. We have also called upon several U.N. organisations to team up with the World Renewable Energy Network at the next Congress to throw more light and find more solutions to the problems of energy and gender. We are delighted to work with the Commonwealth Science Council, the All India Women's Conference, the British Council, the National Renewable Energy Laboratory, the Department for International Development - UK, and Intermediate Technology - ITDG, UK.

I personally would like some of the following questions to be addressed at the next Congress in Germany.

1. Are there problems, and if so how large are these problems in third world countries?
2. Can renewable energy applications address these problems and solve some of the energy needs of these countries?
3. What are the mechanisms that we all have to adopt to make it happen?

It is paramount that people from the South explain the situation in their own countries and provide insights as to how we should deal with the issue so that they can feel at ease, rather than we, in the developed countries, suggesting mechanisms which invariably turn out to be impractical.

The World Renewable Energy Congress in Brighton was attended by more than 850 experts, scientists and policy makers from 94 countries and was a major forum in which to voice such concerns. My hope is that when this forum meets again in Germany, two years from now, all the countries involved will be aware of this issue so that they can take part and achieve a good outcome. ■

◆ Professor Ali Sayigh is the Director General of the World Renewable Energy Network (WREN), is presently a Professor at the University of Hertfordshire, and is a Fellow of the Institution of Electrical Engineers and of the Institute of Energy. He is also a member of many environmental societies. He has published more than 200 papers and contributed to, and edited more than, 30 books. He is editor-in-chief of The International Journal of Renewable Energy which has been published by Elsevier Science since 1990.

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Letters to *ENERGIA*

Below is an shortened version of a letter received from Louise Meyer of Solar Household Energy Inc. It tells of her experience during a visit to a solar cooker project in Egypt.

Dear ENERGIA,
Whenever I am in Switzerland, I make an effort to visit ULOG an organisation based in Basel. Last year, in the new English version of ULOG's documentation, I found information on a solar cooking project in Egypt that caught my interest.
Every summer, Annemarie Wenger-Marti, an elementary school teacher who lives near Berne, in Switzerland, spends one-month in Egypt training women on how to solar cook. I learnt that she initially funded the training herself, and later received support from Caritas Switzerland. Since I was in Berne, I arranged to visit her.
This July, I travelled to Egypt to visit the areas where Annemarie had been training.
I conducted interviews with some of her students with the help of Dr. Eriam, a professor at Cairo University who had set up Annemarie's training programme. From him, I learnt that Annemarie's solar cooking project was part of a much larger Homestead Project that had begun in 1987. Annemarie's students were literate, university agronomy graduates that had made an independent choice to learn

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Meeting *ENERGIA* Members

Lalita Balakrishnan

Hon. Secretary General of the All India Women's Conference

Interview by Alison Doig and Rona Wilkinson, ITDG

Lalita, could you first tell us about your background, where you grew up and what sort of education you had.

I was born in July 1932 in South India, my father being an Educationalist with the Government and my mother being a woman activist and social worker. After graduating in the social sciences, I took a Postgraduate Diploma in Journalism and Nursing in India and, in 1958, obtained a Diploma in Company Law and Secretarial Practice in the UK.

Is there anything in particular that has influenced your thinking about women and energy in India?

I have toured many villages in the nooks and corners of India and successfully integrated the use of modern devices. Rural energy has thus become a passion for me. The basic concept that has influenced my work is that women in this country, particularly in urban slums (each of our cities has over 200 slums) and rural areas should be helped so that the drudgery spent on household chores is lessened, along with the time spent thereon. With better and brighter kitchens, there is an overall improvement in their health. Some are able to become wage earners through suitable work being possible due mainly to having more time. It has been my experience that rural energy initiatives have empowered women at the village level in that, where they are applied, the role of women in decision making at village levels and also at local Governance (Panchayat) level has improved and the literacy rate amongst girls has increased.

What do you think is the biggest contribution the All India Women's Conference had made towards improving access to energy for poor women in India?

AIWC was set up in India, in 1926, by an Irish lady, Margaret Cousins, primarily for pioneering the cause of women's education and highlighting its importance. After India's independence, the number of branches grew rapidly all over India. The basic mission continues to be to catalyse progressive changes in society, particularly for women, in all rural areas and tribal conclaves of the country. As such, at the policy level, AIWC has obtained consultative status with the UN, with the Government of India as well as with individual Indian States. At a practical level, because finances continue to be a major worry for poor women and micro-credit for their activities is becoming a welcome addition, the AIWC Delhi have, since 1984, having been identified as a Nodal Agency, been involved in a national scheme called 'NPIC', National Programme of Improved Chulha (or wood stoves) that offers grants for improved stoves.
AIWC, with the help and patronage of the Government of India, is also playing a leading role in the support of an International Summit on Micro-Credit in February 2001. The objective is to open avenues for access to economic resources through micro-credit for at least 100 million poor women in the Asia Pacific Region. However, while the AIWC has so far been satisfied with the results, there is a lot more to be done and we find that poor women who cannot afford to buy commercial energy such as electricity are coming forward in larger numbers to benefit from these schemes.
Our ultimate aim is to save as many women as possible from smoke related diseases through the use of improved stoves and biogas burners. Another objective is to reduce drudgery, improve the quality of women's lives and free up time for other activities such as income generation.

What has your role been in the All India Women's Conference?

The AIWC has had the good fortune to be led by great women, social thinkers such as Sarojini Naidu, Begum of Bhopal, Vijaylakshmi Pandit, Raj Kumari Amrit Kaur and others who have held the positions of President, Secretary General and Treasurer through elected offices. As the elected Hon. Secretary General, since 1999 with a 3 years term, I have endeavoured to integrate the needs of women in the AIWC activities, especially those of women in tribal and rural areas through adequate networking and access to improved energy services.

Can you tell some of the other activities and initiatives you have been involved with?

At an international level, I have participated in and presented papers at various conferences on renewable energy. I have also organised exhibitions of our energy devices at events such as the World Women Conferences in Nairobi and Beijing. I am an active member of the World Renewable Energy Network (WREN) and the International Network for Sustainable Energy (INSE). The work of AIWC has also received a number of awards including one from IREDA for "outstanding contribution to renewable energy" and my work has been recognised by UNEP. It is through these national and international events and forums that we have raised awareness and understanding of the work of AIWC.

Lalita, thank you for your thoughts on gender in energy. We wish you success in your programme to promote it! ■

◆ An article on the AIWC was featured in **ENERGIA News** volume 2 issue 3.

