



Contents

News from the Editors	1
News from the Secretariat	3
Meeting <i>ENERGIA</i> members	4
Information and Women in the Supply Side of the Energy Sector <i>Jensen Shuma and Gisela Ngoo</i>	5
Responses of Rural Households to the Decline of Woodfuel Collecting Areas: Case Study in an Expanding Sugarcane Area in the Masindi District of Uganda <i>Wim Klunne and Charles Mugisha</i>	7
A Tale of Two Women and their Charcoal Technology: A Case from Mali <i>Cheikh Sanogo and Margaret Skutsch</i>	9
Hydro Development: Impact on Indigenous Women's Lives <i>Carol Yong</i>	11
Involvement of Women in Joint Forest Management (JFM) in Andhra Pradesh State - Grass Roots Concerns <i>D. Suryakumari</i>	13
Bulletin Board	15
Internet resources	15
Next Issue	16



Women are becoming involved in commercially supplying biomass, breaking into traditional male preserves. These village women in Ghana are selling charcoal at an outdoor market. (Photo: Courtesy of Roger Taylor of DOE/NREL)

News from the Editors

This issue of *ENERGIA News* focuses on the Supply Side of the Energy Chain.

The supply chain encompasses a number of steps, from the exploitation of the resource, through conversion to more useful forms of energy, to the final delivery to the end user. Planning energy supply involves decisions about the form of energy (for example, gas) and the source of this energy (such as natural gas or biogas). These decisions affect the end user, not only in terms of availability and cost of energy as well as the sort of equipment the user has to buy.

On first reflection this is not an area we usually associate with an active involvement of women. However, women are considerably affected by the decisions taken on energy supply, either directly in terms of the fuels they can choose from, or indirectly if they have to bear the environmental consequences of energy

resource exploitation. If we examine the supply chain we see that the steps are the same irrespective of the resource, (e.g. coal, gas or wood), and the end-user (industries or households). On realising this, we see that perhaps our first assumption was wrong; indeed women are involved in the supply side of energy since they are primarily the collectors of biomass fuels for households. Readers of *ENERGIA News* are familiar with the challenges women face daily in supplying their households with energy; the long hours looking for household energy, and the physical toll on women's bodies from carrying fuel, as well as the dangers they face while out collecting. In this issue there are some interesting articles, which bring to light some new aspects of this familiar situation. Women are involved in more than collecting fuelwood. They are getting involved in formal management systems for sustainable forestry, and they are entering the commercial fields, such as the oil and gas sectors. The supply of energy does not only bring positive benefits. Women have to bear the burden of the negative impacts of developing energy

resources, such as the loss of traditional rights. What this issue highlights is the need for case studies and research. The findings challenge our conventional ideas about what women do, and help us realise that we need to tailor our support to them in a manner that matches reality and not our perceptions.

Involving Women in Managing Wood Energy Supply

Forests provide both traditional and commercial products, and are the sources of energy fuels on which women are highly dependent. However, forest stocks are facing serious depletion due to over exploitation and land clearance to increase farmland. As a consequence, numerous areas of the world have been suffering from fuelwood shortages and we are all familiar with the impacts that this has had on women's lives – the many hours they have to walk carrying heavy loads. Over the years, different strategies have been tried to preserve the forests, to ensure some level of sustainable production. Unfortunately, these have not been successful. One of the key factors identified in such unsuccessful conservation has been the lack of participation by stakeholders, particularly the local community, in determining policies and involvement in forest management.

During the 1990s there emerged interesting approaches for how to organise the management of forests involving the community. However, these were not always successful. Why not? Because only half of the community was involved: the male half. Experience has shown that you cannot have sustainable forest management without considering the needs of the women who are the main users of the forests. How do the men feel about this? Do they resist women's involvement? The article by Suryakumari, which describes a Joint Forest Management approach in India, in which women are involved in the management committees, has some surprising findings. The village men were supportive of women's involvement; it was men from the other stakeholders groups who were resistant.

Women as Commercial Charcoal Suppliers

Women are also becoming involved in commercially supplying biomass, breaking into traditional male preserves such as charcoal production. In Mali, 60% of charcoal producers are women. Such women have access to a lucrative business, which is important for supporting their families. The article by Sanogo and Skutsch describes a project in Mali that aims to provide the women with a more efficient technology, and so increase their incomes as well as reducing the environmental impacts of tree felling. This project seems to have all the right elements: low cost technology, orientated towards income generation, women are involved in the development of the technology, low cost loans – yet not all women charcoal makers participate. Sanogo and Skutsch give us some insights into the reasons why not. It is a good lesson in not treating women as a homogenous group – even poor rural women.

Women in the Oil and Gas Sector

Although women play an important role in the traditional energy sector, they continue to be under-represented in the conventional energy sectors of oil, gas, coal and electricity. The use of these energy sources considerably impacts on women's lives and it is important that women are represented in the decision-making processes. Trying to get more women into these sectors requires a change of attitude and cultural practices. Women professionals often feel isolated; **ENERGIA News 2.3** carried an article on a project in the Oil and Gas Sector in Pakistan, supported by the Canadian International Development Agency (CIDA), which aimed to overcome the challenges women face when entering new job areas. In this issue we read about how CIDA are supporting initiatives to tackle gender issues in the Central American Electricity Sector. The

experience gained indicates that gender equality policies require patience, persistence and interventions that are strategic, integrated and cumulative, in order to get the required results. Networking has proved important for the women in the sector, sharing information and experiences on a wide range of issues including dealing with job losses arising from sector reform.

Negative Supply Side Impacts on Women

Although women stand to benefit from the supply of energy, they can also be adversely affected by energy production. There are well-recorded health impacts such as those from nuclear power accidents, and there are negative social, cultural and economic impacts from the exploitation of natural resources to produce energy. Carol Yong graphically tells of the plight of indigenous women in Malaysia whose communities are relocated and their traditional ways destroyed so that the urban areas can benefit from electricity generated from large hydro schemes. While the women lose many benefits, there are gains, especially from having active roles in campaigning against the dams which has clearly led to the women's empowerment.

Information: A Strategic Weapon to Aid Women's Greater Participation in the Energy Supply Side

How can women play a greater role in determining choices about energy supply? Ngoo and Shuma in this issue show that information about energy resources and technology options is a key factor. However, the collection and delivery of the information needed for making choices about energy supply is challenging due to differing education levels, disorganised information, and deficiencies in energy policies. This requires a range of approaches to meet the information requirements of women with varying education levels and in a range of functions. Women professionals need information in alternative forms to women in the community who want to participate in decision-making on energy supply choices. The provision of such information can use very sophisticated technology, as we see in the article by Klunne and Mugishu where satellites can provide information about changes in wood supply, or it can be on the more traditional printed page. As an example, UNIFEM have made a start towards providing women with information about energy with their series of books (see the review in **ENERGIA News 3.3**). Women need to know where to go to acquire knowledge, resources, skills, as well as efficient technologies. The message is that information empowers women! ■



◆ Mr. E. N. Sawe has been the Executive Director of the Tanzania Traditional Energy Development and Environment Organisation (TaTEDO) since 1997. He has an MSc in Engineering and several specialised certificates and training diplomas in Renewable/Rural energy technologies, practices and policy-related issues. He has over 15 years of experience in this field. He can be contacted at:
TaTEDO, P.O. Box 32794, Dar es Salaam, Tanzania;
Tel: +255.(0)22.2700771/2700438, Fax: +255.(0)22.2774400,
Email: tatedo@raha.com or sawehot@hotmail.com,
Website: www.see-net.co.tz



◆ Joy Clancy's biodata has been published in **ENERGIA News 4.1**. For her contact details, please refer to page 16.



Sheila Oparaocha
ENERGIA Coordinator

ENERGIA's Activities in Africa

ENERGIA's current major focus is on networking and capacity-building on gender and energy at the *national* and *regional* levels. Africa has been a priority region for implementation of these initiatives.

In March 2000, after national consultations, an Africa regional workshop for NGOs, research institutions and governments was held in Nairobi, Kenya. It was organised by ENERGIA in collaboration with the Environmental Liaison Centre International (ELCI), UNIFEM and Winrock International with financial support from DGIS. The workshop concluded with the:

- identification of three sub-regional focal points: the Minerals and Energy Policy Centre (MEPC) for Southern Africa, Friends of the Environment (FOE) in Nigeria for Western Africa, ENDA Tiers-Monde as focal point for Francophone Africa. An Eastern African focal point is to be identified;
- nomination of ELCI as the co-ordinator of the regional network with a mandate for one year; and
- adoption of an Action Plan for women and sustainable energy in Africa.

It was agreed that ELCI, in conjunction with the sub-regional focal points, would develop the Terms of Reference and a fund raising proposal for the implementation of the regional network. The draft version of the proposal is finalised and is being circulated for comments. The sub-regional and national networks were encouraged to translate the Action Plan into project activities, with support from the Secretariat.

Based on criteria endorsed by the ENERGIA Support Group members in Africa, twelve proposals are being implemented with support to assist focal points with some of the start-up costs.

