

Gender, Environment and the Millennium Development Goals: the UNEP Perspective*

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Introduction

In October 2004, the Norwegian Nobel Committee announced that it was awarding the Nobel Peace Prize to the Kenyan environmental activist Wangari Maathai for her contribution to sustainable development, democracy and peace. In choosing Professor Maathai, the Nobel Committee made a strong, and some would say brave, decision to emphasise the close links between peace and democracy, women's rights and environmental sustainability.

For UNEP, the timing of the prize lent added prestige and publicity to one of the most important events of our year, a Global Women's Assembly on the Environment. Under the banner 'Women as the Voice for the Environment', women from round the world, including several environment ministers, met in the week after the Nobel Committee's announcement to discuss gender and environment issues and celebrate women's contribution to sustainable development. Wangari Maathai - Kenya's assistant Minister for Environment since January 2003 - was an honoured guest.

Professor Maathai and her colleagues at the Global Women's Assembly on the Environment were clear in their concern about the massive and continuing degradation of the global environment and its disproportionate effect on women. Across the world, especially the developing world, women stand at the front line of

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the battle for sustainable development. They represent the majority of the world's poor, they shoulder most of the responsibility for raising children and meeting the needs of the family, and they rely on a healthy environment to provide the basics of life: food, water and a way of providing a living. When the environment fails them, women and their children are the first casualties. There is no shortage of examples. In many parts of the world demand for clean water and fuel wood is outstripping supply. The cost is counted in back-breaking and time-consuming labour for women and girls, time that could most certainly be put to more productive use, such as generating income or getting a decent education. Poverty and environmental degradation also cause unacceptable levels of ill-health and mortality due to preventable illnesses, such as diarrhoea and respiratory disease.

In their Manifesto, which was delivered to the Global Ministerial Environment Forum in February 2005, the delegates at the Global Women's Assembly on the Environment urged UNEP, as well as other international, regional and national organisations, to promote gender equality and integrate a gender perspective into all our work. This is something we take extremely seriously. UNEP recognises that sustainable development needs the committed partnership of all sectors of society - governments, international organisations, the private sector and the major groups of civil society - and that the important contribution of women must be recognised and incorporated at all levels. This recognition does not, of course, ignore or diminish the role of men as participants and partners in policy making and implementation, but it does emphasise that gender considerations are an essential component of planning for sustainable development from the community to the international level.

Given the importance of the gender issues to sustainable development, I decided to commission an in-depth analysis for inclusion in the 2004/5 GEO Year Book, UNEP's annual update on environment trends and emerging issues. The following paper, by Joni Seager, of the Faculty of Environmental Science, York University, Canada, provides a valuable insight into why we need to incorporate a holistic understanding of gender, poverty and environment into policy making and implementation at all levels to achieve the Millennium Development Goals. Currently, gender is rarely considered as a mainstream issue in environmental policies and programmes. UNEP's position is that a better understanding of the different priorities and perceptions of men and women will maximise policy effectiveness. As the paper states: "sustainable development policies and actions have been found to be more effective when gender factors are taken into account, and when both men and women are

involved equally at all stages of identifying and implementing solutions to problems."

Gender matters

Understanding the relationship between people and the environment is increasingly seen as a key to achieving sustainable development. However, that relationship is extremely complex, both to understand and to manage. There is immense geographic diversity within the environmental resources that provide humans with essential goods and services. Resources are unevenly distributed and conditions change over time. On the human side, people interact differently with, and are affected differently by, the environment.

Many of these differences can be traced to the human and social attributes that distinguish different individuals and communities. Gender is one of the most significant (Box 1). It shapes how people impact the environment, and how they, in turn, are impacted by the environment and environmental change. Sustainable development policies and actions have been found to be more effective when gender factors are taken into account, and when both men and women are involved equally at all stages of identifying and implementing solutions to problems.

The central role of gender in achieving sustainable development has been acknowledged increasingly in development and environment policies, including in Agenda 21, the Millennium Development Goals (MDGs) and the Johannesburg Plan of Implementation (JPOI) of the World Summit on Sustainable Development. However, the focus remains on promoting equity as a goal in itself, rather than on a deeper understanding of how and why gender concerns (which involve both men and women) are important to achieve sustainable development (Box 2).

Despite the growing recognition of gender as an important cross-cutting issue, it is rarely addressed in a balanced way. Gender is usually perceived as a synonym for 'women', and women are often treated as a single homogenous social group without much differentiation by age, income or subculture. The majority of gender analyses in the environment field focus on women from poor communities in developing countries. Whilst this focus is understandable because 70 per cent of the world's poor are women,¹ and the poor are the most vulnerable to ecological degradation, it does not provide the level of understanding of gender-environment interlinkages needed to include this dimension fully in environmental decision making. To provide comprehensive perspectives, gender analyses must encompass

¹*Human Development Report 1995*, United Nations Development Programme, New York

men and women, young and old, from rich and poor backgrounds, in urban and rural situations, as producers and consumers of the planet's resources and as drivers and recipients of environmental change.