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how to solar cook. Each had bought a locally-built ULOG box cooker and a pot, at a cost of approximately $30.
The visits began in a town called El Zour, in the sugar beet zone, southwest of Alexandria where we met Mona Abul Hakim who lived with her husband and four children in a brick house equipped with electricity, a phone, and bottled gas. Together they owned 12 hectares of land. Mona learned to solar cook and bought a solar box in 1997. What she liked best about solar cooking was that she did not have to worry about food spoiling or burning, and her family found that the food tasted better. Mona was the president of the El Zour solar-cooking club and organised monthly pot-luck lunches, which everybody attended to share news and recipes. During this trip we also interviewed a student, Hella Mustafa, who had established a small business selling yoghurt made in her ULOG cooker.

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The Role of Women in Rural Energy Supply in Zimbabwe: the Experience of ITDG-Southern Africa

Tinashe Nhete

Background

ITDG-Southern Africa has been involved in the promotion of appropriate energy technologies, primarily for the rural population, over the past seven years. This article highlights the experience of working with rural women in seeking solutions for community energy needs. The examples are mainly drawn from practical work undertaken by ITDG.

Traditional Energy – Biomass

Traditional energy sources in Zimbabwe are woody biomass, agricultural residues and animal waste. Traditionally, and by custom, women are responsible for the gathering of firewood and any other energy sources for cooking and space heating. However, the increasing distances that have to be covered to collect firewood, has led to a shift in this responsibility with men now involved in firewood collection using mechanised animal-drawn transport.

The local depletion of wood resources, and the corresponding increase in the distances necessary to collect this biomass, are national concerns. However, some rural communities were affected before others, due mainly to the agro-ecological characteristics of their areas. In response to the increased drudgery and time spent in sourcing energy supplies, government departments, NGOs, and other bilateral and multilateral agencies have promoted both alternative and improved energy conversion technologies for rural communities.

Rural Electrification Programme

A number of lessons have been learnt with regard to the participation in, and acceptance of, external interventions by rural women who are the targeted primary beneficiaries. Just after independence, the new government, striving for social equity, embarked on a rural electrification programme. The objectives were to reduce the dependence of rural communities on woody biomass, to stimulate economic and industrial growth, and also improve the standard of living for the marginalised indigenous populace. For women, a few lessons could be learnt from both the shortcomings and the strengths of this drive. The first was that there were very few people who benefited from this exercise due to the high initial capital outlay and the recurrent costs associated with providing electricity. In terms of economic growth there was only marginal interest from women. The chief income generating activities being undertaken by women were beer brewing, garden clubs, sewing, and general agricultural production. All of these were carried out at minimal cost through the exploitation of human labour, and biomass energy in the case of beer brewing. Electricity was an expensive option and therefore not very attractive to women. The major lesson learnt was that a programme should build on the existing activities and strengths of a community.

Nyamarimbira Community Energy Project, Zimbabwe - Mrs Changwena, forewoman of channel digging, with members of the work group (Photo: Courtesy of ITDG)

Improved Wood Stove Programme

At the same time, effort was put into the promotion of improved wood stoves in order to reduce the amount of wood required for cooking and water heating.

Some interesting lessons were learnt from this programme: Most women were put off by the need to chop wood into smaller pieces to suit the new stoves. Most of the men had left their rural areas to seek employment, and the women felt that the additional task of chopping wood was time consuming and diverted resources from other activities. The second factor raised was the positioning of the stoves. The new stoves were usually placed against a wall to allow smoke to be expelled through a chimney. This meant that a woman had to cook with her back to her family, which is considered disrespectful in some local customs. The positioning also restricted the ability to monitor children playing in the house. Some of the promoted woodstoves were built outside the house and women were not always comfortable with this for reasons of privacy and fear of poisoning. The taste of the food was also a factor and the feeling was that the smoke from an open fire helped to preserve the food better.

Community Micro-hydro Programme

ITDG has been promoting community micro-hydro energy supply schemes in Zimbabwe. The approach has been for the community to provide unskilled labour and management for all local activities. The experience has been that there is a larger labour contribution from women than from men. Part of the reason is the skewed demographic distribution mentioned earlier, but another important factor is that women perceive that they would be the main beneficiaries of such an intervention. As an example, in the Nyamarimbira Integrated Water Use Project women contributed 70% of the labour required to construct the civil works.

Community Energy Project Nyamarimbira

This project took place with the Tangwena community in the Nyanga District of the Manciland Province of Zimbabwe. Most of this community (292 families) depend on agriculture for their survival but access to water is difficult, due to the terrain, leading to limited supplies for drinking and irrigation. During the dry season, and when rainfall is low, this leads to crop failure. Firewood and biomass meet the energy requirements.

In 1996, in collaboration with ITDG and German Agro-Action, the community developed a project that integrated infrastructure priorities to provide water, energy services and food security. It was set up as a community water supply project with the object of supplying essential drinking water and irrigation services. It used a gravity-fed system (conveying water almost 14 kilometres).

The community identified an opportunity to build a hydropower scheme on the back of the project.

The project is funded through grants and community equity. This equity is given in the form of labour and local material such as sand and stones. The project is managed by a community management committee who are responsible for the daily running of the scheme and for the collection of the water tariffs.

The water supply scheme has proved successful and built up local capacity in community management and operation. Work has just started on the hydropower plant which will create income-generating activities through using the power for grain milling, battery charging and welding.

It was observed that there was initially a marked difference in participation in project management meetings, with the men tending to dominate the proceedings. This is largely due to the customs and traditions in the particular community that have conditioned the women to be subservient and believe that a 'good woman' does not speak much in public. This situation cannot be changed overnight but with carefully planned facilitation and training it can be reversed. This was shown with this particular project, which now has a female chairperson, and there is also more active participation and contribution at public forums from women on issues relating to the project.

Other Technologies

Another problem, in Zimbabwe, in increasing women's access to energy services is that certain energy technologies have a low social status or stigma associated with them. Solar home systems have a high status for rural women and therefore are in high demand and, where installed, well looked after. Biogas, on the other hand, is viewed negatively because of the social stigma attached to collecting fresh animal waste. To successfully promote this technology it is necessary to identify areas where animal waste is already used as a fuel, and select influential, high status, women from within the country to advocate its use and thus influence the wider population.

ITDG also works in the SADC region as a whole, with a particular focus on Mozambique and Zambia. In Mozambique charcoal production is a major industry for rural men and women. Generally, the activities are undertaken jointly by men and women but with a clear division of labour. The more menial tasks are undertaken by men, and the gathering and stacking of kilns are carried out by the women. However some of the women felt that they could do the tasks 'reserved' for men in the production process but were not able to in the mixed groups. Due to this, a group of women in the Manica District formed an exclusively female charcoal production group.

