"Promoting Gender Equality, Providing Energy Solutions, Preventing Climate Change"

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Seminar Report

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TABLE OF CONTENTS

1. FORWARD BY THE HONOURABLE LENA SOMMESTAD, MINISTER FOR THE ENVIRONMENT

To be written on December 18, 2003 by JB

2. SYNTHESIS OF SEMINAR PRESENTATIONS

2.1. Key Challenges in the Engendering Energy Policy

The gender impacts of energy poverty
Energy poverty has a disproportionate effect on women and girls, especially in rural areas. As fuelwood becomes scarce due to over-harvesting, land clearing for farming or environmental degradation, many women are forced to travel longer distances and spend more time fetching fuelwood. Besides lost opportunities and physical exhaustion, women are faced with a variety of health hazards from carrying heavy loads to inhaling smoke.

Without access to modern forms of energy for domestic services, women spend much of their time and physical energy gathering basic energy indispensable to family survival. 70% of the 1.3 billion people in developing countries living below the poverty line are women. Of the 2 billion people without access to modern energy services, most live in rural areas, where women head most of the poor households. Without access to modern forms of energy for domestic services, women spend much of their time and physical energy gathering basic energy indispensable to family survival. Similarly, if women are stressed at home with physical labour they will be compelled to keep their daughters at home to assist with the physical demands of daily household chores. As a result, the value of girl-child education will be diminished within society.

The lack of markets for women
The development of viable markets for the goods produced by poor people in developing countries is a major constraint that is holding back both men and women. If markets can in fact be developed, then it becomes possible for individuals to increase production, earn sustainable incomes and send their children to school. But there is the contradiction that as production increases so does fuel consumption. It should also be noted that in most cases the problem is not that women are not producing, but rather the fact that they regularly experience problems related to transport and infrastructure, not to mention their lack of marketing skills and storage systems.

Lack of consideration for the realities that women face
The users of energy services must be made aware of the operation and maintenance costs before decisions are made to integrate such services into the local community. For example, in the case of shea butter production in certain communities, women were given equipment that was diesel fuelled, however there is such a low price for shea butter that they could not actually pay for the costs of the diesel fuel.

The gender divide in water collection
In many local communities, men do indeed collect firewood. However, they are equipped with donkey carts, whereas women are left head carrying. Where men and women both collect firewood in the local community, there is often competition between the sexes as to who can collect more. Men can easily fill up their donkey carts where women are physically unable to collect as much because of the head-carrying mode of firewood transport that they are burdened with.

Limited participation of women in decision-making bodies
A May 2003 UNIFEM report examined decision-making bodies around the world and concluded that the majority of decision-making bodies were comprised of less than 30% women. Governments that had reached or surpassed that 30% threshold included Germany, Sweden, Denmark, Norway, and some developing countries such as South Africa, Costa Rica, Argentina and Mozambique. This lack of progress is particularly worrisome in light of the fact that the call for gender balance in decision-making was made as long ago as 1985 in the Nairobi Forward looking Strategy for the Advancement of Women, which called for the integration of women in environmental decision-making.

Lack of implementation of gender decisions
There is no shortage of political decisions that highlight the importance of integrating gender concerns in energy and climate policy, the main problem is that there has been insufficient follow-up within the key institutions. In this light a key challenge is to identify the key intergovernmental processes within which the gender and energy agenda can be more effectively promoted.

Improving the substance of climate change policy
Gender issues are not on the political agenda of the UNFCCC COP, despite the growing awareness of the particular adaptation burden that women may well have to shoulder in the face of increased climate change. Adaptation and vulnerability issues will become increasingly important on the agenda of the COP and particular focus must be directed towards the specific impacts that women might face as a result of increased climate change. Moreover, the participation of women in CDM projects has not been a high priority. The NGO community at recent COPs has been unusually silent on gender concerns and have not raised the fact that gender concerns have been completely disregarded on the political agenda. The WWF "Gold Standard" is a useful tool that could be used to promote gender concerns in CDM projects. The gold standard provides certification for projects that have been developed in accordance with environmental and social sustainability criteria and standards.

The problem of energy governance
The problem is beyond women's access to energy services, it is about energy governance and it is about public expenditures that are imperative in any poverty reduction strategy.

2.2. Learning from the Approaches that Work

The bottom-up factor
One of the most important insights generated from working at the local community is that policy solutions will never work effectively if they are developed in a top-down manner without consideration for the realities on the ground, nor the involvement of local actors. It is important to give local communities greater latitude in the definition and management of

their own problems.

Transitioning from project to programme
Most energy-focused activities tend to be project-based. It is critical that a more sustained approach is undertaken in the longer term, with a particular focus on how to evolve project-based activities into long term programmes.

Developing integrated energy solutions
Solutions must be developed in an integrated manner that considers the economic, social and environmental dimensions of community-based problems. Integration is essential to the achievement of success on the longer term. One-dimensional energy solutions are not sufficient as such. Instead a whole menu of options must be explored, with particular regard for the engagement of the local community in the design of energy solutions.

Focus on demand
Emphasis in energy solutions must be placed on demand rather than supply. Solutions must respond to the actual needs of the users. For example, in some cases, the distribution of cook stoves may not necessarily be the appropriate response to a particular energy problem in a local community. In this regard, consultation with women must be an integral part of the development of energy solutions to ensure that the solutions not only meet their specific energy needs, but that the users have the means to continue to pay for the services.

Support entrepreneurship
Recently, increased attention has been directed to energy for entrepreneurship in micro-enterprise and small-scale food processing plants. Credit schemes have been established to assist rural women in the acquisition of new technologies for processing agricultural outputs for household consumption and marketing. It is important to note that extending access to credit to women should be done in an integrated manner if it is to yield sufficiently sustainable benefits and allow households to move out of poverty. The development of women energy entrepreneurs in Africa has been promising, however it requires more support in terms of start-up capital and enhanced marketing skills training. However, enabling poor women to become entrepreneurs is not

enough. Their new roles must be sustained with the necessary resources and capacity building and training, in such areas as marketing.

Calculate costs carefully
Most energy-efficient alternatives have higher up-front costs and better returns on the longer term. But women can rarely afford the initial investment in new equipment, not to mention the recurring maintenance costs. The only incentive for their participation in such investment would be the use of the technology to generate income rather than to provide for their families consumption. However, women can only spend time generating income when their daily drudgery is reduced.

2.3. Strategies for Moving Forward

The Necessary Paradigm Shifts
Externally-driven project based energy initiatives have had a tremendous advocacy impact. They show what is possible to achieve and point to the need for a paradigm shift on at least two fronts. First, the energy sector must be recognised as the driving force for public and private investments in rural development. Second, the vast market for low-cost energy services among the poor should be considered a worthwhile investment in an untapped potential market where women are the primary consumers.

There are a number of other shifts that will be needed in the development paradigm if the Millennium Development Goals are to be fully realised. These include recognising: (i) the importance of valuing women's unpaid work; (ii) the critical links between gender and energy; (iii) the importance of the role of the state in the energy and water sectors and in the development of public-private partnerships to ensure energy services for poverty reduction and sustainable economic development; (iv) the important role that energy plays for liberating the women's labour force; (v) the need to push the boundaries so that gender and energy equality becomes a core organising principle and not one that simply has to be mainstreamed.

Improving the participation of women
As regards the participation of women in decision-making bodies, the quota system has worked well at the local level in developing countries.

Countries like India have experienced considerable success in this regard. There is interesting experience at the local level, which should be considered by national governments in their efforts to improve the gender balance in decision-making bodies. The ENERGIA network has requested the support of the Swedish Government for a full-day event on gender and energy at the next COP. The Network of Women Ministers can play an important role in the promotion of gender equality in the UNFCCC COP process and in other intergovernmental forums as well. It should consider playing a role in hosting a full-day side event on gender and energy at the next COP.

Empowering women to make their own technology choices

As regards technologies it is important to consider that technologies must always be adapted to the local reality. In most cases, rural women will indeed make choices and if it the technology they are provided with does not work, it is important to consider that they will not continue to use it. Lessons must be drawn from the success of the multi-dimensional platform, which is an example of a technology that has not been forced on local communities. Indeed, villagers are always provided an opportunity to indicate whether or not they want to have it installed in their communities.