Understanding of the different priorities and perceptions of men and women can be used to maximise policy effectiveness. In natural resource management, for instance, men may prioritise income-generation through short-term natural resource use, while women may be more concerned with long-term security for the family in food, water and energy. A World Bank water and sanitation project in Morocco found that men were primarily interested in constructing rural roads and ensuring a supply of electricity. Women were mainly concerned with the lack of potable water near their homes - many had to walk as far as five kilometres to the nearest source.²

Policy development also needs to take account of the different environmental hazards and health risks that men and women are exposed to because of their different livelihoods. For example, men may be at greater risk of exposure to toxic chemicals used in mining, while women may be at greater risk from pesticides used in the floriculture industry.

Data inadequacies

Environmental assessment rarely takes gender issues into full consideration. One reason for this may be inadequacies in the data: there have been few systematic attempts to collect gender-related data for the environmental impacts of people on resources, or of environmental impacts on people, except for a limited number of variables.

Gender mainstreaming is also essential but is not occurring on the scale needed.³ One reason for this could be that sector experts fail to see the importance of women's empowerment for project success. For example, it has been difficult to convince project planners that gender (for energy projects) and energy (for gender/social development projects) are key variables in project success⁴ (Box 3).

² *Gender Equality and the Millennium Development Goals*. World Bank, Washington D.C.

³ *Millennium Development Goals National Reports. A Look through a Gender Lens*. United Nations Development Programme, New York

⁴ Cecelski, E. (2004). Re-thinking gender and energy: Old and new directions. *Energy, Environment and Development*. ENERGIA/EASE, Netherlands

Governance

A key step in ensuring that women are considered, and take part in, policy-making is to ensure that they should be equitably represented in decision-making bodies, at every level from local to national and global.

After almost two decades of attempts to address gender concerns, women still account, on average, for less than 10 per cent of the seats in national parliaments.⁵ Nowhere in the world do women have equal representation with men in government, and in only 22 countries do they represent 25 per cent or more of legislators (Figure 1). The nations with the highest shares of women in elected office are those that enforce explicit policies promoting equality - most notably, the Scandinavian countries.⁶ To date, only Sweden, Denmark, Finland and Norway have achieved a 30 per cent or higher share of seats for women in parliaments or legislatures.⁷

The Beijing Platform for Action, developed at the Fourth World Conference on Women in 1995, calls for at least 30 per cent representation by women in national governments. Quota or reservation systems that ensure a minimum level of female representation are now in place in more than 25 countries. An increasing number of women are active in local governance, in city councils and mayoralities. In India, for instance, there were close to a million elected women leaders at the village level in 2001.⁸ At the level of international governance, in both developed and developing countries, women are in the minority in positions of authority where decisions that affect the environment are taken. While global environmental processes have reiterated the need to empower and involve women, the Stockholm Convention on Persistent Organic Pollutants, which came into force in 2004, is the first treaty to clearly call for a balanced inclusion of women in the convention process itself. One positive development, however, is the formation of a Network of Women Ministers of the Environment, aimed at strengthening women's positions in environmental decision making (Box 4).

Progress is being made within the United Nations system in advancing gender mainstreaming. Key UN agencies devoted specifically to gender issues include the United Nations Development Fund for Women (UNIFEM), United Nations International Research and Training Center for the Advancement of Women, United Nations Division for the Advancement of Women, and the

⁵ *Gender Equality and the Millennium Development Goals*. World Bank, Washington D.C.

⁶ Seager, J. (2003). *The Penguin Atlas of Women in the World*. Penguin Group, London

⁷ *Gender Equality and the Millennium Development Goals*. World Bank, Washington D.C.

⁸ Seager, J. (2003). *The Penguin Atlas of Women in the World*. Penguin Group, London

Commission on the Status of Women. These institutions provide leadership on substantive gender issues and processes of gender mainstreaming.

Women's environmental action has been most effective at the local level, where they have greatest voice and autonomy. At the grassroots, women have often become major forces for environmental change. The 'Chipko' or 'hug the trees' movement was started by women protecting their natural resource base in the Himalayas from logging in the 1970s (Box 5). It provided inspiration to environmentalists across the world, and contributed to a better understanding of the links between poverty and the environment. It was commonly believed then that environmental concerns were the luxury of the rich. The drastic steps taken by the local community showed that environmental concerns were in fact a matter of life and death for the poor.