'Scaling Up' and Dissemination of Best Practice through Networking

A recent initiative in Zimbabwe has been the setting up of a Gender and Energy Network (GENEZ). This network built upon a previous venture; a regional Africa workshop on women and energy in Kenya, for which a steering committee to co-ordinate its input was established in Zimbabwe. This committee, WISEZ (Women in Sustainable Energy in Zimbabwe), consisted of representatives from several Government and Non-Governmental organisations. The co-ordination process involved the participation of, and consultation with, a significant number of rural energy stakeholders. It included many end-users of energy services, which of course include women. This process highlighted the role that rural Zimbabwean women play in using, managing and collecting energy resources, balanced against the fact that the role of women is not mainstreamed in major energy programmes, strategic planning or energy policy decision making.

A recent initiative in Zimbabwe has been the setting up of a Gender and Energy Network (GENEZ)

GENEZ was set up to continue the work and ideas initiated within WISEZ, with the aim of helping to overcome barriers through a participatory mechanism to synthesise issues on gender and sustainable energy in Zimbabwe and disseminate them to a wider audience. The main activities of GENEZ include; (a) production of case studies on energy projects, programmes, policies and strategies; (b) analysis of these case studies in order to draw out lessons on the involvement of women in the decision making process; (c) construction of 'best practice' models that can be used by members for future energy initiatives; and (d) publication and dissemination of results to other African countries. ■

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He is currently working on two community micro-hydro schemes in Eastern Zimbabwe and Mozambique, energy generation from wood waste, the policy debate on deregulation in the Zimbabwean energy sector, and the setting up of a Gender and Energy Network in Zimbabwe. He is also a member of the Executive Committee of the Solar Energy Industries Association of Zimbabwe and of the Zimbabwe National Chamber of Commerce National Standing Committee on Energy.

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An Integrated Approach to the Implementation of Renewable Energy Technology in Remote Areas: Community-Based Development in Nepal

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M. Williamson
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This paper reviews two recent energy development projects in isolated areas of Nepal. Both projects sought to alleviate poverty and the paper suggests that the effectiveness of such projects could be maximised if they seek to integrate basic needs goals with productive goals. Evidence further suggests that the risks associated with remote development can be minimised by putting substantial effort into the development of institutions at local and regional levels.

Poverty is characterised by an inability to meet one's own basic needs. It is associated with a lack of access to basic services, and an absence of choice and opportunity. Similarly, energy poverty is the inability to meet one's own energy needs and is reflected by a lack of access to adequate, safe, environmentally benign, affordable and reliable sources of energy. Hence, the goal of energy development is to reduce energy poverty, and thereby enable individuals to further develop their human capabilities.

This paper seeks to draw lessons from the experience of two development projects in Nepal –the Community Based Economic Development Project (CBED), and the Community Based Integrated Energy Plan (CBIEP). Both projects were conducted in physically remote areas of the country where little cash income is present. The CBED project was conducted in the poorer of the two areas. Furthermore, although both projects were motivated by the goal of alleviating poverty, energy provision was only one aspect of CBED, while it was the main focus of CBIEP.

Community Based Economic Development Project (CBED)

The CBED operates in three districts in Nepal and seeks to promote economic development through the formation of community-based organisations (CBOs). Energy development has only been pursed in the District of Jumla, the country's 7th poorest district. The project has developed five 'run-of-river' micro-hydropower (MHP) systems, ranging in capacity between 8 and 13 kW. All capital costs were met by the project, and communities supplied construction labour. Completed systems were donated to a local CBO, which operates and maintains the infrastructure on behalf of all users. CBOs are registered with the government as non-profit organisations and are controlled by an elected executive bound by a constitution.

The CBED's original goal was to provide financially sustainable infrastructure. Financial sustainability is defined as being able to meet ongoing running costs *and* generate replacement costs over the plant's lifetime. After five years of operation, it is clear that this goal is unlikely to be met. Systems are able to earn 25-60% of the required running costs through lighting tariffs, but there has been little end-use diversification. Furthermore, disagreements have arisen between the users and management regarding the distribution of benefits. As a consequence, a study was conducted in 1999 to determine how the operation of community-owned plants could be improved.

As with many remote electricity systems, the poor financial performance was linked to a gross under-utilisation of plant capacity. Plants are only used to provide light during the morning and evening, even though there is additional demand for grinding and oil expelling facilities since the traditional water-powered grinders are often oversubscribed and oil-expelling facilities are only available in the District Bazaar. Data on willingness to pay and energy consumption patterns indicate that if these services were adopted then the systems would probably earn enough income to meet their running costs.

Why had such a solution had not been considered earlier? The CBED project feels it is beyond their mandate to support systems that are the property of community organisations. Communities, on the other hand, are unwilling to invest in machinery even through they believe it would bring benefits. The issue is deadlocked in a situation where the donor will not act without a community commitment, while the community, by waiting, is hoping to receive further subsidies.

It was also found that the operation of CBOs was hindered by a lack of human and institutional capacity. The MHP introduction amounted to a technical shock in a region that shares seven phones among 85,000 people. Communities need to learn how to manage new technology but a study has found that there was little technical knowledge on system operation and maintenance. High illiteracy rates have limited the effectiveness of training programmes and impeded management duties such as record keeping. Furthermore,

the study found there were widely differing views among community members regarding the role and responsibilities of the CBO executive. Thus, it was recommended that significant effort be put into building technical and managerial skills and establishing clear rules and regulations for the operation of micro-hydropower systems.

The study further recommended that a regional-level institution be established; firstly, to increase the accountability of the CBO executive and, secondly, to improve the cost effectiveness of technical training and the development of quality standards for operation. Further, a regional-level institution would be able to form linkages between the micro-hydropower sector, the local government, and other development sectors. For example, such an organisation could work with forestry programmes to develop a sustainable strategy for the processing of timber products. The presence of a strong regional-level institution would effectively reduce the risks associated with community-owned systems and would create the institutional environment for sustainable development.

Community Based Integrated Energy Planning Project (CBIEP)

The CBIEP was initiated in response to a formal request by two elected leaders to investigate the potential for the development of micro-hydropower systems. It was conducted, in 1998-99, by the Lamjung Electricity Development Company (LEDCO), a public company founded by residents of the District.