Providing the necessary training for women

Another important point regarding adapting technologies to the needs of women is that women must be properly trained in the use and maintenance of the technologies that are provided to them. For example, when water pumps break down they are often thrown away because the women who operate them do not have the necessary skills to repair them. A related point pertains to the need for continued training for local communities in the management of these projects in light of the limitations that often undermine their success. It is important to explore how private ownership can be generated in order to enhance the positive impacts of energy projects. As well, it is always important to consider the overall costs that will be involved in the design and operation of energy solutions for women. These energy projects must be affordable otherwise women will not continue to use them.

Opening up markets

As regards the creation of new markets, it is important to assist in the creation of markets and indeed to strive to open up international markets

for the goods that are produced by women in the local communities, such as shea butter and chocolate. A related point to the creation of new markets, is to consider the need for training to empower women with effective marketing strategies so that they can more effectively promote their goods in local and international markets.

Engaging men

It is critical to consider how best to engage men in assisting women in the physical labour of their daily chores. For example, in Senegal water collection was traditionally the sole domain of women, but once water pumps were installed, men became involved in the task, that had always been socially reserved for women.

Defining Poverty Differently

Poverty should not just be defined by income. Poverty is also about energy poverty, water scarcity, food security, health linked to poor sources of energy, lack of infrastructure. Many factors which underlie the exacerbation of poverty relate to globalisation, structural adjustment policies and marginalisation that excludes people from social safety nets.

Focusing on Gender and Energy Differently

It is important to demystify some of the key myths around the gender and energy challenge. For example, solving the cooking problem alone will not solve the gender and energy problem. Focus must be directed towards going beyond the obvious ways of dealing with the gender and energy challenge. For example, core energy services should be linked to improving the productive activities of women as well as their own income generation activities. Women do not necessarily want electricity for the sake of electricity, but rather, they want the services that are made possible because of greater access to energy.

Articulating new energy targets for the MDGs

The international community must focus on the development of concrete goals for increasing the access of women of clean energy. And to this end, it is critical that the Millennium Development Goals are elaborated with a gender perspective.

Enforcing the Marrakech decision

One of the most recent international instruments calling for improved gender balance in decision-making is the Marrakech Decision that was

adopted at the UNFCCC COP7 in 2001. Decision FCCC/CP/2001/13/add.4 invites parties to give consideration to the active nomination of women to any body established under the UNFCCC or the Kyoto Protocol. That decision further requests the UNFCCC Secretariat to maintain information on the gender composition of each of the subsidiary bodies and to bring this information to the attention of the parties.

Empowering women as energy entrepreneurs

Energy policy must devote more attention to how best to improve energy services for women and to consider the difficulties and challenges in the introduction of new technologies to redress the lack of energy services. Ideally technology innovation must grow from below to ensure that they are responsive to the actual needs of women. As well, energy policy must consider how best to support women in their transition from energy users to energy entrepreneurs.

Targeting the Bonn Renewables Conference

The Bonn 2004 International Conference for Renewable Energies is one of the most important outcomes of the World Summit for Sustainable Development (WSSD). Organised under the auspices of the Johannesburg Renewable Energy Coalition (a coalition of like-minded governments) it has the potential to elevate the gender and energy agenda. With its main objective as the expansion of renewable energies worldwide, it will be critical for Renewables 2004 to produce political measures, which ensure that the provision of renewable energy sources are made equally accessible to women and men.

Engaging the REEEP

The Renewable Energy and Energy Efficiency Partnership (REEEP)is another important outcome of the WSSD. Unlike the Johannesburg Renewable Energy Coalition, the REEEP is comprised of both state and non-state actors who are committed to accelerating the development of renewable energy and efficiency. As such, the REEEP should be called upon to promote more actively the important role of women in the energy sector and the need for concrete measures to ensure a greater degree of gender sensitivity in energy policy.

3. SUMMARY OF SEMINAR PRESENTATIONS

THE HONOURABLE LENA SOMMESTAD, MINISTER FOR THE ENVIRONMENT, SWEDEN

Inledningsanförande Lena Sommestad vid seminarium om jämställdhet, energi och klimat i Milano den 9 december 2003

Ladies and Gentlemen,

Welcome to this side event on Promoting gender equality, Providing energy solutions, and Combating climate change. It is organized by the Swedish Ministry of the Environment on behalf of the Network of Women Ministers for the Environment. Together with Rejoice Mabudafhasi of South Africa, I co-chair the Network. Regrettably, Ms Mabudafhasi is in Lagos today and could not join us here.

I am pleased to welcome on this panel four distinguished experts. They are **Aster Zaoude** who is Gender Specialist for the United Nations Development Programme, **Fatima Denton** who is Gender and Energy Analyst for ENDa Tierre Monde in Senegal, **Fatou Ndeye Gaye** who is the Head of the Gambian delegation, and Doctor **Hermann Ott** of the Wuppertal Institute (Berlin). Following our discussions for the next two hours, there will be a chance to interact informally while we all enjoy an Italian buffet.

Before I invite Ms Zaoude to give the first thematic introduction, allow me to make a few initial observations.

* * *

Poverty is synonymous with powerlessness, insecurity and abuse. Two thirds of those who live in absolute poverty are women. The Swedish government has put forward a new policy for global development. It seeks to lay a foundation for a coherent and consistent policy in order to contribute to equitable and sustainable development in the world. Two perspectives should permeate all parts of the policy: a rights perspective based on international human rights conventions; and the perspectives of the poor.

Poverty alleviation must originate in the decisions and actions by the poor themselves. But we who are more fortunate must contribute to an environment supportive of poor people's own efforts to improve their quality of life. Gender equality, energy solutions, and climate stabilization are three steps in the right direction.

* * *

Each one of these three steps is of high importance in itself:

1. **Gender equality** is a matter of human rights, of social dignity and of personal satisfaction. But it should also be a societal objective. Gender equality is good for the economy as it allows each citizen to explore better his or her potential. Gender equality is good for children and their education.

Gender equality is arguably also good for the environment, because it promotes the right and the capacity of both men and women to be part of decision making and implementation, bringing useful perspectives into environmental protection.

Neither men nor women should be seen as homogenous groups. However, some structural factors affect children more than adults, physically handicapped more than the healthy. Likewise, some factors affect one sex more than the other.

2. **Energy solutions** are no easy fix. We know that 2 billion people lack commercial energy. In the meantime, a relatively small portion of the world's inhabitants uses excessive amounts of energy. Investments are needed to reduce unsustainable patterns of energy consumption while securing key energy services to the poor.

An emphasis should be given to energy services that can help generate income and in sectors where investments help improve health and security. For this to happen, governments are required to supervise and regulate energy markets. Public – private partnerships may in some cases provide workable solutions. In addition, there should be further consideration given to public – public partnerships between local and national agencies in industrialized countries on the one hand and public institutions in developing countries on the other.

3. **Climate change** is a real and major challenge. The EU agricultural yield in 2003 was down 13 % compared with last year and the ten accession

countries lost 15 % on average. The European organization for grain and oilplant farmers, Coceral, attributes this loss to drought. Countries worst struck by drought, France, Italy, Slovakia and Hungary, were all more than 20 % below last year's harvest, Cyprus even 37 % lower. This is not to mention the floods that we have recently experienced in Central Europe, and that are currently swiping Southern France. These dramatic weather events show us how vulnerable our societies are, and how important it is that we take action to minimize the threat of future climate change.

* * *

Tonight, we should discuss gender equality, energy solutions and climate change from an integrated perspective. My ambition is to identify, at the end of this seminar, priority areas for action of relevance to both developing and industrialized countries.

There is a discussion paper in the back of the room for those of you who did not receive it yet. I wish to thank Mattias Nordström and Johannah Bernstein at SEI for providing this text as a source of inspiration for our debate.

Towards the end of the paper, the authors recommend how to promote gender equality in the energy sector and in relation to climate change. We will recognize many of the forums proposed, but several of those fora will not recognize gender equality perspectives. This is why those ideas should be considered seriously not least by ministers.

I would add to those recommendations that we need to look beyond 2012 and develop a work programme to make use of scientific input from the IPCC, particularly when it comes to mitigation and adaptation. It will be worth considering how the IPCC may include gender equality sensitivity in their fourth assessment.

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ASTER ZAOUDE, SENIOR GENDER ADVISOR, UNDP, ETHIOPIA

1. The State of Energy Poverty

- In the developing world, approximately two billion people use traditional energy sources for cooking, heating and lighting.

- In most African countries, less than 5% of the population has access to electricity and 95% depends on biomass. And yet that continent has significant energy resources that could be used to meet its needs. Most of Africa's energy is exported rather than utilised to meet the challenges of poverty and growth.