The activities at the national level are supporting development of:

- **Kenya:** proposal to implement interventions to increase women's participation in energy and energy technology use for commercial purposes.
- **Zimbabwe:** proposal to support the production of case studies demonstrating models of "good practice".
- **Swaziland:** workshop to discuss the involvement of women in the design and use of energy technology, and hence provide input into the ongoing energy policy formulation process. Teachers will

be a particular target group for participation.

- **South Africa:** developing strategies and action plans that will galvanise the incorporation of gender and energy issues in energy policy and planning in South Africa.
- **Nigeria:** plan of action for undertaking pilot projects in selected rural areas, for training in energy conversion technology and energy needs of post harvest machinery, and to advocate for gender to be included in the national energy policy.
- **Senegal:** to initiate networking activities amongst local networks around the theme of gender and energy.
- **Ghana:** proposal for a pilot project for promoting women as energy entrepreneurs.
- **Tanzania:** members' directory and profiles, conducting a Steering Committee Meeting and soliciting funds to further develop the network.
- **Lesotho:** workshop on the situation of women, energy and household management; and appropriate energy technologies for Lesotho; including health issues pertaining to the use of biomass and other available forms of energy.

and at the sub-regional level:

- **Southern Africa:** the preparation of three papers on gender and climate change, regional environmental change and its effects on wood fuel availability, and the gender differentiated impacts of rural electrification programmes. These papers are aimed at influencing the agenda of the World Summit on Sustainable Development in 2002.
- **Western Africa:** workshop designed to facilitate the development of action plans focusing on capacity building, community-based activities and information sharing on gender, energy and food security.

Building Women's Capacity in the Energy Sector in Africa

ENERGIA is supporting one of the priority needs identified in the Action Plan, a capacity building programme within the energy sector in Africa that will contribute to the development of a critical mass of leaders to change the policies, programmes and practices that affect women and energy. To facilitate this process, ENERGIA has investigated what gender training has already taken place in the energy sector, and which African institutions have carried out such training or have the capacity needed. Inputs

for this process were solicited from a Technical Advisory Group that consisted of people active in the African energy sector, representing NGOs, the private sector and government. Currently ENERGIA is collaborating with Winrock International in a programme financed by the US DOE that will work towards modifying existing gender training modules to reflect the specific challenges of institutionalising gender in energy and finance institutions.

Support to Advocacy Initiatives of the Gender and Energy Network in Africa

In response to the need identified at the regional workshop to mainstream gender in energy policy and plans, ENERGIA has broadened its activities to support advocacy initiatives at the national and regional levels, advocacy activities of network members at international energy meetings, and the development of concept papers on gender and energy in Africa. This has cumulated in activities such as:

- the participation of the WEDS Development Services, the focal point for the gender and energy network in Zimbabwe (GENEZ), in the Women in Energy Ministerial Meeting in December 2000.
- the preparation of a background paper by MEPC on gender and energy issues from a Southern perspective for use as input to International Expert Workshop on Gender Perspectives for the Earth Summit in January 2001.
- partnering with ENDA Tiers – Monde in mainstreaming gender into the energy negotiations at the ninth session of the Commission on Sustainable Development (CSD9) in April 2001.
- the participation of the ELCI in the multi-dialogue session at CSD9 and at CSD10 in May 2001.
- inputs by Dr Joy Clancy on behalf of ENERGIA members to the case study publication developed by the UNDP Energy and Atmosphere Programme: "Generating Opportunities: Case Studies on Energy and Women".

The Way Forward

These are clearly exciting times for gender and energy in Africa, with networking activities starting up to provide support and exchange ideas, and consultations being

Continued on page 4

Mary, you are the General Manager of the Petroleum Institute of East Africa. How did you achieve this when you hardly ever come across women in the petroleum sector in Africa?

After 16 years in the petroleum sector as a Senior Executive with Esso, I felt that I needed to expand my horizons and income potential by venturing out as an entrepreneur. The petroleum sector in Kenya was liberalised in October 1994 and the government actively encouraged indigenous people to move into this sector. As most petrol stations are located in the metropolitan areas, I saw a business opportunity for a local company, not tied to an international image and design standards, to come up with a low cost petroleum outlet for servicing rural and peri-urban areas. I set up an Oil marketing company named SAPET.

Having been a part of the Industry-Government pricing team, I saw a dire need for effective dialogue between Government and the Industry as a whole, instead of the discussions with individual companies, and the frequently confrontational Industry vs Government pricing sessions. I therefore got together a few oil professionals and we contacted the Chief Executive Officers in the Industry to find out their views on creating an Oil Industry organisation. I am happy to say their response was extremely positive and so the Petroleum Institute of East Africa came into being.

When my commercial venture collapsed due to inadequate capital financing, I applied for my current job in the organisation I had helped create and, thank goodness, I got it!

Most people would argue that gender issues have very little context in the petroleum sector. Would you agree?

Oh no, I do not agree at all. Petroleum is about energy and the impact of energy on gender is phenomenal. Kenya is a country where 80% of the population live in the rural area and where over 70% of the country's energy demand is met from fuelwood. This is not sustainable, particularly now, as a country, we have only 2% forest cover compared with 10% only a decade or so ago. Unfortunately, us women suffer the worst of this destruction. My view is that the petroleum sector can be an effective partner with Government and communities to provide sustainable alternatives. In particular, LPG can make a difference: in 1998 the per capita consumption in Kenya was 1.01 kg compared with the African average of 3.3 kg. Senegal had a very successful programme to promote the use of LPG and in 1998 had an enviable 12 kg per capita consumption. The benefits are obvious, as 1 kg LPG is

Meeting **ENERGIA** Members



Mary Kimotho M'Mukindia

General Manager Petroleum Institute of East Africa Kenya

Interview by Sheila Oparaocha

equivalent to 3 kg charcoal in energy utility. My ideal target for Kenya is to get us to 5 kg per capita per year.

As a senior manager of a regional institute how have you tried to address some of the issues you have mentioned?

We have lobbied since our formation, and submitted to the Government a well researched, detailed and quantitative paper on the benefits of a zero tax-rating on LPG, its associated appliances, and steel for cylinder manufacture. Regrettably, we have not yet had a favourable response. However, we have ensured public awareness and debate of this issue through the media, policy-analysis bodies, the public; as well as continual lobbying of our policy makers and opinion leaders.

From your experience, what constrains women most, as energy entrepreneurs in Kenya?

The issue on land is an extremely vexing one. Land in our continent is commercially important as security when acquiring a loan. The law on property as well as cultural practices do not favour women owning land. If you do not have land, you cannot access credit. If you cannot access credit you cannot.... well you know the rest!

Recently we both had the opportunity to attend the London Forum organised by the Global Women Petroleum and Energy Club. Do you

consider such networking initiatives important to the support of women in the sector?

Oh yes I do. Just look what that one occasion brought about, this interview!! I was particularly interested in what your organisation is doing in Africa and I think there is much we can do together. I also made useful contacts, both personally and for the Institute, with South African and Nigerian women, one of which may lead to a business opportunity. Additionally, it was fun to learn of similar situations to one's own, and realise you are not alone. Such exchanges help to reaffirm that you are not mad or wrong in the way you react or view things that happen to you in this male dominated energy sector.

Finally Mary, do you have any words of wisdom for young women trying to start careers in the petroleum sector?

I would encourage women to enter this male-dominated industry as many companies do have good gender policies. What you need to do is establish an identity as a competent ambitious worker and not be turned into this nice lady who serves the tea at meetings, or takes the minutes, or is constantly complimented on "how nice you look today!" This is the quickest male route I have seen to eliminating effective women competition. You will of course now be called aggressive but do not worry, who isn't!

Thank you, Mary, for taking the time to share your views with us. ■

◆ For more information, please contact:
Mary Kimotho M'Mukindia,
Petroleum Institute of East Africa (PIEA),
P. O. Box 16540, Nairobi, Kenya;
Tel: +254.(0)2.249081, 313046/7,
Fax: 254.(0)2.313048,
Email: gm@petroleum.co.ke,
Website: www.petroleum.co.ke

Continued from page 3

convened amongst energy policy makers and planners specifically focused on gender and energy issues in the region. As the experience increases there is a need to document success stories and to evaluate and build on the lessons learnt. This material could support a) advocacy work b) the development of women's capabilities and men's sensitivity amongst experts and organisations and c) the development of new approaches to integrating energy with other development sectors. ■



Jensen
Shuma

Information and Women in the Supply Side of the Energy Sector



Gisela
Ngoo

Energy supply involves all the processes of producing energy; from resource exploitation, processing resources into products, rationing fuel for domestic consumption, and eventually releasing the products onto the market.

There are various different activities involved in the supply side of energy such as the selection of raw materials, choosing technology, determining the form of energy products to be produced, finding the way energy will be distributed to the users, and packing or storage of some energy products. Women in the South, and Tanzania is no exception, play a limited role in the supply side of energy. Their role is limited to providing fuels for the household and they continue to use the traditional fuels because they have limited knowledge about alternatives and how to make a good choice between fuels. Women need to be more active in supply side issues, either working in the energy sector (giving voice to a women's perspective from within the system) or lobbying from without for sustainable energy policies which meet their needs. In order to do this successfully, women's capabilities such as education, skills and experiences, need to be sufficient to enable them to question and obtain better options when choosing energy services. This article, drawing on experiences in Tanzania, discusses the availability and form of information that women in developing countries need to play a more active role in energy supply.