The project was based upon four principles. First, energy technology must improve the capability of individuals to provide for their own needs. Second, development must be economically and environmentally sustainable. Third, all recommended projects must reflect what the local community feels is positive and realistically attainable. Fourth, all project recommendations must be acceptable to both the local government and the local community. A challenge faced by the project was to ensure that these principles were adopted in such a way that the views of all the stakeholders were heard.

A preliminary visit to the project area established a relationship between the project team and the community, and a basis for future work. The project was formally initiated with two half-day workshops with local residents on energy use and energy options. Based on issues raised at the workshops, informal discussions were held with small groups of men and women. Only after this had been completed were specific social, physical and economic surveys conducted.

Communities indicated that they had four development priorities: (1) meeting cooking needs; (2) gaining access to lighting; (3) generating income; and (4) improving agricultural processing facilities. These priorities were analysed taking into account the finite energy resources and limited financial capital. The technical options for meeting electrical demand were found to be grid extension or the adoption of micro-hydropower technology. Similarly, the feasible options to meet thermal demand were found to be improved cookstoves or biogas systems. Although not an 'energy technology', community forestry was also considered as a way to increase wood supply.

During the fieldwork, communities were asked to form two Village Energy and Environment Committees (VEECs). Each VEEC comprised of one man and one woman from each of the nine elected wards. The VEEC was initially asked to represent the views of local residents in the planning process and, in turn, to communicate all significant information back to the communities. Once the project team had analysed all the survey data, the VEECs were asked to assess feasible options and to work with the project team to prepare an implementation plan. So that the VEECs could function effectively, all members attended training workshops in the fields of governance, management, basic accounting, and background to energy systems.

The implementation plan reflected how the community goals had changed significantly since LEDCO had first been approached. The plan recommended: (1) installing ten demonstration biogas systems; (2) setting up community forestry programmes; (3) implementing several micro hydro systems that were identified in the field survey (4) creating a committee to negotiate grid extension; (5) purchasing an electrical grinder and oil expeller; and (6) developing market linkages for the sale of non-timber forest products.

The project has created a mechanism through which energy development should proceed and the implementation of this plan is currently underway. The plan has addressed immediate cooking needs through the implementation of improved cooking stoves and community forestry programmes. These programmes are low cost and are likely to have high environmental and health benefits. Secondly, VEECs have been established to promote future energy development and, due to the project, are able to conduct grid extension discussions with the electricity authority. Thirdly, the project has encouraged income-generating activities, which could support future energy development efforts.

Lessons Learned

In remote communities in developing countries, energy technology is often implemented solely for poverty reduction. However, from a user's point of view, the use of modern energy requires monetary exchange. Thus, success depends upon the ability of users to pay for services, a requirement that is often in conflict with the very motive behind the development. Energy development from its outset must be planned with a strategy of how users will meet these costs. Furthermore, because users do not have capital to develop income-generating activities, planners should implement such activities in parallel. In this sense, energy development must be considered as part of an integrated economic development strategy.

Despite its focus upon economic development, it is our opinion that the CBED project failed to recognise the importance of income generation. As a result, the MHP systems in Jumla face financial difficulty and users risk losing access to energy services. Given the overwhelming poverty of the region, it is unfortunate that funds were spent on this type of project. In contrast, by adopting a more participatory approach to planning, the CBIEP project did inform users of the financial reality of energy development. Although the plan moved away from renewable energy systems, it is seen as generating positive development.

This paper argues that energy development must be integrated with local and regional institutional development. At a local level, institutions affect how infrastructure is managed and how benefits are derived. The poor performance of the CBED project is attributable to poor technical knowledge and limited institutional capacity within the management structure. In many cases, communities did not know how to maintain the infrastructure and systems failed prematurely. This, combined with accusations of corruption, effectively eroded support for the community infrastructure. It is hoped that the VEECs set up through the CBIEP will prove to be more effective. Through workshop participation, all community members share a similar understanding of what can be achieved by energy development, as well as the costs of maintaining the infrastructure. From the outset, a participatory decision-making structure has been established and we believe that this in itself has added value to the community through the formation of social and human capital.

Finally, if energy development is to have a wide-reaching impact, institutions must exist to co-ordinate regional energy activities. Such institutions should enforce codes of conduct upon local institutions, and should seek to promote the productive potential of energy technology. Without such support, communities often do not have the knowledge, or access to funds, to build upon the basic infrastructure. In the CBED project, it was found that oil expelling and grinding facilities would significantly reduce physical labour and improve the financial viability of the plants. However, without external support, communities did not have access to funds for such machinery. As a result, the micro-hydropower plants sit idle for 70% of the time. In the CBIEP project, LEDCO effectively served as a regional-level institution and, because of its local origins, was able to communicate directly with communities. Since LEDCO is a company, it could engage planners and manufacturers in the development process and was able to take a broader and longer-term perspective. It could then work with the community to establish linkages that ensured future developments would have their intended positive impact. ■

◆ Christopher McMenemy was a Ph.D. candidate in the Geography Department at the University of Cambridge, studying energy and community issues in Nepal and northern India, when he and three others were killed in a yachting accident off the Dutch coast in August 2000. This paper is based on the presentation that he gave at WREC.

◆ Michael Williamson is an Australian-based engineer with a strong interest in renewable energy and developing countries. Michael was born in Zambia and grew up in Ireland and Australia. A desire to work in developing countries led him to Nepal, where he worked for two years in isolated regions on a number of micro-hydro and renewable energy projects. Currently Michael is working with the Australian Greenhouse Office in Canberra helping to develop large-scale renewable energy projects to help meet Australia's greenhouse targets.

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The Second Regional Meeting of the Central American Network on Gender and Sustainable Energy – GENES

GENES was founded in 1998 at a workshop on energy use and gender held in Antigua, Guatemala. More than 50 organisations, including non-governmental and other constituencies, agreed upon the initial objectives of such a network. In order to follow up on the activities initiated in 1998, a second regional meeting was held in Antigua, Guatemala from August 8-10, 2000. Seventeen participants attended this meeting, of whom nine members, the national coordinators from Panama, Nicaragua, Honduras, Costa Rica, El Salvador, Guatemala, and now a participant from Mexico, plus the regional coordinators, constitute the "Junta Directiva".

The objectives of the meeting were:
- To discuss the potential goals and strategic actions for GENES within the framework of a regional study on the energy and gender situation in Central America,
- To identify projects and project priorities for capacity building in sustainable energy development and gender,
- To generate an Action Plan based on the priorities agreed upon by the assembly,
- To continue/improve the interactions/exchange of information between countries and organisations in Central America and with other similar networks.