- With the current poor energy services, 2 million people die each year due to health and respiratory effects from indoor are pollution.

2. Gender Impacts in the Energy Sector

- Energy poverty has a disproportionate effect on women and girls, especially in rural areas. As fuelwood becomes scarce due to over-harvesting, land clearing for farming or environmental degradation, many women are forced to travel longer distances and spend more time fetching fuelwood. Besides lost opportunities and physical exhaustion, women are faced with a variety of health hazards from carrying heavy loads to inhaling smoke.

- Without access to modern forms of energy for domestic services, women spend much of their time and physical energy gathering basic energy indispensable to family survival.

- 70% of the 1.3 billion people in developing countries living below the poverty line are women. Of the 2 billion people without access to modern energy services, most live in rural areas, where women head most of the poor households.

- Hundreds of millions of women and girls spend between 3 to 8 hours carrying fuelwood, dung and traditional biofuels. This comes at a heavy human and social cost since girls whose labour is used for fetching wood and water are deprived from education, thus the cycle of poverty and powerlessness continues through the next generation.

- Without access to modern forms of energy for domestic services, women spend much of their time and physical energy gathering basic energy indispensable to family survival

3. Challenges in Promoting Gender Sensitive Energy Policy

- Gender biases in the definition of home-based work undermine women's unpaid work including the transport of water and fuelwood on their backs and heads. As a result, there are few gender-sensitive energy policies and limited efforts to increase the availability of energy sources and improved technologies for domestic use.

- In the absence of women's voices in decision-making, there is very little attention given to the energy services that households need for survival.

- The problem is beyond women's access to energy services, it is about energy governance and it is about public expenditures that are imperative in any poverty reduction strategy.

- Another key challenge remains how to develop the infrastructure necessary to enable access to energy sources by poor women as well as men, whose economic capacities limit their ability to afford the costs of privately run basic services.

- The large majority of the world's poor are women and yet they live on the margins of the incredible environmental knowledge base.

4. The Market for Modern Energy Services

- In modern societies, women's choices have broadened with access to electrical power at the turn of a switch and the use of sophisticated kitchen appliances that reduce the drudgery of daily household chores.

- The industries continue to improve household energy and technology services, not because they are committed to gender equality but because they recognise that women are powerful consumers with increasing purchasing power.

- Water pumps have transformed rural women's lives. They have improved families' health, sanitation and nutrition and they have spared girls from miles of travelling with water on their backs instead of going to school or engaging in more productive activities. Of course the introduction of solar, wind, micro hydro and modern biomass resources must involve women if they are to reduce poverty and empower women.

- Most energy-efficient alternatives have higher up-front costs and better returns on the longer term. But women can rarely afford the initial investment in new equipment, not to mention the recurring maintenance costs. The only incentive for their participation in such investment would be the use of the technology to generate income rather than to provide for their families consumption. However, women can only spend time generating income when their daily drudgery is reduced.

- Many of the grinding mills provided for grain processing in Africa are utilised to process shea butter and peanut butter rather than to grind cereals because women want energy for income generation, and not just for survival.

5. Alternatives that Work

- In the past, most energy programmes intended to improve the situation of women have focused on household cooking and heating needs. The emphasis was on the introduction of improved stoves, production of briquettes from waste materials as an alternative to wood or charcoal, or tree planting to increase fuel wood supplies.

- These projects, if properly designed to meet women's demands and capacities can help reduce drudgeries of domestic chores on women and girls in the short term, but women are not able to carry on with these programmes using their own investments because they are poor and up-front costs are high.

- Recently, increased attention has been directed to energy for entrepreneurship in micro-enterprise and small-scale food processing plants. Credit schemes have been established to assist rural women in the acquisition of new technologies for processing agricultural outputs for household consumption and marketing. It is important to note that extending access to credit to women should be done in an integrated manner if it is to yield sufficiently sustainable benefits and allow households to move out of poverty. The development of women energy entrepreneurs in Africa has been promising, however it requires more support in terms of start-up capital and enhanced marketing skills training.

6. UNDP's Priorities

- UNDP has identified four priority areas in the context of their sustainable energy activities. These include: (i) strengthening national policy frameworks; (ii) promoting rural energy services; (iii) promoting clean energy technology; (iv) increasing access to financing for energy.

7. The Necessary Paradigm Shifts

- Externally-driven project based energy initiatives have had a tremendous advocacy impact. They show what is possible to achieve and point to the need for a paradigm shift on at least two fronts. First, the energy sector must be recognised as the driving force for public and private investments in rural development. Second, the vast market for low-cost energy services among the poor should be considered a worthwhile investment in an untapped potential market where women are the primary consumers.

- There are a number of other shifts that will be needed in the development paradigm if the Millennium Development Goals are to be fully realised. These include recognising: (i) the importance of valuing women's unpaid work; (ii) the critical links between gender and energy; (iii) the importance of the role of the state in the energy and water sectors and in the development of public-private partnerships to ensure energy services for poverty reduction and sustainable economic development; (iv) the important role that energy plays for liberating the women's labour force; (v) the need to push the boundaries so that gender and energy equality becomes a core organising principle and not one that simply has to be mainstreamed.

FATOU NDEYE GAYE, HEAD OF GAMBIAN DELEGATION TO UNFCCC COP9, THE GAMBIA

1. Gender and Energy Challenges in the Gambia

- Access to energy is an essential pre-condition to poverty alleviation in the South. Access to energy plays a key role in achieving the twin goals of meeting basic human needs and providing equal access to productive resources for both women and men.

- Limited access to energy is a problem that has a disproportionate impact on women, especially in rural areas. First of all, women and girls suffer more from energy poverty because the performance of their traditional roles involves walking long distances to fetch water and fuelwood. In rural areas in the Gambia, women and girl-children are the ones who typically fetch firewood. They often have to walk long distances and carry heavy loads, which in turn, creates considerable health burdens for them. In this context, it is important to note that while women rarely keep their girl-children home from school in order to help with physical labour, once girl-children do return home school at the end of the day, they are the ones who are expected to assist their mothers with daily chores, while boys are free to do their schoolwork or play.

- Second, although most cooking is done outdoors in the Gambia, during the wet season, cooking is in fact carried out indoors. Because women and girl-children are the ones who do all of the cooking in Gambian society, they are the ones who face disproportionate health hazards from the higher levels of smoke and particulates that they are exposed to when cooking indoors with traditional fuels. While Gambian women do not use dung-cakes for indoor fuels, they do cook with unprocessed solid fuels such as coal. These traditional fuels

release toxic emissions such as carbon monoxide.

- Limited access to energy also has environmental implications in the Gambia. The rural poor are forced to rely on firewood for heating and cooking and are therefore compelled to fell more trees. This in turn leads to increased depletion of forest resources, thereby contributing to climate change problems.

- Vulnerability to climate change is a particular problem for poor women, who may bear larger shares of the adaptation burden. Climate change may well mean extra hardship for farming and fuelwood collection activities that are often carried out by women. Furthermore, where climate change causes drought, women will have to travel longer distances, thereby increasing their physical burdens.

2. Efforts of the Gambian Government to Increase the Role of Women

- Women are increasingly occupying important roles in the Gambian Government. This in turn has increased the overall sensitivity of the Gambian Government to the special needs and considerations of women in all spheres of decision-making.

- For example, the fact that the Gambian Vice-President is a woman has helped to promote the importance of women's participation and gender sensitivity across the different spheres of political, economic, social and cultural life.

- Second, the fact that the Education Minister is a woman has resulted in the increased support for education of girl-children, and attention to the factors that often keep the girl-child out of school. Without basic reading and writing skills, uneducated girls have little hope of escaping poverty. The Gambian Government has worked hard in this respect by providing free education for all girl-children.

- Third, the fact that the Environment Minister is a woman has resulted in increased attention to the special needs of women in environmental policy-making at the local level. It has also meant

increased sensitivity to the adaptation burden that women face in the climate change battle. As well, increased attention has been directed to the need for more in energy saving devices for women (i.e. processing machines used in daily cooking) and the need for recycling animal waste into biogas (which has particular relevance for women since 90% of Gambian women keep small animals and would benefit considerably if that waste was recycled into biogas.

- Fourth, the fact that the Health Minister is a woman has led to increased attention for the special health needs that women face, especially as regards reproductive and sexual health.

- And finally, the fact that the Accountant-General is a woman has resulted in increased gender sensitivity in overall government spending, with more attention directed towards the needs that women face in terms of access to education, productive resources and family planning.