Information for Women on Energy

Obviously, energy and information are key factors in economic and social development. Information is also a vital ingredient in the production of energy. This means that in the process of exploiting and processing the available energy resources, potential information from users and suppliers should be made available. Women, as the main suppliers of household energy, require information in all the activities they undertake. This information can be in the form of knowledge, skills, resources, prices of inputs and products, technologies etc., all of which can improve their productivity and sometimes generate income.

Although women have extensive indigenous knowledge about different types of biomass fuels, they have to find out about other types of fuels through other means outside of their community. Experience from different energy initiatives in Tanzania indicates that there is much information on energy sources and technologies in the various institutions within the country but this goes unshared with the majority of the population due to a lack of energy advisory services for households. Further, women have limited disposable time to search for energy information because of their social and household responsibilities. In addition, much of the available information is either in a foreign language or in a complicated format that is not familiar to most women. How could we change this situation?

First we need to recognise that women are not a homogenous group but differ in their education levels and their involvement with energy. This influences the type of information they need. Three categories can be identified:

- Rural poor women who cannot easily access information sources due to poverty, illiteracy, lack of resources, and unawareness of the available energy resources.
- Rural and urban women who are close to information sources but unaware or doubtful about the new energy options and technologies. These are semi-literate, medium income, people who could use information on energy services but do not know how to get it.
- Literate women who are better able to search for energy information and make decisions on whether to adopt or wait for further improvements. This group can be subdivided into professional women engaged directly in the energy sector, and those in other sectors of the economy.

Access to information about energy by women is vital if they are to make effective contributions to determining an energy supply which will meet their needs.

Information for Professional Women

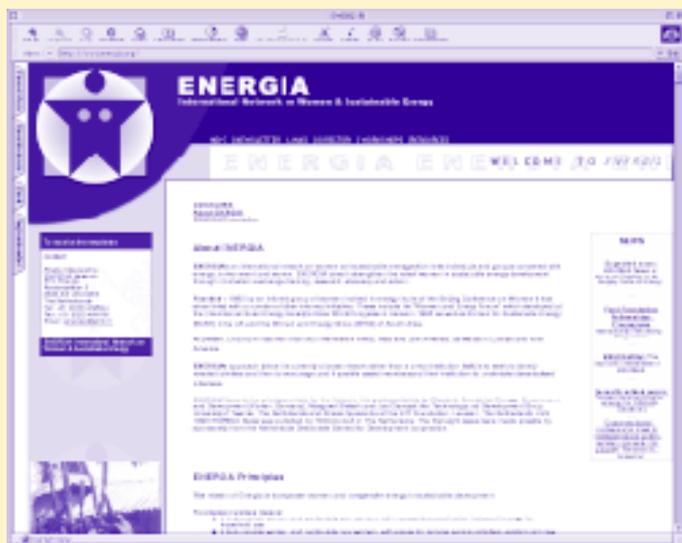
Professional women may be directly involved in the energy sector or more indirectly affected. A group of gender-sensitive energy professionals could devise formal information collection and delivery systems which would assist other professional women, and poor women in urban and rural areas. The information needed for energy professionals should focus on areas covered by women in energy production and treat them as major actors in the energy sector¹. The information could be aggregated, disaggregated, quantitative and/or qualitative.

Intensifying Information Exchange and Networking

Networking is the sharing of information, ideas, resources, and opportunities. Psychologists who have studied networking tell us that women are better at networking than men. Since they were girls, women have been taught to share, to meet other people's needs and thus they can network more effectively than men with other women. Nowadays, particularly with the support of computer communication applications and the women's organizations who support the goal of advancement, women can network more efficiently and look for advice, tips on energy innovations, improved energy technologies and create a system to support each other. The need is to facilitate the co-ordination of activities through information sharing, nationally and regionally.

1. UNIFEM have brought out a series of resource books on Energy for Women. See for example *ENERGIA News* issue 1 (eds.).

The World Wide Web (the Internet) can play an important role in networking. The Web enables the rapid distribution of information in a myriad of forms: as text, graphics, pictures, video and sounds. There are a growing number of websites related to women in energy such as *ENERGIA* (www.energia.org), Women's Council on Energy and Environment (www.wcee.org) and Women'sNet (www.womensnet.org.za). These websites coupled to electronic databases and documentation can be used as a way of delivering information to professional women. In turn, professional women can use this information to help women at the grassroots, and the whole energy sector, to develop.



There are a growing number of websites related to women in energy such as our own: www.energia.org. Professional women can use such information to help women at the grassroots, and the whole energy sector, to develop.

Information for the Rural and Urban Poor Women

Rural women are mostly disadvantaged as far as energy information is concerned. Appropriate mechanisms for the collection and delivery of information to them should be: straightforward, educative, interpreted, and attractive. Appropriate information delivery methods are:

- Awareness creation through posters, mass media, drama and meetings.
- Training of women's groups in energy services and improved technology production.

◆ Mama Gisela Ngoo has been working since October 1999 with TaTEDO as the Environment Energy Initiatives Coordinator. She normally coordinates all the activities related to improved charcoal production technologies, tree planting, nursery establishment and energy environment impact assessment. Gisela holds an MSc in Forestry (specialising in Entomology and Nature Conservation) and a BSc in Forestry, both from Sokoine University of Agriculture in Tanzania.

◆ Mr. Jensen Shuma is the E-Network Coordinator of the Tanzania Traditional Energy Development and Environment Organisation (TaTEDO) and has been working with the organisation since September 2000. Jensen is currently working on the Sustainable Energy and Environment Network of Tanzania (SEE-NET) as a Webmaster and Electronic Network Administrator responsible for

- Extension services to the community in order to formally make available information and knowledge on energy production and improved methods of energy production.

Adequate Knowledge Base for Women

Unfortunately, many women have received so little education that they have no way of knowing about energy alternatives, and so they cannot question their situation. They need to be made more aware of their energy situation, and to learn that their present fuels are not the sole option and to realise that they have the capacity to improve their choices. Unless there is investment in the training of women, they will be passive recipients of technologies. Education increases access to resources by improving income-earning capacity, giving an understanding of more of the available options, enabling participation in decision-making where there are opportunities for women to speak for themselves about what they need from energy services.

Policies Implications on Women and Energy Supply Information

Although many policy makers view energy policies as gender neutral, the fact is that men and women are affected differently by energy policies, whatever their social grouping and work roles. There is a need to pay careful attention to differing interests in the energy sector in order to understand the outcomes of increasing energy production. An efficient energy information system is one of the useful tools in policy planning and implementation.

Information collection about energy resources and needs as part of the planning process must involve the people who it is intended to serve. In rural areas, women in particular should be involved since they are responsible for household energy provision. Working with energy planners can also be part of the educational process for women in learning about energy options and helping to formulate their country's energy supply policies.

Conclusion

Access to information about energy by women is vital if they are to make effective contributions to determining an energy supply which will meet their needs. Despite the constraints hindering collection and delivery of information to women engaged in energy production, women do manage to make effective contributions. Although the Internet is a powerful tool for disseminating information we should not lose sight of the fact that many poor women are illiterate. We need to use a wide range of dissemination media to reach women in order to empower them. ■

introducing Information Technology techniques to four sub-sectoral networks: Tanzania Solar Energy Association (TASEA), National Gender and Sustainable Energy (NGSE), East African Energy Technology Development Network (EAETDN), National Appropriate Technology Information Services (NATIS); and recently also to the SADC Regional Centre of Excellence in Rural Energy Development (TaTEDO in Partnership with COSTECH and NSWTI). Jensen has an MSc. in Computer Studies and an MSc. in National Development and Project Planning.

◆ For further information, please contact the authors at:
TaTEDO, P.O. Box 32794, Dar es Salaam, Tanzania;
Tel: +255.(0)22.2700771/2700438
Fax: +255.(0)22.2774400, Email: tatedo@raha.com,
Website: www.see-net.co.tz



Wim Klunne

Responses of Rural Households to the Decline of Woodfuel Collecting Areas: Case Study in an Expanding Sugarcane Area in the Masindi District of Uganda¹



Charles Mugisha

Joyce Bategeka is a 56 years old inhabitant of the village of Kadukulu in the Nyabyeya parish in the Masindi district of Uganda. With her family of 11 members she lives off two acres of land. For firewood she depends on any dry wood she can collect from the pine plantations of the Nyabyeya Forestry College, four kilometres away from her homestead. The supply of firewood from this plantation is of limited quantity and Joyce complains that as a result of this her family often goes to bed in the evenings without a cup of tea.

Only five years ago, Joyce was able to farm on six acres of land and to collect firewood from around her homestead. The conversion of forested land into sugar cane growing areas has left her and a substantial number of other families without adequate farming land and a diminishing source of fuelwood. Joyce says "Our small forests will be over. Kinyara land is now taken over for sugar cane plantation and therefore no firewood. Forests around us are being cleared for food crop cultivation because our land was taken for sugar cane planting."