The meeting began with a presentation on the 'state of the art' of GENES activities at the national level, by the country delegates and coordinators. The highlight of this session was the welcoming of a new GENES member from Mexico, and thus the expansion of GENES from a Central American network into a Mesoamerican one. This new definition raised the necessity of reconsidering strategic alliances with people, institutions and other networks, and thus the importance of clearly defining the GENES structure and membership.

The draft report of the regional study, conducted to substantiate the rationale for GENES objectives and activities, was presented by the regional GENES coordinator, also on the first day. The two main points of the study:
- the relationship between energy use and women's time, labour and energy,
- the relationship between energy use and economic development,

The study also introduced the concept of energy intensity and different energy options concluding that, in the long term, renewable energy sources offer a cleaner and decentralized source of energy for developing countries, even if their costs and technology may not be currently within reach. Four elements were agreed upon in the ensuing discussion, as keys to facilitating women's access to energy services: information, capacitation, credits and technical assistance. Since the meeting, the study has been elaborate to incorporate further input from the meeting discussion.

An important outcome of the second day of the meeting was the definition of a number of projects that will constitute GENES' Action Plan for the next 12 months. The projects will focus primarily on capacity building in the areas of gender and renewable energy.

By the end of the meeting it was clear that GENES is now embarking on a very important stage following its formation. GENES is undertaking the difficult challenge of integrating the themes of gender and renewable energy. However, in the longer term, the knowledge and experience gained in these two areas will give a unique identity to the network at the national, regional and global levels. The importance of the GENES mission is already reflected by the approval of one of GENES' proposals by ESMAP. This will enable the implementation of many of the projects recommended at the second regional meeting. ■

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Gender and Household Energy Technology in East Africa

Lydia Muchiri

Stephen Gitonga

Since the 1980s, the Energy Programme of Intermediate Technology Development Group (ITDG)-East Africa, has been working with women and men in communities to address energy related problems. Since 1986, the programme has concentrated on activities to increase the efficiency of technologies used for cooking. These activities have included designing, modifying and developing an improved wood burning stove for rural communities. This was followed in 1990 by widespread training and dissemination of the improved stove in the western part of Kenya. Currently, a commercial approach for marketing and distributing the improved stoves is being explored. From the very initial stages, the majority of the improved stove producers have been women.

Men are mainly involved in the marketing of the stove technologies. Organised into groups, and equipped with production, marketing and leadership skills, women in western Kenya have to date produced and marketed over thirty thousand improved stoves with an annual turnover estimated at over US$ 12,000. In 1994, activities to enable the sharing of these and other experiences within the East African region were initiated. At the same time, a tool to facilitate realistic problem analysis was developed, and has been widely used in the East African region to ensure participation of both women and men in energy related activities. This paper includes an overview of the impact of this approach on improving gender relationships among participating households.

Background and Introduction

The household energy sector in Kenya, just as in many African countries, relies on biomass, with fuelwood providing an estimated 80% of this energy. It is mainly burned in traditional open three-stone stoves of low efficiency. Poor rural and urban households spend at least two hours daily, and between 5% and 10% of their income, on securing fuel. Use of inefficient technologies to burn wood results in pollution in poorly ventilated kitchens and endangers the health of women and children exposed to toxic smoke when using inferior fuels such as dung, leaves and wet wood. It increasingly wastes human resources, and thus impedes development, since people are forced to search further and further afield for supplies.

Overview of the Problem

Women are the main collectors, producers, and users of energy in this sector and they bear a disproportionate burden of the environmental problems that arise from dwindling resources. Although biomass fuels used in cooking account for more than 80% of the total fuel use in many African countries, efforts to improve the technology for efficiency and health reasons account for less than 10% of government energy spending. Women are also active in the informal productive sector, where many of their activities such as food processing and beer brewing can have high energy demands. Through these tasks they have gained valuable knowledge on energy resource management.

Although cooking technology is very important, it is certainly not the only energy concern of women. There is recognition of the central role of women in household energy, and their different energy needs and contributions. There is however, only a limited participation by women in other areas including planning energy policies, projects on rural electrification, pricing, rural and urban transport, and energy provision for small-scale production.

Gender and Energy Problems

Although there are many energy sources available in Kenya, only a few of them are accessible to most women in Kenya. There are many reasons for this, some social-cultural, others economic and political. The majority of women in Kenya do not use non-human energy for productive activities. Men dominate in productive activities defined as income generating, commercial or entrepreneurial activities. A casual analysis of the situation gives the impression that women dominate the consumptive aspects of energy use. The problem may be partly attributed to inadequacies in:

Energy Policies

At the policy level, planned activities assume equal distribution of resources between men and women. Historically, based on social and cultural aspects, women were involved in using energy for consumptive activities such as cooking, heating the home, lighting, and other non-commercial aspects. Climbing the ladder has only gone as far as commercial cooking, for example in kiosks, the manufacturing of cooking stoves, baking on a very limited scale, but not much further. Men, on the other hand, have used energy resources for specialised commercial cooking, for example in hotels, brewing, *jaggery* making, and for process heat for the forging of metals, casting and moulding, and welding, and for the production of various products that require heating such as honey.

Technology

The technologies that have been developed for energy conversion are commercially oriented and have, by far, concentrated on male-dominated activities. It is not a deliberate action, rather demand driven. The women-dominated activities (or potential activities that women could participate in without a likelihood of male competition) have lagged behind in development. Energy end-use technologies for cottage industries such as baking, pot manufacturing, the beauty industry (including application technologies), oil

Fuel-efficient ceramic stoves in the "Upesi" project enable women from poor households to reduce problems that result from their dependence on biomass fuel (Drawing: Courtesy of Nigel Bruce –ITDG)

Potential Productive End-uses by Women of Various Energy Sources and Technologies

Energy Source/ Technology	Productive End-uses and Commercial Activities
Diesel	Running engines for milling, food processing, water pumping and irrigation, electricity generation, battery charging.
Kerosene and LPG	Manufacture of lighting and cooking devices, hair and beauty services, ironing boxes, welding torches
Grid Connection	A myriad of electricity-dependent services and products
Biomass	Food processing, sugar processing, kiln building, pottery products, manufacturing, baking, boiler services
Wind	Pumping water for sale, battery charging, irrigation
Hydro	Milling, food processing, turbine manufacturing, battery charging, lighting
Solar	Lighting, battery charging, water purification

manufacturing/pressing, food processing and fruit drying, are all in limited supply.