FATIMA DENTON-LINT, ENDA TIERS MONDE, SENEGAL

1. Challenges in Promoting Gender Concerns in Energy Policy

- If women are stressed at home with physical labour they will be compelled to keep their daughters at home to assist with the physical demands of daily household chores. As a result, the value of girl-child education will be diminished within society.

- Sustainable livelihoods and strategies must address gender concerns in energy policy and other sectors such as natural resources, agriculture, consumption and production, water.

- Sustainable development strategies must also address how best to move women out of energy poverty and to ensure greater access for women and girls who are currently at the bottom rung of the energy ladder.

- Empowering women to move out of poverty will always benefit the community at large. But improved energy access is only one part of the poverty eradication and gender equality picture. Energy policy must broaden the focus from improving access for women to safe energy sources to empowering them to become energy entrepreneurs.

- Gender issues are always sidetracked in the public policy. The move to recognise the importance of gender concerns is still proceeding at a rather slow pace. However, events such as this panel can help to elevate the profile of the issues.

- UNDP's multi-functional platform is an example of what must be done as a basic minimum to address women's electricity and food

processing needs. However, it is just one type of energy solution, which must be adapted to the specific needs of women in each local community.

2. Defining Poverty Differently

- Poverty should not just be defined by income. Poverty is also about energy poverty, water scarcity, food security, health linked to poor sources of energy, lack of infrastructure. Many factors which underlie the exacerbation of poverty relate to globalisation, structural adjustment policies and marginalisation that excludes people from social safety nets.

2. Focusing on Gender and Energy Differently

- It is important to demystify some of the key myths around the gender and energy challenge. For example, solving the cooking problem alone will not solve the gender and energy problem. Focus must be directed towards going beyond the obvious ways of dealing with the gender and energy challenge.

- Core energy services should be linked to improving the productive activities of women as well as their own income generation activities. Women do not necessarily want electricity for the sake of electricity, but rather, they want the services that are made possible because of greater access to energy.

- It is important to consider the specific role of men in the challenges that women face in terms of access to energy services and income-generating activities. Most problems that women face have their roots in the essence of power relations. As such, public policy must focus not just on satisfying the needs of women but on ensuring that men and women work together harmoniously.

4. Energy Policy Lessons from the Ground

- One of the most important insights generated from working at the local community is that policy solutions will never work effectively if they are developed in a top-down manner without consideration for the realities on the ground, nor the involvement of local actors.

- It is important to give local communities greater latitude in the definition and management of their own problems.

- Most energy-focused activities tend to be project-based. It is critical that a more sustained approach is undertaken in the longer term, with a particular focus on how to evolve project-based activities into long term programmes.

- Solutions must be developed in an integrated manner that considers the economic, social and environmental dimensions of community-based problems. Integration is essential to the achievement of success on the longer term.

- One-dimensional energy solutions are not sufficient as such. Instead a whole menu of options must be explored, with particular regard for the engagement of the local community in the design of energy solutions.

- Emphasis in energy solutions must be placed on demand rather than supply. Solutions must respond to the actual needs of the users. For example, in some cases, the distribution of cook stoves may not necessarily be the appropriate response to a particular energy problem in a local community. In this regard, consultation with women must be an integral part of the development of energy solutions to ensure that the solutions not only meet their specific energy needs, but that the users have the means to continue to pay for the services.

- Development policy should also empower the creation of a dynamic rural entrepreneurship environment. When women save more time with labour saving devices they have greater opportunities to engage

in more productive activities.

- However, enabling poor women to become entrepreneurs is not enough. Their new roles must be sustained with the necessary resources and capacity building and training, in such areas as marketing.

DR. HERMANN E. OTT, WUPPERTAL INSTITUTE, GERMANY

1. Key Challenges in the International Arena

- There are two main challenges that must be addressed in the international arena. The first challenge pertains to the importance of advancing and strengthening the participation of women in decision-making bodies. The second challenge pertains to the need to find ways to qualitatively influence and improve the substantive policies that affect women in all spheres of their lives.

2. The Role of Women in Decision-Making

- A May 2003 UNIFEM report examined decision-making bodies around the world and concluded that the majority of decision-making bodies were comprised of less than 30% women.

- Governments that had reached or surpassed that 30% threshold included Germany, Sweden, Denmark, Norway, and some developing countries such as South Africa, Costa Rica, Argentina and Mozambique.

- UNIFEM also examined the gender balance in national parliaments and found that countries such as Japan, France and the US actually lagged behind 13 sub-Saharan countries, thereby highlighting a severe lack of participation of women in industrialised parliaments.

- This lack of progress is particularly worrisome in light of the fact that the call for gender balance in decision-making was made as long ago as 1985 in the Nairobi Forward looking Strategy for the Advancement of Women, which called for the integration of women in environmental decision-making.

- One of the most recent international instruments calling for improved gender balance in decision-making is the Marrakech Decision that was adopted at the UNFCCC COP7 in 2001. Decision FCCC/CP/2001/13/add.4 invites parties to give consideration to the active nomination of women to any body established under the UNFCCC or the Kyoto Protocol. That decision further requests the UNFCCC Secretariat to maintain information on the gender composition of each of the subsidiary bodies and to bring this information to the attention of the parties.

- The political reality is that many of these important decisions are buried in the intergovernmental bureaucracy and are rarely enforced. In this light, the UNFCCC Secretariat should be called upon to publish the gender composition of the climate bodies and governmental delegations.

3. Challenges in Improving the Substance of Energy and Climate Change Policy

- Gender issues are not on the political agenda of the UNFCCC COP, despite the growing awareness of the particular adaptation burden that women may well have to shoulder in the face of increased climate change.

- Adaptation and vulnerability issues will become increasingly important on the agenda of the COP and particular focus must be directed towards the specific impacts that women might face as a result of increased climate change.

- Moreover, the participation of women in CDM projects has not been a high priority. The NGO community at recent COPs has been unusually silent on gender concerns and have not raised the fact that gender concerns have been completely disregarded on the political agenda.

- The WWF "Gold Standard" is a useful tool that could be used to promote gender concerns in CDM projects. The gold

standard provides certification for projects that have been developed in accordance with environmental and social sustainability criteria and standards.

3. Targeting Key Intergovernmental Forums

- The Bonn 2004 International Conference for Renewable Energies is one of the most important outcomes of the World Summit for Sustainable Development (WSSD). Organised under the auspices of the Johannesburg Renewable Energy Coalition (a coalition of like-minded governments) it has the potential to elevate the gender and energy agenda. With its main objective as the expansion of renewable energies worldwide, it will be critical for Renewables 2004 to produce political measures, which ensure that the provision of renewable energy sources are made equally accessible to women and men.

- The Renewable Energy and Energy Efficiency Partnership (REEEP)is another important outcome of the WSSD. Unlike the Johannesburg Renewable Energy Coalition, the REEEP is comprised of both state and non-state actors who are committed to accelerating the development of renewable energy and efficiency. As such, the REEEP should be called upon to promote more actively the important role of women in the energy sector and the need for concrete measures to ensure a greater degree of gender sensitivity in energy policy.

- The Energy for Development Conference being planned by the Dutch Government as a follow-up to the Bonn conference should also examine the obstacles that low levels of energy services play in raising the social and economic status of women. The Conference should send a strong political message that efficient and clean energy sources for cooking and for water supply create opportunities for women and girls to obtain schooling, to gain access to productive resources, to obviate the need for child labour, and to significantly improve living standards and eradicate poverty for both women and men.

SEMINAR DISCUSSION

1. Key Challenges and Constraints

- There is no shortage of political decisions that highlight the importance of integrating gender concerns in energy and climate policy, the main problem is that there has been insufficient follow-up within the key institutions. In this light a key challenge is to identify the key intergovernmental processes within which the gender and energy agenda can be more effectively promoted.

- The development of viable markets for the goods produced by poor people in developing countries is a major constraint that is holding back both men and women. If markets can in fact be developed, then it becomes possible for individuals to increase production, earn sustainable incomes and send their children to school. But there is the contradiction that as production increases so does fuel consumption.

- The users of energy services must be made aware of the operation and maintenance costs before decisions are made to integrate such services into the local community. For example, in the case of shea butter production in certain communities, women were given equipment that was diesel fuelled, however there is such a low price for shea butter that they could not actually pay for the costs of the diesel fuel.

- Women are raised to believe that they are technologically incompetent. Thus when time-saving machinery is introduced into the community there is often a gender bias that attaches a prestige for men in the use of such equipment and which prevents women from becoming versed in the use of such equipment.