In Uganda over 87% of the population live in rural areas and rely on biomass for nearly all of their energy requirements.

The availability of biomass fuels largely depends on how land is being utilised. Expansion of commercial agriculture is one of the major factors affecting land use change that can have a large impact on the availability of locations from where local households can collect their woodfuel.

From 1972 to 1986, in the sub-counties of Budongo and Biiso (Masindi district), land abandoned by their owners and left fallow because of the civil war, was used by the local population as fuelwood collecting areas and for subsistence farming. With the return of peace to Uganda, a start was made to re-activate the local sugar estate and many former landlords made use of their legal right to reclaim their land. Most of them started as outgrowers for the sugar estate. The sugar estate facilitated farmers in this way within a 10 kilometre radius of the processing plant. Recently this radius has been extended to 15 kilometres, while a further increase up to 20 kilometres can be anticipated in the near future. This has resulted in a major shift in land use, from subsistence farming and woodfuel collecting into commercial farming. This article describes research carried out in these two sub-counties to investigate the responses of the local households to these land use changes and consequent change in fuelwood collecting areas. The main aim was to investigate and document what Joyce Bategeka and other inhabitants of the area have been experiencing over the last five years: an increased scarcity of wood due to the expanding sugar cane plantations at the cost of local subsistence farming land and woodfuel collecting areas; in order to support policy development that addresses the situation.

Expanding Sugarcane Areas Displace Woodland

Reconnaissance in the study area and interviews with key informants showed clear evidence that the expansion of the sugar cane growing area was realised at the cost of wooded areas and agricultural land. Households have to cope with the loss of fields for growing crops and declining wood resources. Previous research could not be identified that quantified such land use change and its impact on local households, neither for the Masindi district, nor for any other area in Uganda with similar conditions.

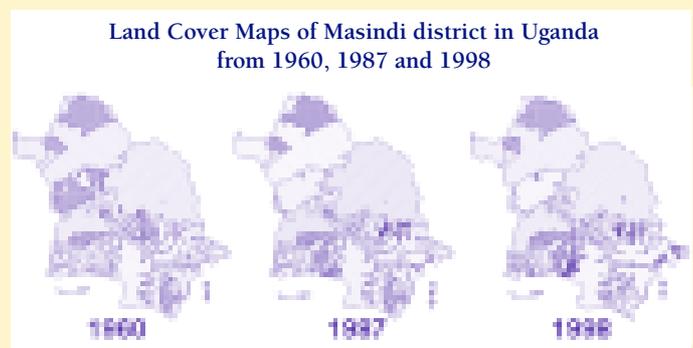
The study described in this article aims to give factual evidence on the large impact that the expansion of commercial farming has on local households and the options to meet their fuel needs. The study had two main components. On the one hand, a land use change analysis was carried out, and on the other a field survey with household interviews was undertaken to investigate the households' responses to the changing situation.

Land use change analysis

To quantify the change in land area used for sugar cane growing, land cover maps from 1960 and 1998 were compared. The 1960 map was reproduced from an existing topographic map of that year. The 1998 land use map was based on the available map of 1996, updated by using a handheld GPS receiver.

Both maps (of 1960 and 1998) were compared using GIS². The major conclusion from this comparison is that the amount of land lost from the categories of woodland and grassland nearly equals the increase in commercial and subsistence farming lands.

An intermediate map for 1987 was also produced based on answers received during the interviews. The purpose of this map was to visualise the process of expanding sugarcane-growing areas. The three maps together show that the major land use changes have taken place within the last decade.



1. This article is based on research by ITC MSc alumnus Charles Mugisha. The results of his research are described in: Mugisha, C.H. (1999). Impact of land use change on fuel wood collecting areas: application of remote sensing and GIS. A case study for Budongo and Biiso sub-counties Masindi district Uganda.

2. Geographic Information System

Responses of the local population

The area under study lies between the protected Budongo Forest Reserve and the sugar estate. Villages in this area can be grouped into three different regions:

- 1) the area next to the sugarcane fields
- 2) the area adjacent to the protected forest
- 3) the area between areas 1 and 2.

From each region, one village was selected in which household interviews were conducted to investigate the current and past situations regarding the source of biomass energy used. The villages of Kabango, Nyabyeya and Nyantonzi were selected as representing areas (1), (2), and (3) respectively.

These three villages were assumed to be representative of the area in which they are located. The households to be interviewed were selected through simple random sampling. A list of the taxpayers was used to get a first indication of the number of households in the villages. These lists were, however, not suitable for basing the household selection on, as they tend to ignore small female-headed households. Therefore, prior to selecting households to be interviewed, these lists were updated with the help of the village leaders.

A team comprising of the researcher and a female translator able to speak the local languages conducted the interviews. Table 1 gives an overview of the results of the household interview conducted in July 1998, describing the current and past situations in the surveyed villages.

Region	Village	Year	Natural Woodlands	Private Farms	Private Fallow Lands	Protected Riverine Forest	Sugarcane Cleared Area	Average Distance (in km)
1	Kabango	1998	12	46	19	19	12	1.5
		1960	46	31	23	0	-	1.0
2	Nyabyeya	1998	4	0	15	89	0	1.1
		1960	41	4	0	30	-	0.6
3	Nyantonzi	1998	48	48	0	44	0	1.9
		1960	56	36	16	4	-	1.6

Table 1: Percentage of respondents collecting woodfuel from specific land use types in 1960 and 1998. (Note that respondents may collect from more than one area.)

The village in the first region (Kabango) showed very clear evidence of wood scarcities. As shown in the table, women used to collect their fuelwood mainly from natural woodlands, which have now been converted into sugar cane growing areas. At the time of the survey, nearly 50% of the households in region 1 were buying charcoal from traders who used wood from land being cleared as preparation for sugarcane growing. This source is temporary and will cease to exist within a couple of years when all the potential sugar cane growing area has been cleared.

The charcoal traders sell the charcoal in large bags, creating new sources of income for the wealthier women who are able to buy these large bags and resell them in smaller quantities. A positive side effect, although small, of charcoal being bought from traders is that women and children spend less time collecting wood.

The village near to the protected forest (Nyabyeya) shows a change in fuelwood collecting areas from natural woodlands to protected forest resources. Analysis indicates that the original woodland fuelwood collecting area is now used for subsistence farming. As a result, local women were forced to collect their fuelwood from elsewhere, involving greater walking distances. The

only nearby source is the protected forest. Access to this resource is still permitted, but in light of the developments in other regions of Uganda, government policies might alter this situation.

The third village (Nyantonzi), in the intermediate area, also shows a greatly increased dependence on the protected forest reserve, but unexpectedly does not make use of the cleared sugarcane area. This is probably due to the high demand for wood from the cleared areas by villages closer to these areas, leaving nothing for Nyantonzi.

Protecting Forests; Ensuring Fuelwood Supplies

The data collected in this study show clear evidence of a rapid expansion of the sugarcane growing area. As a result, local households near the sugarcane estate have had to find new areas from which to collect their wood. Women in the households are worst affected. In 87% of the surveyed households, women are responsible for wood collection and they are the first who have to deal with the decline in available agricultural land.

Currently, local woodfuel demand can be met by using wood from land cleared in preparation for sugarcane growing. This supply is however not sustainable. In order to facilitate local wood energy planning, more research will be needed to quantify the demand for wood by the local people and the available biomass in the area.

The local population is increasingly aware of the worsening situation. Several families have started planting trees on their land, although, as one of the interviewed women explained "There will be

problems in the future as it takes so long for the trees to mature. The one I am using I heard was planted in 1970, and these trees that are now being planted may be of use only in the year 2030."

Possible interventions may be triggered by the increasing scarcity of woodfuels, and by the re-activation of improved stoves programmes in the area. The Nyabyeya Forestry College in Masindi could play a pivotal role in this by integrating the promotion and utilisation of their "pekope-stove" as part of their educational programme.

To solve future fuelwood problems and to conserve the protected Budongo forest it is recommended that fuelwood plantations be established as a buffer between the forest and the villages. Indigenous fast growing species that can be coppiced, as already planted by farmers around their homesteads, could be planted in participatory forest management projects using the degraded areas around the Budongo forest. As fuelwood provision in the study area is mainly the responsibility of women, they should be the main focus when considering such fuelwood plantations.

A rapidly accessible new source of woodfuel for local people could be the small patches of eucalyptus planted by Kinyara on their estate in areas not suitable for sugarcane. Originally these trees were planted to discourage illegal homes being built on the land. Using them as woodfuel would give them a more positive function.

Furthermore, government policies have to be formulated that compel companies involved in wood depletion to contribute directly to the replenishment of wood resources. ■

◆ Wim Klunne has extensive experience as a lecturer, researcher and consultant in the field of renewable energy and rural transformation. His main focus is on Sub-Saharan Africa. Before Wim Klunne joined the International Renewable Energy Unit of the Energy Research Centre of the Netherlands (ECN), he worked on rural energy and development at the Forestry division of ITC, Enschede, The Netherlands.