Accessibility

Accessibility can be seen in terms of affordability. The cost of commercial energy sources excludes the majority of Kenyan women so they have to use traditional fuels and technologies. Traditional fuels could be acceptable if there were appropriate technologies to enable income-generating energy use. However, very few of the available energy technologies could be used for productive activities. Ironically, many of the technologies that are accessible to women are for consumptive purposes.

Information

Information can assist innovation. Innovation being defined as the process of adapting technology to suit the needs of those who use it, sharing knowledge to sustain the innovation, reacting creatively to the situation and encouraging local solutions. Information is not a panacea for commercial productivity but it oils the engine of innovation and is, therefore, an important aspect in enhancing the use of energy for productive purposes by women. Women lack the resources to access information.

The Experience of ITDG-East Africa

ITDG's Stoves and Household Energy (SHE) Programme was started against the background outlined above. The aim of the programme is to enable significant numbers of poor households to reduce the problems they face as a result of their dependence on biomass fuel by increasing their access to appropriate energy-efficient technologies. The programme has two projects: the "Upesi" project, whose activities include the design, production and marketing of improved stoves; and the Household Energy Regional (HER) Project, whose mandate was to share ITDG's experiences in energy with development workers within East Africa. It is within this framework that ITDG has supported women's groups with the intent of giving them more power through stove production.

The Stoves and Household Energy Programme initiated the training of selected Women's groups on the production and marketing of a fuel-efficient ceramic stove. These activities were carried out in collaboration with other organisations and government departments; for example the Ministry of Agriculture was involved in the dissemination phase. Marketing campaigns and training were necessary to create product awareness and thus increase sales. The women producers have encountered various problems especially in transporting the stoves to market.

Project activities are intended to establish a commercial approach to rural stoves, and involve both women and men. The need for a more efficient method of firing the stoves arose, and this led to the design and testing of the "Better Bonfire Kiln". The women producers were fully involved in the testing phase, and are using the improved kiln today, not only for firing the stoves but also for other clay products such as pots. Besides producing the initial "Upesi" stove, the eight women's groups now produce variations to offer users more choice and enable them to reach a wider market. Apart from ceramic stoves, women members have been involved in the construction and promotion of mudstoves. To ensure full participation by men and women in the community, the programme has developed a very innovative method for identifying energy problems and formulating strategies to address them. The tool is known as the Participatory Exploration of Options for Local Energy (PEOPLE) approach.

The PEOPLE Approach

Most early programmes to assist women aimed at helping them to meet their practical needs, particularly in terms of their household chores. Often stoves were distributed at subsidised prices to women. Although women were involved in field-testing the stoves, they were not trained to make or repair them. Thus, there were no spin-off positive effects, other than the stove itself.

The approach used by the Energy Programme of ITDG is centred on involving both men and women from the community in identifying their needs, and then building, field-testing and marketing energy technologies. They are given technical training and managerial skills to enable them to run a stove business. Attention is paid to various use-related aspects of the stove such as speed and ease of cooking, safety, position, and compatibility with existing pots and pans. Other variables include an ability to regulate heat, ability to use different fuels during changing seasons, durability, capital costs, as well as energy efficiency. The project increases economic opportunities in the community, particularly those of women.

ITDG developed a participatory methodology so as to involve communities and avoid the earlier mistakes in project planning and implementation resulting from incorrect assumptions on what communities wanted and needed. The approach involves the communities identifying their own energy problems, formulating solutions, prioritising them, and then implementing activities that help to solve the problems. It was named PEOPLE (Participatory Exploration of Options for Local Energy) to emphasise the approach. Participation by the communities, in setting out stove and household energy priorities, and developing plans to address their own energy problems, is seen as critical to the effective implementation of activities and to the sustainability of projects. The approach therefore enhances the sustainability of activities that are initiated by partner agencies.

The package has proved to be very effective when used with communities initiating household energy activities for the first time. Experience with organisations and community groups has shown that both women and men are able to identify their energy problems and come up with possible solutions. They go on to conceptualise

improved stove designs based on sound technical principles. The adopted options are thus **their** options and the stove project is seen as **their** project, which helps ensure that the intended benefits are realised.

Sharing Experiences

The Household Energy Regional (HER) Project was initiated in 1994 to share IT-Kenya's experiences in energy work with other partners in Kenya and within the wider East African region. The project also incorporated energy experiences by other organisations in the region. The information shared ranges from choosing or designing an appropriate stove technology, developing design criteria based on identified needs of men and women in the community, and local resources. Also included are feasibility assessments of energy projects, dealing with trade-offs in benefits, differences between urban and rural needs, and available energy technology designs. Bringing women and men from the region together, through exchange visits, helps them to realise that the problems they experience are not unique, but common to many communities in Africa.

An energy network for the East African region has been established to facilitate further sharing of information after the project is concluded.

Achievements in Improving Gender Relationships

The project has involved both women and men. Data for the training courses up to 1998 indicate that 255 men and 352 women participated in the projects' training activities. Participatory approaches were introduced to over 100 people (44 men and 57 women). This has had a positive impact on the roles both men and women play in the provision of household energy. Men and women have been involved in improved stove dissemination. Women have been trained to produce and market stoves removing the myth regarding what is men's work and what is women's work. Earnings from stove sales can place women in the role of co-provider for the family. Men are mainly involved in the manufacture of the metal cladding and in marketing the products. Having realised that stoves can be profitable, some men now assist the women with clay and sand collection for stove production. Men also assist with stove transportation, using bicycles, and in kiln construction. During a field visit to one of the groups in western Kenya, one member had this to say; "Now that I am earning some income, living standards have improved in my home. Occasionally, after a good day's business, I buy my husband a shirt. This has won me his respect and improved our relationship". ■

Background Material

- **Internal ITDG reports, reviews, evaluations, and monitoring reports**
- **The Household Energy Training Manual by ITDG**
- **The People Approach Booklet**

◆ Lydia Muchiri has a B.Ed degree in Social Sciences. With six years of experience, she specialises in Capacity Building, Needs Assessment and Development. Currently she is working for ITDG-Kenya as a training officer on the Household Energy Regional Project and she is responsible for participatory curriculum development, coordination, implementation, monitoring and evaluation of all project training programmes within the East African Region.

◆ Stephen Gitonga is a natural resources planner with over ten years' experience in socio-economic surveys, and the planning, evaluation and management of environmental and energy development projects for NGOs, governments and private firms. His special expertise is in renewable energy project design, development and management. He is currently working as a programme manager for the Intermediate Technology Development Group (ITDG)-Kenya.