- In many local communities, men do indeed collect firewood. However, they are equipped with donkey carts, whereas women are left head carrying. Where men and women both collect firewood in the local community, there is often competition between the sexes as to who can collect more. Men can easily fill up their donkey carts where women are physically unable to collect as much because of the head-carrying mode of firewood transport that they are burdened with.

- At the first UNFCCC COP in Berlin there was a large NGO event entitled "Solidarity in the Greenhouse", which focused on women and energy and climate change. Unfortunately, since COP-1 there has been a significant lag in the promotion of gender concerns.

- While there is ongoing research in the area of gender and energy the main challenge lies in mobilising the necessary funding for such research.

- As regards the participation of women in the energy sector in the North, it is interesting to note that there are only 11 countries in the world that have more than 30% women in decision-making bodies. In the energy sector in Germany, only 20% are women, most of which are working at administrative levels. At the top level there is less than 1% and 6% at the middle level.

- By contrast, the Africa Union has instituted a 50% goal for women in leadership positions. A central problem is of course the fact that there are very few women who are sufficiently qualified to take up these posts.

- Regarding the development of markets for the goods that women produce, it is not that women are not producing, but rather the fact that they regularly experience problems related to transport and infrastructure, not to mention their lack of marketing skills and storage systems.

2. Strategies for Moving Forward

- As regards the participation of women in decision-making bodies, the quota system has worked well at the local level in developing countries. Countries like India have experienced considerable success in this regard. There is interesting experience at the local level, which should be considered by national governments in their efforts to improve the gender balance in decision-making bodies.

- The ENERGIA network has requested the support of the Swedish Government for a full-day event on gender and energy at the next COP.

- As regards technologies it is important to consider that technologies must always be adapted to the local reality. In most cases, rural women will indeed make choices and if it the technology they are provided with does not work, it is important to consider that they will not continue to use it. Lessons must be drawn from the success of the multi-dimensional platform, which is an example of a technology that has not been forced on local communities. Indeed, villagers are always provided an opportunity to indicate whether or not they want to have it installed in their communities.

- Another important point regarding adapting technologies to the needs of women is that women must be properly trained in the use and maintenance of the technologies that are provided to them. For example, when water pumps break down they are often thrown away because the women who operate them do not have the necessary skills to repair them.

- A related point pertains to the need for continued training for local communities in the management of these projects in light of the limitations that often undermine their success. It is important to explore how private ownership can be generated in order to enhance the positive impacts of energy projects. As well, it is always important to consider the overall costs that will be involved in the design and operation of energy solutions for women. These energy projects must be affordable otherwise women will not continue to use them.

- As regards the creation of new markets, it is important to assist in the creation of markets and indeed to strive to open up international markets for the goods that are produced by women in the local communities, such as shea butter and chocolate. A related point to the creation of new markets, is to consider the need for training to empower women with effective marketing strategies so that they can more effectively promote their goods in local and international markets.

- It is critical to consider how best to engage men in assisting women in the physical labour of their daily chores. For example, in Senegal water collection was traditionally the sole domain of women, but once water pumps were installed, men became involved in the task, that had always been socially reserved for women.

- Development policy must continue to be devolved to the local level where the expertise regarding the necessary response is often greatest. Development policy must be designed with greater engagement of the local communities.

- The Network of Women Ministers can play an important role in the promotion of gender equality in the UNFCCC COP process and in other intergovernmental forums as well. It should consider playing a role in hosting a full-day side event on gender and energy at the next COP.

- The international community must focus on the development of concrete goals for increasing the access of women of clean energy. And to this end, it is critical that the Millennium Development Goals are elaborated with a gender perspective.

- Energy policy must devote more attention to how best to improve energy services for women and to consider the difficulties and challenges in the introduction of new technologies to redress the lack of energy services. Ideally technology innovation must grow from below to ensure that they are responsive to the actual needs of women. As well, energy policy must consider how best to support women in

their transition from energy users to energy entrepreneurs.

- As regards participation, it is important to improve the opportunities for engagement of women in key bodies, especially in the subsidiary bodies under the UNFCCC. To this end, the CDM process must be more gender-sensitive.

5. DISCUSSION PAPER PREPARED BY THE STOCKHOLM ENVIRONMENT INSTITUTE

Increasing gender sensitivity when planning for energy and transport services

Discussion paper prepared by Mattias Nordström and Johannah Bernstein

Stockholm Environment Institute

4 December 2003

Executive summary

Programmes for equal access to basic energy and transport services are required to enable people to live healthier lives and gain better opportunities for education and income. A good climate policy will be beneficial to men, women and children and give preference to those who are most vulnerable.

Many renewable energy alternatives suggested to replace carbon dioxide intensive fuels either do not have the energy economy needed or do not constitute any major labour reductions for women who bear the brunt of household work.

Impacts of energy and transport systems on local health, regional pollution and global climate change will put high demands on policymakers. Policies will need to disaggregate the different needs of women and men and include gender equality criteria already when overall objectives are articulated. An overview of how the Millennium Development Goals are linked to energy and gender issue (annex) underpins the argument.

Among challenges identified is the need to make energy and transport services planning a consultative and iterative process; ensure government supervision of energy markets; give priority to decentralised and low cost systems; and provide adequate conditions for small private and cooperative ventures in servicing the poor.

A set of recommendations on where to take the issue of gender equality in the energy and climate change sectors forward concludes the paper. Governments and stakeholders may address the issues in intergovernmental agencies, including the UNFCCC COP, CDM and the Bonn conference 2004.

Preamble

This discussion paper is intended to serve as background material to a seminar in Milan on 9 December 2003, organized by the Network of Women Ministers for the Environment. All participants accredited to the UNFCCC COP 9, including non-governmental organizations and observers, will be invited to attend the seminar.

The overall question for the seminar will be how a gender equality perspective can be mainstreamed in the energy and transport planning cycle, while at the same time economical, political, social and environmental requirements are addressed. Priority areas should be identified. These questions are integral to climate change adaptation, technology and assessment, which will be the themes of the COP 9 high level segment on 10-12 December 2003.

Importance of the gender dimension

In order to achieve the targets set out in the Millennium Development Goals, the WSSD Plan of Implementation as well as other national and international development programmes, substantial improvements will have to be made towards the provision of modern energy and transport services. There is also an urgent need for a more equal distribution of these services. Moreover, with a view to achieving the objectives of the climate convention, energy services will have to become more sustainable with an increasing share of renewable energy and more efficient use of energy. This would lead to beneficial side effects, e.g. reduced emissions of health related substances such as particles.

There is an ongoing debate over whether gender[1] or poverty should be the main defining factor for analysing imbalances in equality relating to access to basic services, education and professional opportunity. The crux of the matter is that poverty is not gender neutral, and women are on the average poorer than men. The fact that there exist proven gender imbalances that transcend cultural, national, economical and social boundaries in our view validates the use of gender analysis in the context of improving opportunities for people to lead a fulfilling life. When energy and transport services access is investigated from a gender perspective, an extra layer of understanding is added to the mosaic of other analyses based on political, microeconomic, macroeconomic, environmental and technical aspects.

The shift to modern, flick-of-the-switch energy and transport services, has freed women to access higher education and wage labour while remaining responsible for the mainstay of household work. No matter how convenient and efficient household energy services have

[1] Gender is defined here as the patterns of differences in rights, opportunities and obligations for men and women.

become, women still carry out a majority of the household work – in all countries, in all social groups. The access to convenient and sufficient household energy and transport services is not the only requirement for equal opportunities in education or on the labour market. It is, however, a prerequisite for allowing more household members to be active outside the household, as well as for a greater degree of sharing of household work by both sexes.

Thus, equal access to the right energy and transport services cannot claim to be the solution that ends gender imbalances. However, well designed and implemented programmes for equal access to basic services can ensure that gender imbalances in society are not due to the fact that women spend a substantial portion of their lives providing for the basic energy needs of the household. Improving the quality of energy services enables people to live healthier (by removing indoor smoke from cooking), give adults and children a better opportunity for education, and provide alternative sources of income – all areas where women all over the world are currently at a disadvantage. There is overwhelming evidence that by considering gender issues in planning for basic services, it is not only the women who stand to gain. At the same time, by depriving women of modern energy and transport services, improvements in many fields such as health, education and economic development are slowed down. In countries were electrification rate is low, the opportunities for formal education are limited, which seriously hampers many countries long-term competitiveness.