◆ Charles Mugisha holds a BSc. in Forestry (Hons) from Makerere University Kampala, and followed the Postgraduate Diploma Course in Forestry for Rural Development for 11 months at ITC in the Netherlands. He went back there in 1988 for another 11 months to complete an MSc in Forestry (Geo-information for Tree and Forest Resource Management). Currently he is employed by the Nyabeyya Forestry College in Masindi (Uganda) as a lecturer in Forestry

Surveys, Socio-economic Surveys, Forest Protection, and Introduction to Computing. Previous jobs include forest extension, softwood plantation management, extension co-ordinator and natural forest conservation officer.

◆ For more information on the article, please contact: Wim Klunne, P.O. Box 420, 7500 AK Enschede, The Netherlands; Tel: +31.(0)224.564905, Fax: +31.(0)224.563214, Email: wim_klunne@yahoo.com, Website: www.geocities.com/wim_klunne

or: Charles Mugisha, Nyabeyya Forestry College, P.O. Box Private Bag, Masindi, Uganda; Tel: +256.(0)465.20375, Fax: +256.(0)465.20370, Email at Nyabeyya Forestry College: admin.nfc@infocom.co.ug



Cheikh Sanogo

A Tale of Two Women and their Charcoal Technology: A case from Mali



Margaret Skutsch

Not long ago firewood was the most important energy source for urban households in Mali but recently this has given way to charcoal, despite the fact than cooking with charcoal is twice as expensive.

In Bamako, the capital city, the proportion of households using charcoal as their main source of energy for cooking has grown from 3% in 1978, 11% in 1989, 18% in 1995 to more than 60% now. Charcoal consumption is growing at about 20 % per year while the consumption of wood is falling by 10% per year. There are many reasons for this “charcoal transition”, it seems that women appreciate the qualities of charcoal. This is possibly related to (1) their desire for modernisation; (2) the changes of habitation (dense population in the cities means kitchen space may be reduced); (3) convenience and speed of cooking. Of course, as population grows, demand for charcoal also increases.

While charcoal is used by women for cooking in many countries in the region, charcoal making is generally thought to be a male-dominated profession in Africa. In Mali, however, women are involved in both production and consumption, thus both at the beginning and at the end of the long chain of the charcoal business. More than 60% of charcoal producers are woman in the production area that supplies Bamako, and the same tendency can be observed around other large cities (e.g.

Ségou, Mopti, Kayes, Sikasso, Koutiala). The growing demand for charcoal is actually providing rural women with increased opportunities for income generation. But, as in other countries in Africa, charcoal production using traditional methods is inefficient and wasteful of forest resources.

Under the *Stratégie* Energie Domestique, a project financed by the Netherlands, the ‘Cellule Combustibles Ligneux’ (within the Department of Forests, National Directorate on Conservation of Nature) is working with groups of women to try to introduce the Casamance kiln. This is an adaptation of the local traditional earth mound kiln using an external chimney made of steel drums, and which requires the stacking of the wood in a parabolic form in order to improve gas circulation (figure 1). The efficiency of this technology has been measured by the project as 29% in comparison with traditional methods that achieve between 11% and 15%. The cost of

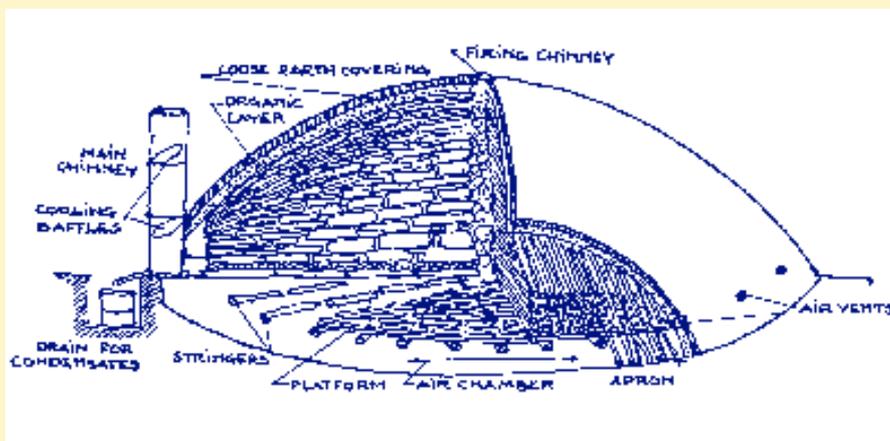


Figure 1: The Casamance kiln, an improved version of the earthen kiln using a chimney.

the hardware is about \$200 (the costs of the traditional kilns are virtually zero). The introduction of improved charcoal technology has however proved a headache in many places in Africa and, for reasons that are not always understood by those promoting it, it is not always readily accepted. Are women perhaps more amenable to technological innovation than men? Two interviews throw light on the realities of women's charcoal production in Mali.

Djénéba Diarra, a widow about 50 years old, has been producing charcoal for ten years (right in the photograph, with a friend who is helping her). She is President of the local women charcoal makers' group at Kassela village in the Faya forest area, about 50 km from Bamako. As a full time charcoal maker, she regularly makes use of the Casamance kiln and makes a good profit on her charcoal, much more than she used to earn using traditional methods. The group, which consists of 25 women, has ten Casamance chimneys that its members can use. For the privilege, they pay 20% of their profits into a common fund, which recoups the costs of the chimneys and pays the attendants who watch the kilns while they are burning. This is important because any small holes that appear on the earth surface have to be filled quickly otherwise the efficiency of the combustion drops. Djénéba Diarra usually uses the kiln four times per month, the whole cycle taking five days. She has to deduct the costs from her returns - chimney, attendants, and cost of the wood, which in this case includes a permit fee and wages for labourers to fetch the heavy logs and stack them expertly in the Casamance form. Her work, in fact, is management; she watches very carefully and gives instructions on the construction of the mound.

Nearby another woman, Minata Samaké, is also making charcoal (with a hoe in the photograph; she is also being assisted by a friend). She is using the traditional methods, as she has been doing for the last ten years. Her kiln is much smaller than Djénéba's and her turnover is very much less, as is the quality of the charcoal produced and thus also the selling price. We ask the obvious question: why does she not use the same new kiln technology as her neighbour? She could join the group and pay back the costs in easy instalments just as all the members do?

Her answer is interesting. Minata has young children, unlike Djénéba, and cannot afford to spend as much time producing charcoal – for her it is a spare time activity. Moreover, unlike Djénéba, she does not have the capital to pay strong young men to cut and stack the large branches that are needed to fuel the Casamance kiln. She cuts all her own wood to save money, collects it over a number of



Djénéba Diarra (right) sitting on a half constructed Casamance Kiln.
(Photo: Courtesy of Margaret Skutsch)

weeks, and then fires the kiln herself. If a few holes appear in the earth cover then there is a little loss of charcoal, but the effects are not significant so it does not need constant watching. She still earns some money for her family but with minimum labour input and with a flexible timetable, which suits her pattern of life.

Despite the apparently easy terms offered for paying for the chimneys through the project, and despite the fact that the project in this instance caters especially for women, it seems that not everyone is able to join and benefit. The presence of the technology may even be increasing the gap between the rich women and the poor women. This case demonstrates very clearly the dangers of conceiving of 'women' as a target group, as if they were all the same. The reality is that there is a great deal of differentiation between women. In all probability it is simply not possible to design a project, or a technology, which is suited to the needs of all women, and unrealistic to expect it. Those who have fought for more attention to the gender aspects of energy sometimes overlook this fact, but it is one that clearly needs to be discussed more often and in more depth.

It also suggests that the reasons for resistance to the new kiln technology may be based on opposition to the return to labour, and also that capital requirements may be more than just for the hardware itself. Our observations are anecdotal, but a more systematic study measuring the time and cash inputs needed with the Casamance kiln might reveal structural reasons for its lack of popularity. ■

◆ Cheick Ahmed Sanogo is *Chef de Cellule Energie Domestique* (Domestic Energy Unit), which deals with the demand side aspects of biomass energy in the *Strategie Energie Domestique* programme in Mali under the *Direction Nationale de l'Energie*. He can be contacted at: **DNHE, B.P. 66, Bamako, Mali;**
Email: sanosed@afribone.net.ml

◆ Margaret Skutsch's biodata has been published in **ENERGIA News 4.1**. For her contact details, please refer to page 16.



Minata Samaké raking charcoal from her traditional kiln
(Photo: Courtesy of Margaret Skutsch)

Hydro Development: Impact on Indigenous Women's Lives

Carol Yong

Hydropower dams as a source of renewable energy are particularly attractive to governments where demand for access to water and electricity is high.

Although many people are aware of the high environmental and financial costs associated with large dams, a less appreciated affect is the forced displacement and loss of livelihood/income sources of many indigenous peoples. *Dams and Development – The Report of the World Commission on Dams*, published in November 2000, reported that some 40 to 80 million people worldwide have been displaced by large dams, many of whom have not been resettled and who have received inadequate or no compensation. It was further estimated that, between 1986 and 1993, the construction of an average of 300 large dams started each year, displacing 4 million people annually.