In Kenya, the Green Belt Movement, started by Nobel laureate Wangari Maathai, demonstrated that tree planting can improve the lives of women, provide sustainable livelihoods, and conserve the environment. Professor Maathai founded the movement on Earth Day 1977. Since then, 50,000 people have planted 30 million indigenous trees on farms and school and churchyards all over Kenya. They were paid for every seedling that survived. A Pan African Green Belt Network has been set up, and similar initiatives established in other countries including Ethiopia, Lesotho, Malawi, Tanzania, Uganda and Zimbabwe.

The Green Belt initiative has multiple benefits. It empowers women, provides them with a sustainable livelihood, and promotes self-sufficiency. It provides them with fuel wood, prevents soil erosion, protects catchments, provides shade, and creates windbreaks for crops. In recent years, the movement has broadened to include issues of food security and production of indigenous food crops, many of which had been abandoned in favour of export crops such as coffee, tea and flowers. As Professor Maathai remarked, "Implicit in the act of planting trees is a civic education, a strategy to empower people and to give them a sense of taking their destiny into their own hands".⁹

Time to participate

In many rural communities in the developing world, one of the obstacles to more equitable gender participation in governance and decision making relates to women's work burden and its effect on the time available for other matters.

⁹Maathai, W. (2004). The Green Belt Movement. <http://www.greenbeltmovement.org/biographies.htm>

Experts in the late 1970s began to argue that the 'real energy crisis' was not a shortage of biomass energy, but of women's time. Work burdens also affect other factors needed for informed participation: they limit girls' and women's opportunities to receive training and education which could enhance their understanding of problems and possible solutions.¹⁰ The schooling gap between boys and girls in many countries and regions still exists. In times of hardship, girls are the first to be pulled from school. An estimated 860 million people in the world are illiterate, and two-thirds of these are women.¹¹

Detailed studies of time allocation since the late 1970s showed that women and girls worked longer hours than men and boys, and more of their work was unpaid. There was also considerable diversity in the division of labour between men and women. Certain tasks, such as weeding, child care, cooking, fuel collection, food processing and water carrying were typically done by women, while other tasks such as ploughing and home repair were done by men.¹²

In response to such studies, the International Labour Organisation (ILO) recommended in the 1980s that the definition of 'labour activities' in labour market censuses should cover subsistence and domestic activities, as well as wage-earning and the production and sale of goods and services.¹³ In 1995, UNDP estimated that if unpaid activities were treated as market transactions at prevailing wages, global output would increase by US\$16 trillion of currently non-monetised contributions. Of this, US\$11 trillion would correspond to women's 'invisible contribution' and the rest to men's.¹⁴

Such studies also drew attention to the need for time-saving technologies for women, to free up time for other income generating activities and for education. More equal education of women would bring a range of benefits. Education has been found to have a profound effect on health and population growth. A study of 25 developing countries showed that, all else being equal, one to three extra years of maternal schooling would reduce child mortality by 15 per cent, whereas similar increases in paternal schooling would achieve a 6 per cent reduction.¹⁵ Education, especially if pursued beyond the first few years, also reduces fertility rates¹⁶ (Figure 2).

¹⁰ Cecelski, E. (2004). Re-thinking gender and energy: Old and new directions. *Energy, Environment and Development*. ENERGIA/EASE, Netherlands

¹¹ Cecelski, E. (2004). Re-thinking gender and energy: Old and new directions. *Energy, Environment and Development*. ENERGIA/EASE, Netherlands

¹² Cecelski, E. (2004). Re-thinking gender and energy: Old and new directions. *Energy, Environment and Development*. ENERGIA/EASE, Netherlands

¹³ *Human Development Report 1995*. United Nations Development Programme, New York

¹⁴ Kirk, D. and Pillet, B. (1998). Fertility levels, trends, and differentials in Sub-Saharan Africa in the 1980s and 1990s. *Studies in Family Planning*, 29, 1, 1-22.

¹⁵ *State of World Population 2003*, United Nations Population Fund, New York

Gender, poverty and environment: a three-way interaction

In many parts of the world, women tend to be the poorest of the poor in a very literal sense. In addition to being the majority among the poor, they are often denied the most basic rights and access to critical resources such as land, inheritance or credit. Their labour and knowledge are undervalued. Their needs are often overlooked. They are more vulnerable to disease and disasters and the situation is made worse by their poverty. Cultural and social norms sometimes complicate matters further by placing additional expectations, restrictions and limitations on women. Gender gaps are widespread, and in no region of the world are women equal to men in legal, social and economic rights¹⁷ (Figure 3).

In recent years the definition of poverty has broadened from its traditional focus on per capita income, to encompass other dimensions such as lack of empowerment, opportunity, capacity and security.¹⁸ Analysts argue that improving women's access to economic opportunities is critical to the MDG of halving world poverty. Some of the causes of poverty are embedded in how resources are distributed, and this is linked to the power relations between men and women.¹⁹ The MDGs of gender empowerment and poverty eradication are therefore seen as mutually reinforcing.