It is also true that economic growth does not automatically mean equal economic and social empowerment for everyone, and even in the richest countries there are gender imbalances in terms of access to energy and transport services. The reasons and remedies for gender imbalances in energy and transport use in rich countries is not a well researched field, but that gender imbalances do not magically disappear as a result of aggregate economic growth on the national level is undisputed.

When governments begin to develop plans for adaptation to climate change, a gender perspective needs to be considered. The Parties to the Climate convention have an obligation and a possibility to influence what magnitude climate change will have through their actions regarding mitigation and further action. However, climate change will occur to a certain degree regardless of whether mitigation efforts are undertaken. Climate change implies changes in temperature (both extremes and average), changes in precipitation patterns and the water cycle and in the frequency of extreme weather events. This in turn will have implications for the society, with large regional differences. Infrastructure such as roads and buildings will be influenced, diseases may spread to new areas and agriculture may be severely affected.

When planning for adaptation measures, gender should be fully taken into account. Issues that should be considered include how different diseases will affect women and men differently and how aggravating conditions for agricultural production will impact women's and men's well being and access to work. A good climate policy will be beneficial to men, women and children and give preference to those who are most vulnerable.

Gender imbalances in the energy and transport sectors

One of the major challenges is to ensure that women in the developing world are not deprived of labour-saving household energy and transport services, while at the same time giving due concern to environmental and economic sustainability. Likewise, it is also imperative that adequate and sustainable energy and transport services are made available for the industrial, commercial and public sectors that provide employment and public services.

While there are gender imbalances in terms of access to energy and transport services on a global scale, these imbalances become particularly sharp in the developing world. Rural women and their children are the primary collectors of wood and residue fuels, which account for 80% of all household energy in most developing countries. Based on FAO estimates, the proportions of rural women affected by fuel wood scarcity range from 60% in Africa, to nearly 80% in Asia, and nearly 40% in Latin America. Time spent in fuel collection in fuel-scarce areas ranges from 1 to 5 hours per household per day.

Though access to modern energy services that meet some basic needs are expanding, the household activity that consumes the most energy – cooking – is for many still too energy intensive (and thus expensive) to carry out with electricity or gas. Wood fuel, cow dung and charcoal are the cooking fuels available to a large share of the world's women. This situation is likely to persist for a long time, unless groundbreaking progress is made on large-scale electricity generation from renewable resources (other than large scale hydroelectric plants), major investments are made in high-intensity electricity generation (fossil or nuclear power plants) or fossil cooking gas is disseminated on a wide basis.

For most people currently using traditional methods of cooking, cooking with electricity is simply not an option, even if the house is connected to the power grid. Many of the renewable energy alternatives that have been suggested as solutions (biogas, agriculture residues, passive solar cookers to name a few), either do not have the energy economy needed – or do not constitute any major labour reductions for the women.

The concept of energy services, in addition to the traditional quantitative measures of supply and demand volumes, highlights the need to carefully analyse the end users and -uses of these services as well as the modalities for providing them. Lighting and refrigeration are two examples of energy services that can fundamentally transform the lives of people. The difference between electric light and alternatives such as candles or kerosene lamps means a difference between being able to read after sunset and not being able to. In fact, this has time and again been pointed out as the single most notable difference for families that get access to electric lighting. Even a quite small refrigerator enables rural health stations to keep a stock of medicines and other medical supplies – with dramatic impact on disease lethality. And these are services that can be provided through relatively simple, off-grid, cost effective systems such as small solar photovoltaic and wind generators.

Some of the measures required to address these imbalances will be:

1. Energy policies should be sensitised to the different priorities of men and women. Specific interventions should be identified that, for example, positively affect the ability of women and girls to have time for other things than basic household chores and thus be able to pursue an education and secure an income.

2. Transport policies should be designed so that gender imbalances are minimised. Women and children in many countries tend to be more reliant on public transport systems than men, while men, on the average, travel farther, and more energy-intensive, than women.

3. Major technological and institutional lock-ins to be avoided should be identified, if the development of modern energy and transport systems is to meet the Millennium Development Goals and Johannesburg commitments.

4. Gender differences in ability to pay for more environmentally benign energy options should be identified and redressed, in order to maximise the impact of any energy, transportation or climate policy.

5. Adaptation polices to climate change should incorporate a gender perspective.

Challenges in mainstreaming gender in energy and climate policy

The last few decades have shown that the issue of reducing poverty globally and providing a growing world population with the energy and transport services demanded will probably not be straightforward. While the trend is that economic development allows people to shift environmental and health impacts away from themselves – both spatially and temporally[2] – vast shares of today's world population will not see this shift completed in their lifetimes. In many countries, people will face the simultaneous energy- and transport systems induced impacts of local health problems, regional pollution problems and global climate change. This will put high demands on policymakers to address a range of issues in parallel.

For example, in Sub-Saharan Africa the economies are still to a large extent dependant on traditional wood fuels like fire wood and charcoal. When used for cooking there are serious implications for the health of women and children, and the time spent on gathering fire wood also impedes the opportunities for women and children to get education and formal employment outside the household. At the same time, these fuels are the only ones that are readily accessible to the majority of people in poor countries as the extension of alternatives is limited. They are also renewable, with low negative environmental effects except the occasional localised problem of overexploitation of fragile ecological areas. Furthermore, the harvesting, transportation and distribution of firewood and charcoal provide cash income for many people without any opportunity of getting a formal employment.

The gender aspect adds another dimension to this puzzle. Not only will policies have to intervene in the energy and transport infrastructure of the household, commercial, industrial and public sectors – there will also be a need for disaggregated interventions within each sector to capture the different needs and preferences of men and women.

[2] Negative impacts are moved from the immediate user level (toxics and soot), to regional level (eutrophication, acidification) to global level (climate change). The impacts are also shifted in time, from the directly inhaled, to the indirect effects on water and forests, to extremely complex and diffuse impacts on a global scale.

The integration of the gender dimension in energy and transport sector policymaking would probably benefit from the experiences gained in integrating the environmental dimension in the same sectors. Today, gender aspects are mostly investigated after the plan, or even actual implementation, of infrastructure interventions are already finished. In order to have a real impact, the gender aspects must be included already at the stage when overall objectives are articulated. In the annex to this paper, selected targets under the Millennium Development Goals are listed together with some links to the gender and energy issue. These are intended to serve as examples of the level at which gender equality must be introduced in the planning process.

In general, the view of how energy interventions contribute to development needs to become much more integrative. One highly relevant example that is reality for the world's poorest is that it doesn't matter whether the school and the household are electrified and receive modern lighting – if the children need to spend most of their day collecting sticks and branches for cooking the daily meal. Another example that is relevant for even more people is the singular focus on electricity grid extension, paid for with public funds, if most household activities consume too much energy to be affordable should electricity be used.

In many large-scale power sector infrastructure projects in developing countries, electricity demand development is frequently too optimistic. Coupled with heavily subsidised electricity tariffs, this leads to relatively few households with a low electricity consumption receiving electricity with high costs of public funds – the value of which need to be seriously discussed on the national budget level. Here is where energy sector reform provides an opening for creating incentives for diversified and locally based energy suppliers. If these reforms are carefully designed, energy suppliers can potentially be encouraged to be cost effective and end user oriented. This would not only lead to higher overall economy, but also higher sensitivity to the different preferences of the end users.

The major challenge to overcome if gender aspects are to be integrated in national energy and transport policies and programmes is probably that it will require a higher degree of sensitivity and flexibility towards the end users. This has traditionally been a weak area in many centralistic-oriented and infrastructure heavy agencies and utilities, public as well as private.

How can a transition to sustainable energy and transport infrasystems that contribute to the objectives of the climate convention be made more sensitive to differences in access and needs of men and women? How can these systems be designed made more sensitive to differences in access and needs of men and women? How can these systems be made to service the needs for public goods, private enterprise as well as individual households?

There are no universal solutions that will suit every country, or every group within a country. Hence, when extensions of basic services are planned, it is important that there are adequate resources set aside for decentralised and flexible solutions to cater for those who will not get access to the centrally planned system.

A number of key challenges have emerged over the last decade concerning reforms of traditionally state-run bodies and the increasing emphasis on sustainability and equity.

1. A gender equality perspective should be one of the fundamental considerations used in designing energy and transportation systems in order to make sure that the right questions are

asked to the right people in terms of needs and priorities. It is thus a highly consultative and iterative process. It is not sufficient to include a small number of experts to conduct the analyses. This approach often led to a limited impact assessment after the plans were already made.