Increasingly, indigenous peoples are losing their rights to ancestral lands; to corporations, government statutory bodies and individuals in the name of development. The affected communities' repeated appeals and objections to these huge projects often go unheeded. Not surprisingly, the direct benefits of hydro schemes, and other public utility projects, are generally reduced to monetary figures for economic analysis. In *Dams and Development*, the Commission notes that energy demand is often over-estimated by dam proponents and the adverse social impacts for dam-affected peoples, both upstream and downstream from a dam, are often ignored.

In this article, I would like to highlight several of these issues surrounding resettlement and large dam projects by looking at the impact of large dam projects on indigenous people in Sarawak, Malaysia. I do not deny that there are benefits, which this article will not elaborate on, but rather I will focus instead on the people, particularly the women, who are displaced from their homes and livelihoods and the consequent social impacts. First though I would like to look at how women are particularly affected by resettlement due to hydropower development.

Gender Issues in Resettlement and Hydro Development

How do dam projects and resettlement affect gender relationships and the power structure? The implications for women's positions are enormous because women's independent rights to use and control land, which are viewed as equal to men's under the customary land tenure system, have been ignored. The lack of recognition of indigenous women's pre-existing positions as landowners under customary law results in women having a much lower social position than men.

Before resettlement, women and men had their land as an economic base. After resettlement, however, land that would support subsistence livelihoods is replaced with dependency on the market economy to meet household needs. As a consequence of resettlement, women find that they cannot produce enough food for their families from their new plots of land, which are basically improvised backyard gardens.

Disruption of social life, trauma and health effects, resulting from displacement have serious impacts on women and poorer families. For example, loss of land means the loss of traditional knowledge and forest resource management capabilities, domains where women had a significant role. An illustrative case is the situation of women from the Orang Ulu indigenous communities in the Asap Resettlement Scheme in Tubau, Sarawak, displaced to make way for the now deferred Bakun Dam Hydroelectrical Project (BHEP) (See Box below). In the old settlements, women could easily access nearby gardens and fields by walking, or fields further away by driving their own boats. Now that the farms are much further away, the land transport to reach them is so expensive that the women have to remain behind while the men go to the farm. Thus, the women cannot carry on the rice planting traditions and rituals. Similarly, the Iban women in Sarawak lost their esteemed status as keepers of the *padi pun*, or sacred rice seedlings, with the appropriation of their lands, including paddies, for the construction of the Batang Ai dam in 1981. As in other indigenous societies, the worldview of the elderly is born out of their practical and spiritual relationship with the land, and their wisdom is seen through the knowledge associated with land. For example, they know the names of animals and plant species dwelling in the forest and the uses of the various plants for medicinal purposes and healing. Following resettlement, a lone woman embracing the indigenous religion, as a healer/ritual medium, will struggle to find the ritual paraphernalia needed from plants in the forest or elements in her natural environment to carry out her ceremonial observances.

Hydropower Development in Malaysia

Between September 1998 and April 1999, some 10,000 indigenous people from Sarawak, Malaysia were uprooted from their ancestral homes to make way for the 2,400 MW Bakun Dam. Touted as a 'catalyst to the country's industrialisation programme' the Bakun Dam was first proposed in the 1980s but has twice been shelved due to the economic recession. The dam would have inundated 69,640 hectares of land, an area larger than Singapore. Even though the dam has not yet been built the land has been cleared. The plan to build the dam was recently revived for the third time in order to "supply electricity to Sabah and Sarawak, and even Brunei, to help meet long term power needs." The cost is estimated to be around RM9 billion (US\$2.3 billion, exchange rate US\$1=RM3.8).

In Selangor, controversies are focusing on the resettlement of Orang Asli (First Peoples) from Pertak and Gerachi villages with the damming of the Selangor River. The irony is that the Temuan Orang Asli are riverine people but the new village is on top of a steep hill. The Detailed Environmental Impact Assessment (EIA) asserts that "building the dam is imperative to avert an impending water crisis." Further, some 700 Orang Asli are at risk from relocation with the proposed Pahang-Selangor Raw Water Transfer Scheme funded by the Japan Bank for International Cooperation. This scheme is expected to cost RM2 billion (US\$ 526,000) and is being built to prevent water shortages (as occurred in 1998) for the households and factories of Kuala Lumpur and its surrounding suburbs.

Women face greater responsibilities as de facto heads of households when economic insecurity leads many men and younger women to migrate to urban and industrial centres to look for waged

work. My data from the Tampasak resettlement village in Sabah revealed that nearly one-third (30%) of the households were female-headed, not just due to widowhood and desertion by spouses, but because of the husband's migration to look for waged work. Take the case of 30-year old Nora. When her husband works away from home as a driver, she works on the farm and looks after their four young children single-handedly. As a consequence of resettlement, families have been spread out in different houses or have moved away. Thus women cannot easily call on other family members to help with the domestic chores or economic activities outside the household.

Furthermore, in a situation where women and men need to look for waged work, it is easier, due to the prevailing cultural and social biases, for the men to migrate to cities or neighbouring countries such as Brunei and Singapore.

Women have less access to the benefits generated by dams, when the prevailing gender bias and gender-blindness recognise men as household heads through which access and opportunities for the family are channelled. This can at best widen gender disparities, and at worst, marginalise women to the extent that they are further impoverished.

Indigenous Women Oppose Dam Development in Malaysia

"We objected to the dam because we fear being resettled. It is much easier for men to look for alternative dwellings and jobs. But we women have our children to consider as well as our land and farms. If we lose our land, we lose everything!"

I heard the above statement from a 31-year old mother living in Tampasak resettlement village in Penampang. She explained why the women were determined to stop the construction of the Babagon Dam. Inevitably, women bear the brunt of any loss of traditional lands. Apart from rice planting to feed the family, access to land allows women to cultivate rubber trees and fruit crops to obtain income for their family and themselves. This opportunity was submerged by the Babagon Dam, as another woman from the village echoed: "Previously, when I worked hard at tapping the rubber trees in my forest land, I got between RM800-1000 (US\$200-250) a month. Now I have to ask my husband for money, even to buy a pair of shoes!" Therefore, large numbers of women from the villages affected by the Babagon Dam were strongly motivated to participate in the dam campaign, with strong public support. They carried out activities such as mobilising fellow villagers for signature collection, door-to-door campaigning, writing petitions, and meeting with the authorities and dam contractors.

The losses by women are increased by the compensation structure for dam-affected peoples, which itself is controversial, particularly when applied to customary tenure rights. As the Tampasak case illustrates, compensation entitlements for land are based on legal proof of land ownership and agricultural use of land while houses, graves, other cultural artefacts and crops are valued or assessed based on government inventories. "Compensation did not take into account non-quantifiable and non-monetary values on which livelihoods, identity and culture were based, and even if it did, how could this loss be quantified and compensated" is a familiar lament among displaced indigenous peoples. Thus individuals or families with land held under native titles are neither counted nor compensated, further aggravating their loss following resettlement. In cases where compensation packages were promised in an effort to resettle the affected people, time and again they end up being short changed. In some cases women suffer a double blow, not only are their traditional rights to land ownership not recognised but also the compensation ends up in the hands of a few individuals such as the male local leaders.



The author (second right) is seen here with three Orang Asli Temuan women from villages in Selangor, Malaysia where controversy has arisen due to plans to relocate villagers to make way for a scheme to dam the Selangor River. (Photo: Courtesy of Carol Yong)

After a six-year struggle (1989-1994), the affected villagers, and particularly the women, failed to stop the Sabah state government's plans to develop the Babagon Dam project, which was mooted in the early 1980s but for which construction work on the dam only started in 1992. The 30-odd affected families (about 200 Kadazandusun indigenous peoples) were moved between 1994 and 1995 to a new settlement site on the southern fringe of the old village. Despite the failure to stop the dam, the experience of the anti-dam campaign has encouraged the development of women as leaders and organisers in the Tampasak village. Even the attempts by the police to divide the villagers turned out to be a blessing in disguise, for it helped to strengthen the zeal of the women in protecting their rights to customary lands. As one woman confessed to me, "At first, I was really scared to face the Minister and District officer, and certainly the police. These male leaders and politicians, and even some of the male members of our communities, laughed at us women. Slowly, when I realised the significance of our role, I became braver."

Lessons for the Future

Hydropower dams as a source of renewable energy are particularly attractive to governments where demand for access to water and electricity is high. However, notwithstanding the benefits from better access to public transport, town hospitals and the possibility of using electrical household items, the resettlement that accompanies the building of dams is a disruptive and painful process. Crucial issues cannot be ignored: subversion of indigenous land rights and tenure, economic vulnerability, disintegration of social relationships and indigenous values and knowledge, changing gender relationships and mental well-being of the affected people. Women have been particularly affected, losing social status and economic security, and losing access to their cultural and religious identities. Thus, it is imperative that lessons be learned from past injustices committed on dam-affected people in order to immediately rectify the shortcomings and to seek reparation for them. ■



◆ Carol Yong is a feminist researcher and activist from Malaysia. She has been involved in the women's movement and indigenous organisations since the late-1980s and has carried out research on forestry, dams and resettlement and indigenous peoples.