Integrating poverty and gender analyses in policy-making is a challenging task. The World Bank's Gender and Development Group took stock of the Bank's Poverty Reduction Strategy Papers (PRSPs) in 2001 and found that incorporation of gender had been minimal - less than half the PRSPs discussed gender issues in any detail. Even fewer integrated gender analysis into their strategy, resource allocation and monitoring and evaluation sections.²⁰

Even more challenging than integrating poverty and gender is integrating environment as well into a three-way interaction. Gender is often the one that disappears in the analysis.²¹

The synergies between the goals of gender equity, poverty alleviation and

¹⁷ *Gender Equality and the Millennium Development Goals*. World Bank, Washington D.C.

¹⁸ *Gender Equality and the Millennium Development Goals*. World Bank, Washington D.C.

¹⁹ Kabeer, N. (2003). *Gender mainstreaming in poverty eradication and the Millennium Development Goals: How readdressing gender inequalities can help achieve the MDGs*. International Development Research Centre, Ottawa, Canada

²⁰ Kabeer, N. (2003). *Gender mainstreaming in poverty eradication and the Millennium Development Goals: How readdressing gender inequalities can help achieve the MDGs*. International Development Research Centre, Ottawa, Canada

²¹ Seager, J. and Hartmann, B. (2004). *A Gender Assessment of DEWA and United Nations Environment Programme*. Unpublished report to DEWA, United Nations Environment Programme, Nairobi

Environmental sustainability are explored below in terms of addressing poverty among women - including energy and water poverty, health, climate change, natural disasters and creating sustainable livelihoods by empowering women in the realms of agriculture, forest and biodiversity management.

Energy, environment and gender

The synergies between gender, environment and the energy sector were first recognised in relation to biomass energy. Women were recognised as users and collectors of fuel wood, and as victims of environmental deterioration that caused energy scarcity.

Time use surveys have shown that women spend long hours in fuel collection. The burden increases as deforestation worsens, and this affects the time available to women for other activities including income-generating activities, education and participation in decision making. In Sudan, for instance, deforestation in the last decade led to a quadrupling of the time women spent gathering fuelwood.²² This stimulated efforts to promote afforestation and design more fuel-efficient stoves. Funding petered out, however, when the improved stoves and forestry projects were not as successful as anticipated (see also Box 3).

Attention to biomass energy and its impact on women's lives has recently revived. A 2002 report by the World Health Organisation ranked indoor air pollution, mainly from woodfuel smoke, as the fourth largest health problem in developing countries.²³ It is estimated to kill 2 million women and children in developing countries every year,²⁴ and also causes respiratory and eye diseases. There are differences in exposure according to age and economic status, and in some cultures women tend to undervalue their own health, leading to under-reporting of problems.²⁵

In many developing countries communal lands remain a crucial source of biomass energy, yet privatisation of these lands continues apace - reducing free access to fuelwood, and removing yet another area where cooperative decisions could be made on sustainable management of fuelwood sources.²⁶

²² *Women, Men and Environmental Change: The gender dimensions of environmental policies and programs*. Population Reference Bureau, Washington DC

²³ *The World Health Report 2002. Reducing Risks, Promoting Healthy Life*. World Health Organisation, Geneva

²⁴ *Gender Equality and the Millennium Development Goals*. World Bank, Washington D.C.

²⁵ Cccelski, E. (2004). Re-thinking gender and energy: Old and new directions. *Energy, Environment and Development*. ENERGIA/EASE, Netherlands

²⁶ Agarwal, B. (1986). *Cold hearths and barren slopes: The woodfuel crisis in the Third World*. Sed Books, London

In developed countries, the links between gender, environment and energy have been explored mainly in the areas of equal opportunity in the energy professions, decision making in energy policy, pollution and health, preferences for energy production systems, access to scientific and technological education and the division of labour in the home.²⁷ There is also some indication in industrialised countries that women's preferred research agendas may differ from men's: they tend to be more skewed towards research on renewable energy and social aspects of energy.²⁸

A key lesson for energy policy makers is that the involvement of both sexes in planning and decision making is central to the success or failure of energy interventions.

Climate change and gender

Climate change is predicted to cause displacement of populations due to sea level rise. In many parts of the developing world it is expected to increase water scarcity, to increase the disease burden, to negatively impact agriculture, and to cause more frequent extreme weather events.²⁹

Analysts have assumed that the effects of climate change are very likely to differ by gender, because of the strong relationship between poverty and vulnerability, and the fact that women as a group are poorer and less powerful than men.³⁰ But the discussion has remained largely speculative, with little research to support it. Neither the impact of climate on a gender basis, nor the respective roles of men and women in addressing climate change have been considered in global negotiations under the UN Framework Convention on Climate Change (UNFCCC).