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Internet Resources

WWW

World Bank Group. Engendering Development - through Gender Equality in Rights, Resources, and Voice - Proposed Policy Research Report on Gender and Development. This paper can be viewed on the following website: **http://www.worldbank.org/gender/prr/prrnote.htm**

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The newsletter can be viewed at the following website:
http://www.worldbank.org/html/fpd/esmap/news_field.htm

Asia and Pacific Region Microcredit Summit Meeting of Councils
1-5 February, 2001, New Delhi. Organised by the All India Women's Conference (AIWC) in association with the Micro Credit Summit Campaign, Washington, USA
The theme for the Summit is 'Building self-sufficient institutions while maintaining a Commitment to Reaching the Poorest and the Poor'. In order to be considered for participation, a number of criteria have to met, which can be found on the website:
http://www.microcreditsummit.org/newdelhi/delhibrochure.htm

from page 5

I have trained refugees to solar cook both in Kakuma, Kenya and in Aisha, Ethiopia; and I have taught solar cooking in Epworth on the outskirts of Harare, Zimbabwe. However, this was the first time I had met solar cooks who, in spite of having the resources to purchases other forms of energy, had freely chosen to solar cook.
Kind regards,

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Resources: Focus on Training

'Resource Poor Women and Information about Energy'

'Discovering Technologists'

The Intermediate Technology Development Group (ITDG) has recently been piloting in five countries a participatory training manual designed for project staff, NGOs, field workers, community activists, and all those concerned with targeting development intervention capable of supporting very poor people. The manual, called 'Discovering Technologists', focuses on helping outsiders to build capacity within groups of resource-poor producers.

Trials with the current manual have revealed important applications in both practical and strategic ways. Training can help identify and explore the existing technologies used by poor domestic or small-scale commercial producers. It can encourage skill sharing between these producers and outsiders. Individuals capable of communicating innovation can be identified, and a wide debate and stronger social relationships encouraged. Perhaps most importantly, it can help prepare previously invisible and inarticulate people, especially women, to participate in the policy debate on the nature of their poverty. A debate in which, until now, they have largely been excluded!

Energy Applications

The current manual does not specifically address energy, but we have increasingly realised the importance of energy resources and the vulnerable nature of women's access to them. To understand the energy options open to poor producers, women's energy use has to be properly comprehended within the holistic context of their lives. Their existing knowledge has to be respected, communicated, and used as a basis for appropriately developing the energy sector.

Rural energy needs require integrated, holistic solutions. The photograph shows a biogas unit belonging to a farming family in Nakuru, Kenya. The family owns one cow that "provides" energy for two lamps and a stove! (Photo: Courtesy of Margaret Foster).

A new manual is therefore being developed which will use a sustainable livelihoods framework to establish an understanding of available capabilities and channels of communication on which to build a support network for poor women's energy needs. It will be piloted in Sudan, Nepal, and Senegal, and focus on the articulation of energy assets, potentials and vulnerabilities within complex subsistence livelihoods. Entitled, 'Resource Poor Women and Information about Energy', it will highlight key stages and players in the interactive transfer of energy information. The new manual will target women, since women's skills, organisation, and technical knowledge are vital to poor household survival.

Sustainable Rural Livelihoods

The sustainable livelihood framework is a useful analytical structure that can accommodate the complexity of poor people's lives, and the ways in which external interventions can support them. The framework is essentially a two-part feedback loop, conceptualising the strengths and weaknesses of the poor, and confronting these with the mechanisms used by outsiders to combat (or support!) poverty. The essential link between the two is that of 'influence and access'. The training manual seeks to provide support for this vital interactive channel for understanding, equity and communication.

Since a livelihood analysis is context specific and based on participatory information, it could work very effectively with our training manual. It is essential that such information is fed into a Stakeholder Analysis to increase the understanding of the social and economic dynamics. Such analysis can also reveal different realities, differential access to resources, and conflicts of interest. These can indicate areas of energy support of value to the poor, but unlikely to be contested by the rich.

One advantage of using the framework to analyse existing energy use, or to compare alternatives, is that it considers the existing resources and initiatives of the poor which currently sustain them. The framework also draws out the vulnerable context in which people live. External considerations such as shocks, trends, and crises, not only environmental but also social, political and economic, too often take us by surprise. Within the context of secondary stakeholders, the framework considers 'transforming processes', the effects of legal, cultural, and policy procedures which often have unseen negative impacts on the poorest producers; and 'structures', the agencies, such as the government and the private sector, which are capable of 'transforming' the livelihoods of poor people.

The new manual will be grounded more explicitly in an understanding of this context and will allow participants, through the use of case study exercises, role play, media exploration, games, activities and field visits to explore the importance of their existing technical knowledge and the centrality of energy resources to technical innovation. It should allow them to test ways in which secondary stakeholders could reasonably support them and how they can retain control in communications with decision-makers.

Future plans include the establishment of a Gender and Technology network for colleagues and partner organisations interested in applying the training principles. The international edition of 'Discovering Technologists' will not be available until mid-2001, but the Kenyan and Sri Lankan editions will soon be available. ■

◆ Maggie Foster is a Gender and Technology Specialist at ITDG, an international NGO founded in 1966 by the economist Fritz Schumacher, author of Small is Beautiful (1974). The organisation is now working from seven self-managed country offices, in Bangladesh, Sri Lanka and Nepal in Asia, Kenya, Sudan and Zimbabwe in Africa, and Peru in Latin America, in addition to its UK office in Rugby.

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The Bulletin Board

CONFERENCE INFORMATION

The Ninth Session of the Commission on Sustainable Development (CSD 9)
The Commission on Sustainable Development (CSD) was founded in 1993 to oversee the implementation of Agenda 21, a document which came out of the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro - the Earth Summit. CSD will have its 9th session tentatively from 16 to 27 April 2001. Items on the agenda are atmosphere, energy, information for decision-making and participation, international cooperation for an enabling environment, transport.
ENERGIA will participate in CSD-9 as a member of both the CSD NGO Women's Caucus and the NGO Energy Caucus. *ENERGIA* is planning a side event at the CSD 9th session and has also drafted an *ENERGIA* Support Group/CSD NGO Women's Caucus position paper on gender and energy. This will serve as input to the NGO Caucuses' reports to the Secretary-General's report, Dialogue Sessions, EU position, etc. The final paper is complete and is posted on the Women's Caucus archives and can be found under preparations for CSD-9 on the following site:
http://www.earthsummit2002.org/wcaucus/csd9/CSD-9.htm
The position paper will be reviewed at workshops on gender and energy at Village Power 2000, and on gender and wood energy in Bangkok in November-December. The position paper also provides input to papers that are being prepared by Hesphina Rukato and Ulrike Roehr for the International Expert Workshop on Gender Perspectives for the Earth Summit 2001.