2. In order to provide basic household energy services for large shares of poor populations, decentralised and cheaper systems will have to be available. These can take the form of small isolated grids around a locally available energy resource (a factory with surplus electricity generation capacity or a stream used for hydroelectric generation), or of individual diesel or gasoline generators (maybe converted to run on bio fuel that can be locally produced). Using renewable energy such as solar photovoltaic, wind electricity generators, hydropower or bio-fuelled power generation will simultaneously contribute to the objectives of the Climate convention and enhance sustainable development. While large centralised grid-based systems provide unique advantages in terms of economy of scale and access to large volumes of energy, they are not always the most cost-effective solution and they are too expensive to cater for a poor population without being heavily subsidised.

3. Even in times of large-scale deregulations and privatisations of providers of public services such as energy and transport, governments should continue to supervise the planning processes. Otherwise, there is a risk that the accessibility of important public sector functions and institutions is diminished. In particular rural and peri-urban health stations and schools appear to be affected, which is part of the explanation why they are routinely deprived of modern energy and transport services, while at the same time catering for the segments of the population most in need of health care and education.

4. Government policy should include giving the same status, conditions and public backing to small private companies and cooperatives as to larger state utilities in servicing poor and dispersed populations. Locally based energy utilities can have the advantage of being flexible, sensitive and above all accountable to paying customers or members.

The gender dimension is one among several, including effluence, education, geographic location and ethnicity, which are used to define vulnerable groups that may have need for specially tailored solutions in addition to nation-wide programmes.

Way forward

The following are a set of recommendations for promoting gender equality in the energy and climate change sectors. These recommendations are designed to be promoted by individual governments and other key stakeholders, such as the Network of Women Ministers for the Environment.

The UNFCCC COP

It is largely felt that gender concerns are still "added on" rather than truly mainstreamed in the climate change negotiation process. Therefore, concerted efforts are needed to raise the visibility of gender issues in the key climate change bodies such as the IPCC, the UNFCCC Conferences of the Parties, the SBSTA and the SBI. Gender issues must be

mainstreamed into the political and policy debates within these bodies. In particular, attention must be directed towards highlighting the varying levels of vulnerability and adaptive capacity within different social groups and between men and women. As well, these bodies should consider ways of ensuring that potential economic or capacity building spin-offs from adaptation projects are not enjoyed by one group only. This is particularly important in light of the fact that poor women face a larger burden of adaptation despite their insignificant contribution to greenhouse gas emissions.

The Clean Development Mechanism
Research has shown that when gender equality and social energy considerations are taken in clean energy projects, the long-term success rate increases considerably. Therefore, in order for CDM projects to successfully contribute to sustainable development in host countries, gender-differentiated impacts and implications of the project must be taken into consideration. In this light, host country CDM project approval systems must integrate specific gender equality criteria. As well, efforts must be directed towards ensuring that women play an increased role in CDM project design, development and implementation.

The United Nations Commission on Sustainable Development (CSD)
The CSD should play a pivotal role in ensuring gender sensitivity in the energy sector. As such, it could establish an ongoing multi-stakeholder and inter-agency process on gender equality and energy in preparation for the 2006-2007 CSD sessions' focus on energy and climate change. This process could evaluate how energy policies and programmes are formulated and implemented and propose improvements in decision making that will be required to expand energy access to women as well as men while mitigating climate change.

Renewables 2004
The Bonn 2004 International Conference for Renewable Energies is another important international forum in which gender equality and energy concerns should be promoted. With its main objective as the expansion of renewable energies worldwide, it will be critical for Renewables 2004 to produce political measures, which ensure that the provision of renewable energy sources are made equally accessible to women and men. For example, the Bonn Conference could produce a set of concrete initiatives to enable poor women and men to obtain access to decentralised energy technologies such as: (i) low-cost, efficient hand tools, water pumps and animal drawn implements; (ii) low-cost and more efficient biomass-based combustion technologies, such as improved cookstoves; (iii) solar dryers; (iv) pico and micro hydro units for agricultural production; (v) solar water pasteurisers to provide clean and potable water; (vi) ram pumps for irrigation.

The Renewable Energy and Energy Efficiency Partnership (REEEP)
As a coalition of governments and other stakeholders committed to accelerating the development of renewable energy and efficiency, the REEEP should convene a series of expert workshops to address the critical factors which exacerbate energy poverty around the world and the specific gender-related factors. Together with the Johannesburg

Renewable Energy Coalition (JREC), a coalition of like-minded governments should be forged to promote a set of time-bound targets designed to address the gender and energy dimensions of the Millennium Development Goals, especially as they relate to energy concerns. For example, new MDG related targets could focus on such challenges as: (i) reducing by half the number of hours that women and girls spend gathering fuel; (ii) improving access to safe cooking fuels.

The Energy for Development Conference

As a future follow-up to the Bonn Renewables Conference, the Dutch Government is planning an international conference on energy for development. The objective will be to address the role that access to energy plays in the promotion of human development. To this end, the Dutch Conference should examine the obstacles that low levels of energy services play in raising the social and economic status of women. The Conference should send a strong political message that efficient and clean energy sources for cooking and for water supply create opportunities for women and girls to obtain schooling, to gain access to productive resources, to obviate the need for child labour, and to significantly improve living standards and eradicate poverty for both women and men.

The World Bank

The World Bank has now commenced implementation of its Gender Mainstreaming Strategy in recognition of the clear role that gender issues play in the fight against poverty. To this end, the World Bank should direct some of its research capacity towards improving and expanding the knowledge base on relevant gender equality aspects in the energy context. Key issues that require more research include the following: (i) comparative studies of women's strategic energy needs; (ii) the role of energy in women's productive needs, and the extent to which energy access has stimulated women's small scale enterprises; (iii) a comprehensive approach to the analysis of the impacts of biomass collection and use on women's health, including the physical effects of carrying heavy loads; (iv) the processes that would enable better access to energy, as well as the linkages with other factors in the production process that can lead to more gender-equitable sustainable livelihoods; (v) the impact of access to improved electricity on the livelihoods of women and men; (vi) in the case of vulnerability analysis, more gender-disaggregated research is required to shed more light on the varying levels of vulnerability and adaptive capacity within different social groups.

United Nations Development Programme (UNDP)

In response to the Beijing Platform for Action's call for gender mainstreaming, UNDP has developed a wide range of tools designed to promote the mainstreaming of gender equality perspectives in all policies and programmes. The implementation of gender-mainstreaming and gender impact assessment in the energy sector requires the development of appropriate instruments for screening the impacts of energy and climate change policies on the situation of women. UNDP could play an important role in adapting existing gender equality tools to the energy sector in order to highlight the hidden aspects of the gender-energy-poverty link. UNDP should also develop new tools that are specific to the energy sector to enable social planners to incorporate energy

dimensions in their work and to support energy planners in understanding the gender and poverty dimensions of theirs.

United Nations Environment Programme (UNEP)
Just as the WSSD spawned the intergovernmental process for the development of a ten-year framework of programmes to reduce unsustainable consumption and production, the UNEP Governing Council and the Global Ministerial Environment Forum should consider the development of a framework of programmes to promote gender mainstreaming into the energy sector. This proposed inter-governmental process could help to elevate understanding and awareness of the specific needs and concerns that women face in the energy context. The practical output could include a set of guidelines for reforming national energy policies to ensure that they are more gender-sensitive, especially as regards increasing sustainable energy access for women.

OECD Development Assistance Committee
The OECD DAC should convene a high-level meeting of both bilateral and multilateral donors to consider and evaluate the impact of their projects on women and men. In particular, the OECD DAC should promote the institutionalisation of gender impact assessment of the energy-related programmes and projects of all bilateral and multilateral donors.
Attention must be directed towards the development of reliable gender impact assessment methodologies that would track indicators that are gender-disaggregated in order to identify the improvements needed to enhance convenience, quality of life, access to and control over resources. Possible indicators could include: (i) increased acceptance by women and men of women as community decision-makers; (ii) enhancement of women's access to and control over resources; (iii) increased women's involvement in personal, family or community development; (iv) more women in education and training programmes; (v) improved health of women and girl-children. Special efforts should be undertaken by the OECD DAC to engage relevant stakeholders in the development of the proposed gender impact assessment methodologies.