The potential value of gender as a factor in deciding on policies and programmes to reduce greenhouse gas emissions has received even less attention. For example, as users of household energy, women can play a key role in energy conservation, as well as in promoting renewable energy technologies.

Both sexes make decisions about the forms of transport they use and how frequently they travel, and there are gender differences in the choices they make. In

²⁷ Clancy, J. and Roehr, U. (2003). Gender and Energy: Is there a Northern Perspective? *Energy for Sustainable Development*, 7, 3, 44-9

²⁸ Clancy, J. and Roehr, U. (2003). Gender and Energy: Is there a Northern Perspective? *Energy for Sustainable Development*, 7, 3, 44-9

²⁹ *Climate Change 2001: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK

³⁰ Skutsch, M. (2002). Protocols, treaties, and action: the 'climate change process' viewed through gender spectacles. *Gender and Development* 10, 2, 30-9

developed countries, for example, women tend to use public transport more than men.

To encourage a policy focus on these areas, more gender-disaggregated research is needed on energy and climate change topics, including vulnerability to climate change and adaptive capacity among different social groups.³¹ Other areas for gender-disaggregated research include:

- Environmental aspects of energy production including biomass;
- Environmental awareness and attitudes about energy issues including renewable/ alternative energy;
- Energy consumption, use and saving;
- Impacts of privatising energy markets; and
- Policy instruments in the energy sector, including policies on climate change.

Land tenure and agriculture

Time use studies challenged the commonly held belief that women play a marginal role in agriculture. It was found, for instance, that women produced most of the food in Africa³² (Figure 4). Official statistics recognise that women now make up about 40 per cent of the agricultural labour force worldwide, and about 67 percent in developing countries.³³

Despite this key role in agriculture, most of the world's women do not equally own, inherit or control land and other property. Discriminatory inheritance and property ownership laws restrict women's ability to ensure long-term food security for the family, and to get loans using land as collateral. They also have important consequences for soil and land management - it is widely acknowledged that owners of land take more care to ensure soil conservation. Improved access to agricultural support systems, including credit, technology, education, transport, extension and marketing services, is essential to improving agricultural productivity and promoting environmentally sustainable practices - yet often women have no access to these services.

The division of labour between men and women in agricultural production

³¹ Denton, F. and Parikh, J. (2003). Gender – A Forgotten Element. *Tiempo: A Bulletin on Climate and Development*. Issue 47

³² Cecelski, E. (2004). Re-thinking gender and energy: Old and new directions. *Energy, Environment and Development*. ENERGIA/EASE, Netherlands

³³ Seager, J. (2003). *The Penguin Atlas of Women in the World*. Penguin Group, London

varies considerably between cultures. However, as a broad generalisation, it is usually men who are responsible for large-scale cash cropping, especially when it is highly mechanised, while women take care of household food production and some small-scale, low technology cultivation of cash crops. This has important implications for biodiversity. Gender-differentiated local knowledge systems play a decisive role in conserving, managing and improving genetic resources for food and agriculture. In Kenya, researchers have found that men's knowledge of traditional crops and practices is actually declining as a result of formal schooling and migration to urban areas. By contrast, women retain a widely shared level of general knowledge about wild foods, craft and medicinal plants, and acquire new knowledge about natural resources as their roles and duties change.³⁴

The 1992 United Nations Convention on Biological Diversity (CBD) recognises the vital role that women play in the conservation and sustainable use of biological diversity, and affirms the need for their participation at all levels of policy-making and implementation. Women from farming communities in developing countries have also played a key role in opposing the patenting of plant and animal species by corporations, and continue to campaign to protect their access to seeds and medicinal plants essential to their survival.³⁵

Water

Lack of access to clean potable water has been recognised as a factor increasing women's work burdens in those parts of the world where they are responsible for collecting water for basic needs like cooking, cleaning and hygiene. In some cases water collection can take up to 60 per cent of their working time.³⁶

In rural Africa, women and girls spend as much as three hours per day fetching water, using up more than one-third of their daily caloric energy intake.³⁷ This limits the time available for them to engage in wage-earning economic and social activities and development projects. Lack of clean water is also responsible for water-borne diseases among children - one of the major causes of child disease and mortality. This further adds to women's childcare responsibilities.