◆ For further information, please contact:
Carol Yong at: sskero@hotmail.com

Involvement of Women in Joint Forest Management (JFM) in Andhra Pradesh State - Grass Roots Concerns

D. Suryakumari

Forests in India have suffered serious depletion due to relentless pressures arising from ever increasing demands for fuelwood, fodder and timber; the inadequacy of protection measures; the diversion of forest lands to non-forest uses; and the tendency to look upon forests as revenue earning resources.

This situation led to a review and the revision of the National Forest Policy in 1988. The principal aim of forest policy is – “To ensure environmental stability and maintenance of ecological balance including atmospheric equilibrium which are vital for sustenance of all life forms – human, animal and plant”. In a major change from the early days of forest management, the Ministry of Environment and Forests sent out a circular to all State Governments on 1st June 1990, supporting the involvement of village committees and NGOs in the regeneration, management and protection of degraded forests. This has paved the way for the State Governments concerned to formulate policies involving people in the management of forests.

Thus, Joint Forest Management (JFM) was initiated in the state of Andhra Pradesh, during 1993-94, in accordance with the National Forest Policy of 1988. The modalities of involving local communities are spelt out in detail in a Government Order which has been modified a few times to incorporate changes warranted by experience in implementation. The special features of this programme are (i) providing people with access to, and control over, resources and (ii) attempting to involve women to a large degree in resource management programmes. This article will examine to what extent this second objective has been achieved, and what needs to be done in order to ensure greater participation by women.

Community organisations, called VSSs, were formed at village level. All villagers became members and each household has to be represented by a man and a woman. The VSS members have to elect an “Executive Committee” (between 7 and 15 members) of which women’s representation should be not less than 30%. The executive/management committee members have to elect a chairperson to lead the committee. Thus, the policy is designed to involve women at both participation and decision-making levels.

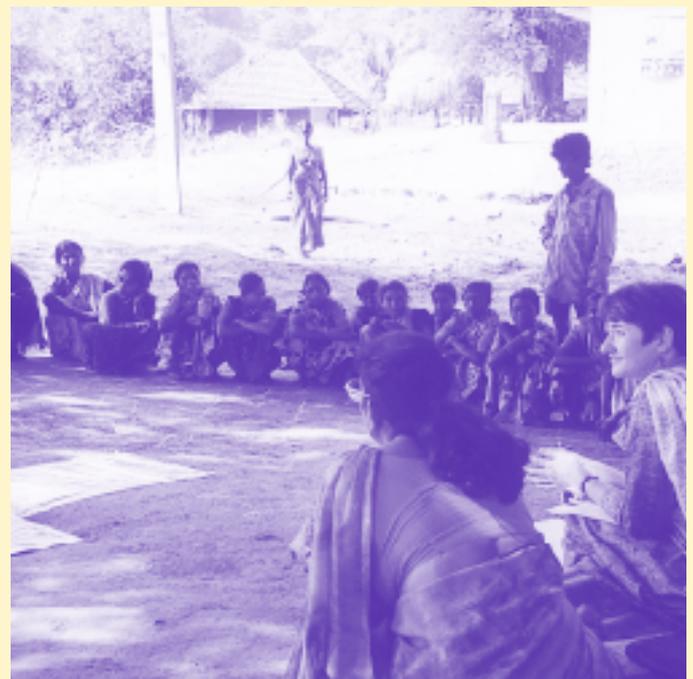
At the village level, a certain amount (from 25 to 300 hectares depending on the size of the village) of forestland is demarcated for the VSS and a memorandum of understanding between the VSS and the Forest Department (FD) is signed, laying down what can be done with the land. The VSS has to protect the area and in return is entitled to enjoy usufruct rights. Work connected to the plantation, thinning out, soil moisture conservation etc. that

needs to be carried out in that area will be carried out by the VSS members according to a plan of work. The FD provides the finance required.

Women’s Involvement in JFM in Reality

This article explores the extent to which women really participate, and what benefits they really receive, based on a qualitative study in three regions of the state in which there are 40 VSSs operating. The main findings were:

- The women are generally not well aware of the programme. They only know that there is some work in which they can participate as wage earners.
- There are always some women at the local range or division level meetings; but each time different women go, so there is little continuity.
- The number of women on the management committees is never greater than 30%, and often less (though the Government Order stipulates a minimum of 30%).
- Most of the management committee members do not know that they are on the committee; and the few who know are not sure of what they have to do.
- Not all women are informed about the meetings.
- Women are not paid equal wages with men, even when the nature of the work is the same. The decision on wage rates is entirely in the hands of the VSS.
- Participation by women in the work is the same as that by men in terms of the number of workers.



The author (front left) is seen here interviewing women members of the VSS in Andhra Pradesh in order to assess their experience with the JFM programme and discuss how to ensure their active involvement in the programme’s leadership (Photo: Courtesy of Margaret Skutsch).

It is interesting to consider why these discrepancies between men and women persist, and for this reason a study was made of the views of the male members of the VSSs. The following questions were asked:

- Whether they are willing to have 50% women members on the Committee?
- Whether they agree with women being paid equal wages to men?
- Whether they are willing for women to go for training etc. outside the village?
- Whether they are willing to accept suggestions made by women?

Interestingly, in almost all places, the answers to all the above questions were affirmative, although the following comments were made:

- Regarding women's equal participation in committees and accepting their suggestions in these committees: they had no objections (in fact, it was not clear why so few women were on these committees).
- Regarding wages: most of the time people working in agriculture have private landlords, and these refuse to pay equal wages to men and to women. Would the occasional equal payment for forest work really help? Also they think that the real heavy work, which only men can do, should be better paid. However other work that both men and women can do should be paid equally.
- Regarding sending women on training programmes: the views varied. There was concern about women travelling long distances alone, and about what would happen at home if they were absent for two or three days, especially as regards the care of young children and cooking. In some cases, even when their own VSS president went for such training, they feel hesitant for sociocultural reasons about sending women along with him.

In general, it seems that men at grassroots levels are not inherently averse to the idea of more involvement by women, but they see a lot of practical problems.

In contrast to the village men, the views of the men in other stakeholder groups were much more negative. Some Forest Department officials who work at village level, some NGO staff members, and the villagers who do not participate in forest work themselves (because of their better financial status), have a different opinion about the potential role of women in the JFM. This group generally belonged to the middle class or the landlord class, who always express difficulty about women's involvement in the programme. They express the view that forest management is men's work. This is despite the fact that it is well known that firewood is the responsibility of women, and that maintenance of the forest is necessary for a sustainable supply of firewood into the future.

What Can Be Done?

A lot needs to be done to address the problem of the lack of involvement of women in JFM. Though there are a considerable number of publications related to JFM; material addressing women's interests is very limited. Campaigns are all focused on forest protection, conservation etc., but not on women taking leadership roles. Given that the men in the villages are not really opposed, but simply worried about practical problems, the most immediate and appropriate actions would seem to be:

- Bringing large-scale awareness to women through organising regional workshops, campaigns, cultural programmes, and by disseminating information in the local language (Telugu). This could focus on the role of forest management in helping to solve women's energy problems.
- Ensuring that at least two women members attend training courses along with the VSS President (where it is a man).
- Taking adequate care in selecting women committee members; i.e. women who do not have infant children and who can spare some time.

- Creating exclusive recreational spaces for women at village level to bring them into the public domain for relaxation and informal exchanges among themselves.
- Addressing women's health concerns through the VSS, so that they feel involved in the VSS.
- Channelling other development schemes through the VSS, which would offer scope for the sustainability of the VSS as an institution, and scope for women to develop managerial skills.
- Organising region-specific training programmes of particular interest to women, based on sociocultural practices.

Once the above concerns are addressed, the process of mainstreaming women may be smoother. There are currently only a few articulate women, so it is hard for them to bring changes to a vast programme such as the JFM, which covers about 6,600 villages in the state. The more women that are trained and involved at grassroots level, with the backing of the village men, the more they may be able to counter the negative views of officials and other outside parties. ■

Acknowledgements

The author expresses her deep sense of gratitude to Sri M.V. Sastri of Centre for World Solidarity for suggestions, and to HIVOS for supporting the programme.

The encouragement and guidance of Dr. Margaret Skutsch in preparing this paper is fondly remembered.



◆ Dr. D. Suryakumari holds a PhD in Botany and has been associated with the Communities since 1991 through Farm Forestry and Women's Self-Help groups and Joint Forest Management (JFM) Programmes in Andhra Pradesh, India. She is presently with the Centre for World Solidarity as Joint Director JFM. The CWS JFM programme is a network programme involving 32 NGOs in 10 districts of AP, guiding around 600 VSSs.

◆ For further information on this article, please contact: **Dr. D. Suryakumari, Programme Coordinator – JFM, Centre for World Solidarity, 12-13-445, Street No.1, Taranaka, Secunderabad 500 017, A.P., India.**

PUBLICATIONS

Gender Issues in Wood Energy. A workshop organised by Gender and Development Studies for FAO, Regional Wood Energy Development Programme (RWEDP) and held at Asian Institute of Technology in Bangkok, 21-23 November, 2000

RWEDP has sponsored national gender and wood energy workshops in four countries (Laos, China, Cambodia, and Vietnam) as well as training workshops. The Gender and Wood Energy in Asia workshop was based on this and other work and looked at various alternatives to solve the cooking/wood energy problem, such as kerosene/gas subsidies, improved stoves, and other renewable energy/energy-saving solutions.