Civil Society Gender and Energy Networks
Increased attention should be paid to the recommendations from a wide range of gender and energy networks both in the North and the South. These groups should be encouraged to intensify capacity building and training initiatives focused on such issues as: (i) increasing sensitivity towards gender issues among energy planners and decision-makers; (ii) developing practical tools and techniques to incorporate women in decision-making: (iii) increasing sensitivity on the part of male members of local communities that women can meaningfully participate in energy programmes while respecting their traditionally accepted space and roles; (iv) encouraging women to become energy entrepreneurs and not just the beneficiaries of expanded energy services. Energy entrepreneurship could include running improved stove programmes, promoting solar home systems, operating multi-functional energy platforms, as well as providing the supply and repair of energy appliances.

Poverty Reduction Strategies

In the formulation and implementation of national poverty reduction or sustainable development strategies, energy and transport services play a critical role. Gender equality aspects need to be mainstreamed in order to achieve optimal outcomes from investments and initiatives.

Millennium Development Goals

The Millennium Development Goals provide a common platform for discussion and formulation of ways towards poverty eradication. Some of these are directly linked to gender and energy issues, while others have more indirect, albeit still important, connections to gender and energy. They are, in many respects, the natural starting point for further work on energy and gender in the context of equitable and sustainable development.

Annex 1:

Gender and energy links to the Millennium Development Goals

In an effort to provide concrete examples of energy and gender links to the MDGs, below follows a list of linkages to selected specific targets under the Millennium Development Goals.

MDG 1: Extreme poverty and hunger

Target 1: To halve the proportion of the world's people whose income is less than one dollar a day

Energy & gender links to target:

- Access to reliable modern energy services enables enterprise development – What are the specific gender considerations in planning for access to energy services that enable women to develop their own businesses? Are there special circumstances or special types of energy services that better enable women to become engaged in enterprise development?
- Lighting permits household work, studies and income generation activities beyond daylight hours. While this may seem like a de facto disadvantage to already hard working people, deprivation of electric light seriously limits the ability of people to choose when and how to divide up their work. For many poor people, these activities are carried out in poor lighting.
- Locally supplied energy services can often be provided by small scale, locally owned businesses creating employment for both women and men in local energy service provision and maintenance.
- Large groups of men in many developing countries have been left without formal employment after the slump in export industries (cash crops, minerals and metals). Alternative opportunities are in many places hampered by inadequacy of basic energy and transport services.

MDG 2: Achieve universal primary education

Target 3: Ensuring that all children will be able to complete primary schooling

Energy & gender links to target:

- Availability of energy for water pumps frees girls' and young women's time from fetching water.
- Good quality lighting permits home study. In the least developed countries, adequate lighting is often lacking in schools and teacher's houses, hampering the efficacy of the educational system.
- Reliable and more efficient energy services offer scope for women's enterprises, which can

be an incentive to study.

MDG 3: Gender equality and women's empowerment

Target 4: Ensuring that girls and boys have equal access to primary and secondary education

Energy & gender links to target:

- Availability of energy for water pumps frees girl's and young women's time from fetching water.
- Good quality lighting permits home study. Adequate lighting of schools also allows evening courses that can be attended by working adults that lack in formal education and would otherwise be left out of the educational system.
- Modern energy services enable access to educational media and communications (including modern ICTs) in schools and at home that increase education opportunities and allow distance learning.

MDG 4: Child mortality

Target 5: To reduce by two-thirds the death rate for children under the age of five years

Energy & gender links to target:

- Modern energy services enables pumped clean water and purification, reducing exposure to disease.
- Modern energy powered cold chain provision allows access to vaccinations.
- Modern transport extends the coverage and efficacy of basic health services.

MDG 5: Maternal health

Target 6: To reduce by three-quarters the rate of maternal mortality

Energy & gender links to target:

- Energy services are needed to provide access to better medical facilities for maternal care including medicine refrigeration, equipment sterilisation and operating theatres.
- Fetching water may contribute to poor general as well as reproductive health in women and adolescent girls (back and pelvic damage) making women less able to manage childbirth without risk of complications.
- Provision of nutritious cooked food and boiled water contribute to better health.

MDG 6: Combat HIV/AIDS, malaria and other diseases

Targets 7 and 8: Halt and begin to reverse the spread of HIV/AIDS, malaria and other major diseases

Energy & gender links to target:

- Refrigeration necessary for vaccines and medicines.
- Modern transport services can extend the coverage and effectiveness of basic health services.
- ICTs for long distance learning and 'distance medicine'. For the broader population, radio and television can be powerful channels for information on basic disease prevention.

MDG 7: Ensure environmental sustainability

Target 9: Integrate principles of sustainability into country policies and programmes

Energy & gender links to target:

- What is the role of gender aspects that can have an impact on the reduction of the energy intensity of economies? Examples of this include gender imbalances in travel and consumption patterns, differences in valuation of renewable alternatives and differences in influence over the infrastructure systems planning and implementation processes.
- The gender imbalances in energy and transport planning need to be addressed in order to capture alternative values, needs and solutions to the traditional, mostly technology-driven, infrastructure systems. This goes far beyond the integration of gender analysis of project planning cycles, and includes aspects of user groups' participation in planning.
- The process of integrating gender perspectives in policy and planning cycles will have to be actively pursued. It is necessary, but not sufficient, to include experts on gender analysis in strategic positions. It is also imperative that policy and planning processes include the gender dimension already at the programme formulation and design stage, and not as a "Gender Impact Assessment" of already implemented policies and programmes.

MDG 8: Develop a Global Partnership for Development

Target 13: Address the special needs of the Least Developed Countries

Energy & gender links to target:

- There is a need for small and flexible alternatives, both private and public, that can be expected to be more adaptable to local needs and resources. This includes more realistic analyses of future development in order to tailor extensions of public services for cost-

effectiveness.

- There is a need for more long-term institutional strengthening collaborations to formulate and manage the development of more flexible and decentralised public services.
- The implementation of the above would mean that opportunities for employment and access to services would be more gender sensitive and balanced as compared to the current, in many cases rather technocratic, view of large infrastructure systems.

Target 15: Deal comprehensively with the debt problems of developing countries

Energy & gender links to target:

- For many large infrastructure programmes in development cooperation, the issue of recurrent costs has serious implications for the sustainability of services provided. In many projects, the unbalanced ratio between resources for investments and operations hampers the long-term provision of services as intended. There is still a lag in incentives to provide actual services to people as compared to constructing physical infrastructure.
- As mentioned above, many developing countries have problems maintaining expensive infrastructure constructed with development aid, while at the same time forced to accept that some of the assistance is in the form of loans to be repaid. Thus, the recipient government may be left with both a debt and a dysfunctional infrastructure. An alternative could be to reduce the share of large and expensive investment programmes and shift parts of the resources to cover long-term provision of the services.
- If provision of modern basic energy and transport services can be extended beyond the urban areas and social elites, this will have far reaching positive impact on the lives of the people currently deprived of education, health care and employment opportunities.

Target 18: Make available the benefits of new technologies

Energy & gender links to target:

- There is a danger of a singular focus on "new" technology when addressing basic development needs. Modern information and communications systems need electricity to run, and radio transmitters or telephone lines in order to actually enable communications. Unfortunately, energy and transport technologies largely rejected by industrial countries have been offered to developing countries. There are too many examples of high-tech hardware being "parachuted" into remote locations, where they fail to provide the intended services. The concept of technological "leapfrogging" has proven less straightforward than hoped.
- The example of the rapid proliferation of mobile telephone infrastructure, as compared to the sometimes painstakingly slow extension of modern electricity grids, has in a sense highlighted the question of whether official development cooperation is the right avenue for extension of modern energy services. There is still an important role for foreign aid capital in energy and transport services extension, but it needs to be considerably more sensitised to local requirements and potentials.
- In most developing countries, energy and transport services will continue to be provided

through a mix of old and new technologies for a long time. Thus, it is crucial not to be too focused on new technological quick fixes that will benefit only parts of the population.

6. DESCRIPTION OF THE NETWORK OF WOMEN MINISTERS

The Network of Women Ministers of the Environment was established in March, 2002. The Network is open to any active female Minister of the Environment and seeks
to contribute women's views and gender perspectives on the international environmental agenda and to provide a platform for sharing ideas in their work as women ministers in a male-dominated political environment. Participation is voluntary.

During the World Summit on Sustainable Development in August, 2002 the Network contributed to the inclusion of gender based outcomes in the Johannesburg Plan of Implementation. At various international meetings, the Network promotes dialogue and develop recommendations on gender equality as it relates to the environment. Minister Rejoice Mabudafhasi of South Africa and Minister Lena Sommestad of Sweden are co-chairs of the Network.