The lack of easily accessible water has health implications for women as

³⁴ Rocheleau, D., Thomas-Slayter, B. and Edmunds, D. (1995). Gendered Resource Mapping: Focusing on Women's Spaces in the Landscape. *Cultural Survival Quarterly*, 18, 4, 62-8

³⁵ Diverse Women for Diversity (2004). <http://www.diversewomen.org/Issues.htm>

³⁶ *Women and Water*. United Nations Education, Scientific and Cultural Organisation. http://www.unesco.org/water/ihp/women_and_water.html

³⁷ WEHAB Working Group (2002). *A Framework of Action on Water and Sanitation*. Paper presented at the World Summit on Sustainable Development, Johannesburg, South Africa. <http://www.johannesburgsummit.org/html/documents>

well. Carrying heavy water jars over long distances during pregnancy can result in premature births, prolapsed uterus or back injuries.³⁸ Constant exposure to water while collecting, washing clothes, cleaning and cooking puts women at greater risk of contracting water-related diseases. For instance, in eastern Tanzania, urinary schistosomiasis, a water-related disease, was most common among boys, and also among girls and women between the ages of 10 and 40. The incidence among boys was associated with swimming. Among women and girls, it was associated with the local practice of washing clothes while standing in schistosomiasis-infested water.³⁹

The importance of involving women in water management in local communities has been well documented over the years. A review of 271 World Bank projects by the International Food Policy Research Institute shows that when women are consulted, sustainability of projects is increased by 16 per cent. Yet, in most parts of the world, women are involved only at the lower echelons of water monitoring and management. Men still take most decisions on water, particularly at the national and global level. The global trend towards privatisation of public services may make matters worse, if increased water and energy prices result in decreased access to clean water for poor women. Women have been central in struggles against the privatisation of public water services⁴⁰ (Box 6).

Non-governmental, governmental and academic interests have recently begun gender analyses of water resources, management, and supply issues. Support for integrating gender into water resource management has come from the recent World Water Forums - in Marrakech 1997, The Hague 2000, and Kyoto 2003. Despite these commitments, a fully gender-aware water agenda has yet to be taken on board by governments and multilateral agencies.

Such an agenda would include the development of gender-aware water policies at all levels; comprehensive data collection to better understand the gender aspects of water supply, use and informal water management in household economies; gender-sensitive impact studies of water privatisation; and the involvement of women in decision making on water use and management. The benefits of such an agenda for women would include increased awareness of health and hygiene in water management, and increased income-generating capacity through time saved in fetching water.⁴¹

³⁸ *Global Population and Water, Access and Sustainability. Population and Development Strategies*, Number 6. United Nations Population Fund, New York

³⁹ *Untapped Connections: Gender, Water and Poverty*. Women's Environment and Development Organisation. http://www.wedo.org/sus_dev/untapped1.htm

⁴⁰ WEDO 2003b

⁴¹ Joshi, D. and Fawcett, B. (2001). *Water Projects and Women's Empowerment*. Paper for the 27th WEDC Conference: People and Systems for Water, Sanitation and Health, Lusaka, Zambia

Health

The link between health and the environment has been widely recognised, if not fully acted upon, in recent years (Figure 5). Unclean water and untreated sewage are responsible for the spread of water-borne diseases such as cholera and intestinal parasites (Box 7). Limited access to water may be responsible for the spread of germs. Pollutants in the environment (including air pollutants from transport and industry, chemical toxins and heavy metals from industrial processes, and dioxins from waste incineration) pose a constant threat to the human body. Climate change is expected to increase the burden of disease considerably by allowing vectors to breed in latitudes or altitudes where current temperatures them.

Men and women are exposed differently to environmental risks, and their bodies may respond differently even to the same threats. For instance, the incidence of respiratory illnesses is considerably higher among women and young children, who are constantly exposed to indoor air pollution, than among men (Figure 6).

Poor nutritional levels can make people particularly vulnerable to infectious diseases, and age and gender may exacerbate this risk. Malaria, for example, is more likely to cause serious problems or death in young children or pregnant women. During pregnancy, it can cause severe anaemia, and it can also harm the foetus, increasing the chances of abortion, premature birth, stillbirth, intrauterine growth retardation and low infant birth weight. Malnutrition, persistent bouts of diarrhoea from unclean water and intestinal worms in the mother can also retard the growth of the foetus by causing anaemia. Estimates attribute 20 per cent of maternal deaths in Africa and 23 per cent in Asia to anaemia during pregnancy.⁴²

Scientists now regard certain chemicals such as PCBs, dioxins, DDT and at least 80 other pesticides as 'endocrine disrupters,' which may interfere with normal hormone function, undermining disease resistance and reproduction. Some of them may cause declining sperm counts among men, infertility among women, miscarriages, and early puberty in girls.⁴³ People of both sexes need to be better informed of these threats, so that they may exert pressure on governments to find safer alternatives, support pre-market testing of chemicals and integrate the precautionary approach into chemicals management policies.⁴⁴

⁴²Murray, C.J.L. and Lopes, A.D. eds. (1996). *The Global Burden of Disease: A comprehensive Assessment of Mortality and Disability from Diseases, Injuries and Risk Factors in 1990 and Projected to 2020*. Harvard School of Public Health, Cambridge, Massachusetts