◆ For more information about the outcome of the workshop, please contact RWEDP at:

Regional Wood Energy Development Programme in Asia (GCP/RAS/154/NET)

FAO Regional Office for Asia and the Pacific, Maliwan Mansion, Phra Atit Road, Bangkok 10200, Thailand;

Tel: +66.(0).2.2802760, Fax: +66.(0).2.280 0760,

Email: rwedp@fao.org

The Bulletin Board

CONFERENCE INFORMATION

ISES 2001 Solar World Congress, 25 November to 2 December, 2001 in Adelaide, Australia

The Congress is organised jointly by the International Solar Energy Society (ISES) and the Australian and New Zealand Solar Energy Society (ANZSES). The overall theme of the Congress is "Bringing Solar Down to Earth".

ENERGIA members are planning to organise a special session on Gender and Sustainable Energy at the Congress.

◆ For further information about this special session, please contact:

Judy Johnson, Environment Australia, P.O. Box 787, Canberra, ACT 2600 Australia; Tel: +61.(0)2.6250 7525, Fax: +61.(0)2.6250 0387, Email: Judy.Johnson@ea.gov.au

◆ For further information about the ISES 2001 Solar World Congress, please contact: **ISES 2001 Solar World Congress, c/o Hartley Management Group Pty Ltd, P.O. Box 20, Kent Town 5071, South Australia; Tel: +61.(0)8.8363 4399, Fax: +61.(0)8.8363 4577, Email: ises2001@hartleymgt.com.au**

18th Congress of the World Energy Council (WEC), 21-25 October 2001 in Buenos Aires, Argentina

The Congress will be centred around the theme "Energy Markets: The Challenges of the New Millennium" and will be the first WEC Congress to be held in Latin America, a region with expanding and dynamic energy markets. It will include sessions on the following three topics: "World Energy Market Challenges", "Regional Energy Market Challenges", and "Are Market Mechanisms Efficient Enough for Energy Resource Allocation?" A round-table session will be devoted to environmental and sociocultural concerns.

◆ For more information, please contact: **18th WEC Congress 2001 – Event Organiser, Congresos Internacionales SA, Moreno 584 – Piso 9 – C1091AAL Buenos Aires, Argentina; Tel: +54.(0)11.4342 3216, Fax: +54.(0)11.4331 0223, Email: 18th-wec@congresosint.com.ar, Website: www.mbendi.co.za/wec/congress.htm**

Planning and Capacity Building Meeting for the Earth Summit 2002 and Beyond, 6-7 August 2001 in Wits, South Africa
The meeting is organised by the Southern African Gender and Energy Network (SAGEN) and will be held at the Minerals

and Energy Policy Centre (MEPC), the coordinator for SAGEN, and the national focal point for the South African network on Gender and Energy. The expected outputs of the planning meeting are:

1. a detailed workplan for the forthcoming Earth Summit 2002 and beyond.
2. a communication strategy for the network.
3. strategies for fundraising, and proposals for funding activities for the national and regional network.
4. an allocation of responsibilities for proposal writing and fundraising.

◆ For more information, please contact: **Tieho Theoha, Minerals and Energy Policy Centre, P.O. Box 395, Wits 2050 South Africa; Tel: +27.(0)11.403 8013, Fax: +27.(0)11.403 8023, Email: tieho@mepc.org.za**

World Renewable Energy Congress VII and Exhibition

Cologne Congress Centre, Cologne, Germany, 29 June - 5 July, 2002

Call for papers for the "Energy, Gender and Poverty Reduction" workshop.

◆ For more information, please contact: **Prof A Sayigh, Congress Chairman, 147 Hilmanton, Lower Earley, Reading RG6 4HN, UK; Tel: +44.(0)118.9611364, Fax: +44.(0)118.9611365, Email: asayigh@netcomuk.co.uk**

PUBLICATIONS

UNDP. Generating Opportunities: Case Studies on Energy and Women. April 2001.

This book of case studies was prepared as part of a UNDP project entitled "Energy and Women: Generating Opportunities for Development", which was initiated in

February 1999 with support from the Swedish International Development Cooperation Agency and the UNDP's Sustainable Energy Global Programme. The publication looks at critical policy and programme design options to improve women's access to modern energy services based on the lessons learned in the eight case studies presented.

The publication can be viewed electronically at:

www.undp.org/seed/eap/Publications/2001/2001a.html

◆ For more information, please contact: **Susan McDade, Energy and Atmosphere Programme, Bureau for Development Policy, UNDP, 304 E. 45th St., 9th floor (Room 9100), New York, NY 10017, USA, Tel: +1.(0)212.906 6085, Fax: +1.(0)212.906 5148, Email: susan.mcdade@undp.org**

RESEARCH

Latin American Search Conference on Women in Energy and Environment

Dr. Julie Rowney and Dr. Alan Calhoun of OLADE, the Latin American Energy Organisation are currently planning search conferences in 10 to 12 Latin American countries with the intention of documenting the issues facing women in the energy and the environment sector. They invite you to share information on research, either English or Spanish, which you may be aware of.

◆ For more information and to share your research, please contact:

Salimah Janmohamed, SH 457 OLADE Project Office, Faculty of Management, University of Calgary, 2500 University Drive NW, Calgary, AB T2N 1N4, Canada; Tel: +1.(0)403.220 8453, Email: sfjanmoh@ucalgary.ca

Internet Resources

GENES, the Mesoamerican Gender in Sustainable Energy Network is online.
GENES has launched its web pages. They are in Spanish and cover background information on the Network, its mission and vision, its goals, activities, a view of the future, and contact information.
Visit the website at:
www.geocities.com/red_genes/index.html

Centre for Renewable and Sustainable Technologies (CREST) has a comprehensive website on energy and other sustainable technologies. Links on this site lead you to electronic reports, journals, and other websites. Of special interest is the electronic slideshow 'Women and New and Renewable Sources of Energy', which contains 52 slides on the subject. Visit the website at:

www.solstice.crest.org
For the slideshow, go to:
www.solstice.crest.org/renewables/women-and-energy/index.html

Next Issue

The next **ENERGIA News** (vol. 4.3), due in September 2001, will be a special issue based on articles featured in the UNDP publication "Generating Opportunities: Case Studies on Energy and Women". The publication critically looks at policy and programme design options to improve women's access to modern energy services based on the lessons learned in the eight case studies presented.

Using material from **ENERGIA News**

Any information from **ENERGIA News** may be copied or reprinted, with the condition that it is properly credited and cited.

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.

Subscribing to **ENERGIA News** is free of charge but we do ask in exchange that our subscribers contribute to the newsletter by sending in their own articles, letters, publications, reports, notes, resources, announcements, photographs, news and events. To become a subscriber to **ENERGIA News** or with any query please contact:

◆ **Sheila Oparaocha**
ENERGIA Secretariat
c/o ETC Energy
P.O. Box 64
3830 AB Leusden
The Netherlands
Tel: +31.(0)33.4326044,
Fax: +31.(0)33.4940791,
Email: energia@etcnl.nl
Website at: www.energia.org

Themes for future **ENERGIA News**

Generating Opportunities: Case Studies on Energy and Women:
Volume 4 > Issue 3 > September 2001

Gender, Energy and Health:
Volume 4 > Issue 4 > December 2001
Deadline for submissions: 30th August 2001

Women and Sustainable Energy in Asia:
Volume 5 > Issue 1 > March 2002
Deadline for submissions 5th January 2002

Gender, Energy and Social Development:
Volume 5 > Issue 2 > June 2002
Deadline for submissions: 19th March 2002

Editorial Team



Elizabeth Cecelski
Energy, Environment and Development (EED)
c/o ETC Energy, P.O. Box 64
3830 AB Leusden, The Netherlands
Tel: +49.(0)2268.901200, Fax: +49.(0)2268.901230
Email: ecceleski@t-online.de

Joy Clancy
Technology and Development Group (TDG)
University of Twente
P.O. Box 217, 7500 AE Enschede, The Netherlands
Tel: +31.(0)53.4893537 / 3545, Fax: +31.(0)53.4893087
Email: J.S.Clancy@tdg.utwente.nl

Margaret Skutsch
Technology and Development Group (TDG)
University of Twente
P.O. Box 217, 7500 AE Enschede, The Netherlands
Tel: +31.(0)53.4893538, Fax: +31.(0)53.4893087
Email: M.M.Skutsch@tdg.utwente.nl

Sheila Oparaocha
c/o ETC Energy, P.O. Box 64
3830 AB Leusden, The Netherlands
Tel: +31.(0)33.4326044, Fax: +31.(0)33.4940791
Email: energia@etcnl.nl

ENERGIA News

Design
Kon. BDU Grafisch Bedrijf bv

English Editing by
Englishworks, Hengelo

Printed on environmentally
friendly paper by
Kon. BDU Grafisch Bedrijf bv

Sponsored
ENERGIA News is sponsored by the
Directorate General of International
Co-operation (DGIS) The Netherlands