International Expert Workshop on Gender Perspectives for the Earth Summit 2002
To be held from 10-12 January, 2001 in Berlin, Germany.
Sponsored by the German Federal Ministry for Environment, Nature Protection and Nuclear Safety and the Heinrich Boell Foundation.
The workshop will provide an overview, and develop recommendations on gender perspectives from developing and developed countries on these issues, which will be discussed at the UN Commission on Sustainable Development (CSD) 9th Session in April/May 2001. The website includes useful resources on the issues under discussion. Background papers have been commissioned in preparation for the workshop. Each of the issues is covered from a developing and a developed country perspective, and they are co-authored by experts from developed and developing countries. Although the workshop is by invitation only, the papers will be published on the website, hopefully in mid December 2000, and comments will be invited.
◆ For more information, visit the website at **http://www.earthsummit2002.org/workshop**
◆ For feedback, or if you would like references, documents, projects, links, etc. to be added, please contact: Minu Hemmati and Jasmin Enayati, UNED Forum at email: **jenayati@earthsummit2002.org**

Women in Energy
A conference, organised by the South African Department for Minerals and Energy, will be held from 11-13 December 2000, at ICC in Durban (South Africa) and is by invitation only. The Conference in particular will recognise and acknowledge that, in most developing countries, women are primary energy users, and that Ministers need to explore ways of using policy to empower and promote safer and healthier technologies for women.
◆ For more information, visit: **http://www.dme.gov.za** Or contact: **tyatya@mepta.pwv.gov.za**

Asia and Pacific Region Microcredit Summit Meeting of Councils
From 1-5 February, 2001 at New Delhi. Organised by the All India Women's Conference (AIWC) in association with the Micro Credit Summit Campaign, Washington, USA. The theme for the Summit is 'Building self-sufficient institutions while maintaining a Commitment to Reaching the Poorest of the Poor'. In order to be considered as a participant, a number of criteria have to met, these can be found on the website: **http://www.microcreditsummit.org/newdelhi/delhibrochure.htm**

PUBLICATIONS

The Role of Science and Technology in the Advancement of Women Worldwide.
NREP/TP-820-28944. Golden, CO: National Renewable Energy Laboratory. September. 51 pp.
By Irene D. Hays and Barbara C. Farhar. 2000
This study explores whether a convincing case can be made for considering science and technology as important and integral to the advancement of women worldwide. First, a literature review shows that these concerns date back over 50 years. Then, findings from interviews reveal surprising insights that help answer the questions of this study. Finally, the conclusions and recommendations reveal a vision for women worldwide and suggest future plans of action to help realise that vision. In order to view the document, go to: http://www.nrel.gov/docs/fy01osti/28944.pdf. To order contact: **U.S. Department of Commerce, National Technical Information Service , 5285 Port Royal Road, Springfield, VA 22161, USA**
Tel: +1.(0).800.553.6847,
Fax: +1 (0).703.605.6900,
Email: orders@ntis.fedworld.gov,
online ordering:
http://www.ntis.gov/ordering.htm
◆ For further information, please contact: **barbara_farhar@nrel.gov**

Integrating Household Energy into Rural Development Programmes
By Agnes Klingshirn
This article draws on over fifteen years of the author's personal experience, plus studies in the household energy sub-sector, to argue for the integration of biomass energy conservation into all rural development programmes, provided household energy conservation is a felt need as defined by the people themselves in the programme area.
◆ For more information, please contact Agnes Klingshirn at:
114025.621@compuserve.com

Household Energy Use, Health and Development
By Yasmin von Schirnding
Background paper (draft) prepared for the USAID / WHO Global Consultation on Indoor Air Pollution and Household Energy in Developing Countries, Washington, 3-4 April 2000
◆ For more information, please contact: **vonschirndingy@who.ch**

RESEARCH STUDIES

Biofuels, Pollution and Health Linkages: A Survey of Rural Tamil Nadu
By Jyoti Parikh and Vijay Laxmi.
◆ For more information and orders, please contact: **jp@igidr.ac.in**

VACANCY

Project Manager and Development Officer for Energy Alternatives Africa, Ltd. (EAA) in Nairobi Kenya
The position will ideally be filled by February 1, 2001
◆ For more information, please contact: **energyaf@iconnect.co.ke**

Next Issue

The next **ENERGIA News** (vol. 4.1), due to its importance, will be devoted to the "Ninth Session of the Commission on Sustainable Development – CSD 9", in New York, that will take place from 16 - 27 April 2001. Your contributions, articles and/or case studies (1500 – 2000) are most welcome. The special issue on Asia will be rescheduled for later in 2001.

ENERGIA News plans to post the *ENERGIA* directory of the names and contact addresses (postal address, telephone and fax numbers, email and web site addresses) of all subscribers on the *ENERGIA* web page. If for privacy reasons you do not want any part of your address posted, please write and let us know by March 2001. We kindly urge you to fill in the Data Sheet already sent to you, which will help us to update our records. When completed please send it to the **ENERGIA News** Secretariat.

ENERGIA is an international network on Women and Sustainable Energy, founded in 1995 by a group of women involved in gender and energy work in developing countries. *ENERGIA*'s objective is to "engender" energy and "empower" women, through the promotion of information exchange, training, research, advocacy and action aimed at strengthening the role of women in sustainable energy development. *ENERGIA*'s approach is to seek to identify needed activities and actions through its membership, and then to encourage, and if possible assist, members and their institutions to undertake decentralised initiatives. **ENERGIA News** is the principle vehicle for this approach.

ENERGIA News is produced jointly by Energy, Environment and Development (EED, Kurten, Germany), the Technology and Development Group (TDG, University of Twente, Enschede, the Netherlands), and ETC Energy (Leusden, the Netherlands) which houses the secretariat. The focus is on practice, with a conscious effort to *interpret* and *learn* from this practice.

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Themes for future ENERGIA News

CSD 9 Issue: Volume 4 > Issue 1 > March 2001 edition
Deadline for submissions: 5th January 2001

Supply-side Issue: Volume 4 > Issue 2 > June 2001 edition
Deadline for submissions: 19th March 2001

Health Issue: Volume 4 > Issue 3 > September 2001 edition
Deadline for submissions: 25th June 2001

Asia Issue: Volume 4 > Issue 4 > December 2001 edition
Deadline for submissions: 17th September 2001

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