⁴³*Global Population and Water, Access and Sustainability. Population and Development Strategies*, Number 6. United Nations Population Fund, New York

⁴⁴Patton, S. (2004). Toxic Trespass. *Our Planet*, 15, 2, 24-6

One of the newest threats to health and social welfare is the spread of HIV/AIDS. Both sexes are affected, but to different extents in different parts of the world (Table 1). Globally, men account for 52 per cent of infected adults. Lack of information among women on how the disease is transmitted compounds the problem in many regions (Figure 7). In sub-Saharan Africa, 55 per cent of those infected are women.⁴⁵ In this region, women grow most of the food, and women's agricultural labour often shows the first signs of wider community disruption by HIV/AIDS. For example, in Malawi, Mozambique, Zambia and Zimbabwe where women are responsible for most food production, there has been a progressive shift from maize production to less labour-intensive, and less nutritious, cassava production to compensate for the labour lost through HIV/AIDS.⁴⁶

A study in South Africa showed that in almost half the households surveyed, the primary caregiver for an HIV/AIDS patient has taken time off from formal or informal employment, or from schooling. The primary caregiver is most frequently female. Women and girls may lose as much as 60 per cent of their time from other housework or cultivation tasks, affecting the ability of poor households to grow food for consumption or sale.⁴⁷

Urbanisation

Until recently, the link between gender, the environment and urbanisation was mostly seen as rural women being left behind in rural areas to take care of agriculture, while men migrated to cities in search of a better income. This focus has slowly expanded to include the impact of urban environments on women.

In many developing countries, people migrating as unskilled labourers to a city face a challenge in accessing even basic necessities such as food, water, and housing, and they are vulnerable to exploitation and economic abuse.

Air and water pollution can be extreme in urban settings, and sanitation and waste treatment poor or non-existent in low-cost residential areas and slums. Housing tenure patterns in towns and cities are sometimes gender distorted: it is often harder for women to have secure tenure of their housing or land. In addition, inequitable inheritance practices leave female-headed households extremely vulnerable, especially where land grabbing occurs. Many urban households have

⁴⁵ *Gender Equality and the Millennium Development Goals*. World Bank, Washington D.C.

⁴⁶ De Waal, A. and Whiteside, A. (2003). New Variant Famine: AIDS and Food Crisis in Southern Africa. *The Lancet*, 362, 1234-7

⁴⁷ Heyser, N. (2004). Peace of Mind, Peace of Land. *Our Planet*, 15, 2, 11-2 IFPRI (2000). *Women – The key to Food Security: Looking into the Household Information brochure*. International Food Policy research Institute, Washington, D.C.

female heads, and typically these are poorer and more vulnerable than households with a couple.⁴⁸

Environmental disasters

Disasters do not strike evenly by social class or gender. However, it is well established that the poor are more exposed to environmental and other disasters, and also more vulnerable to them when they occur. They are more likely to live in disaster-prone areas, in vulnerable, badly built and badly sited housing, and with few resources to pay for rescue or rehabilitation.

Anyone who is located (socially and/or spatially) 'out of the loop' of information supplied by early warning systems is likely to suffer more from disasters. In some countries, these individuals are more likely to be women than men. The 1991 cyclone in Bangladesh resulted in a disproportionate number of female deaths (71 per 1 000 women as against 15 per 1 000 men).. This was partly because warnings of the cyclone were displayed in public places, less frequented by women. Researchers also found that women delayed leaving their houses for much longer, in order to avoid the impropriety of being alone in public. Women were also less likely to have been taught how to swim.⁴⁹

On the other hand, men sometimes treat disaster warnings less seriously. More men than women died in Florida and the Caribbean during Hurricane Mitch in 1998, in part because they ventured into the storm.⁵⁰ The earthquake in Kobe, Japan in 1995 demonstrated clear gender-differentiated impacts both during and after the event (Box 8). The Food and Agriculture Organisation of the United Nations (FAO) has developed gender guidelines for emergency preparedness. These include key questions to be asked in an emergency situation to help ensure that emergency interventions will be sensitive to gender differences.⁵¹ Several other disaster-relief NGOs, including OXFAM, have done similar work.

Challenges for the Future

Many countries are introducing policies to address gender issues, including positive action measures, often called 'gender mainstreaming' tools. These include measures geared at improving equity such as legislation for gender-balanced

⁴⁸ Seager, J. (2003). *The Penguin Atlas of Women in the World*. Penguin Group, London

⁴⁹ Khonder, H. H. (1996). Women and Floods in Bangladesh. *International Journal of Mass Emergencies and Disasters*, 14, 3, 281-92

⁵⁰ Nelson, V., Meadows, K., Cannon, T., Morton, J., and Martin, A. (2001). Uncertain predictions, invisible impacts, and the need to mainstream gender in climate change adaptations. *Gender and Development* 10, 2, 51-9

⁵¹ *SEAGA Guidelines for Emergency Preparedness*. United Nations Food and Agriculture Organisation, Rome

quotas and targets, gender-sensitive budgets, equal education of girls and boys at all levels, and support for women's networks. They also include institution-building measures such as gender-mainstreaming advisors, gender impact assessments of old and new practices and policies, gender analysis and gender audits, and visioning about the future of institutions to weed out discriminatory practices.

The full success of forward-looking strategies for bringing gender into environmental analysis - and vice versa - may hinge on four major areas of activity.

First, improving and supporting women's capacity to participate and shape environmental policy and action at all levels from grassroots to government. Worldwide, women are still very poorly represented in governments and other decision-making bodies. There has been an improvement in women's participation in development.

Boxes

Box 1: Some definitions

Gender: A person's sex is biological, but gender is social. Gender is what society makes of sex: it is the accumulation of social norms about what men and women 'should' be and do. For example, the fact that women give birth and men do not is a consequence of their sex. The fact that taking care of children is considered women's work almost everywhere in the world is a gender role. Ideas about gender shape personal relationships and institutions at all scales from the household to governmental agencies. While sex is more or less fixed, gender roles and perception are highly variable and changeable.

Gender analysis: *The purpose of gender analysis is to understand the social, cultural and economic relations between women and men in different arenas. Gender analysis is not just about women: men are also part of the picture. It requires an examination of fundamental issues such as:*

- The distribution of power between men and women
- The ways in which notions of masculinity and femininity are defined and enacted in the social roles and needs of women and men; and
- The gender dimensions of institutions.

Gender mainstreaming: This is the process of assessing the implications for women and men of all planned actions. It is a strategy for making women's as well as men's concerns and experiences an integral dimension when designing, implementing and evaluating policies and programmes in all spheres, so that women and men benefit equally and inequality is not perpetuated.⁵²

Box 2: The gender perspective in Millennium Development Goals

The Millennium Development Goals were adopted in 2000 as part of the Millennium Declaration, signed by 191 countries, and focus on peace, security, development, environmental sustainability, human rights and democracy.

There are eight goals, which are seen as interconnected and mutually reinforcing agents of sustainable development. A list of 18 quantitative targets and 48 indicators have been identified for the goals, most of which are to be achieved by 2015.

Goal 3 calls for the promotion of gender equality and empowerment of women. It is recognised that this is central to the achievement of the other seven MDGs. Attempting to achieve the MDGs without promoting gender equality will raise the costs and decrease the likelihood of achieving the other goals.

Most signatories to the Millennium Declaration are preparing country level MDG reports as a mechanism for tracking progress. A review of 13 of these reports by the United Nations Development Programme (UNDP) reveals that:

- Gender is not reflected as a cross-cutting issue in any of the reports;
- Goal 3, which deals specifically with gender, is the only goal where gender issues have been consistently addressed by countries;
- Apart from Goal 3, gender issues are most frequently addressed under Goal 5 (maternal mortality);
- Gender issues are mentioned under Goal 1 (poverty) in six reports;
- Women are mentioned under Goal 7 (environment) and Goal 8 (development cooperation) in only one report each (Mozambique and

⁵² Untapped Connections: Gender, Water and Poverty. Women's Environment and Development Organisation. http://www.wedo.org/sus_dev/untapped1.htm

Mauritius respectively).

The UNDP report concludes that including gender as a mainstream issue is still patchy, and is restricted primarily to the obvious sectors of women's empowerment and maternal mortality. The confinement of gender issues within women-specific sectors occurs almost universally - there is no significant difference between reports authored by the UN system, national governments, or independent consultants.

The inclusion of gender perspectives and women's concerns under Goals 5 and 6 (to combat HIV/AIDS, malaria and other diseases), plus the invisibility of women in discussions on Goals 7 (environment) and 8 (development cooperation) in all but two reports, suggests that women are still seen mainly in terms of their vulnerabilities and roles as mothers or victims rather than as actors in development.

Despite the rights-based perspective reflected by most reports in the discussion on Goal 3, recognition of the importance of gender in relation to the other goals continues to be limited. For instance, women's lack of knowledge of care and feeding practices is often cited as a barrier to achieving the goal on reducing child mortality. Such a formulation ignores other gender-related variables that affect child survival, including the role of fathers in parenting and care.

Source: UNDP 2003a

Box 3: Women as participants in programme design and execution

For many years, studies on environmental management portrayed women from poor communities as victims of environmental degradation, particularly water and fuel scarcity. Their role as managers or problem-solvers was overlooked, and policy solutions considered them as passive beneficiaries. Often women were not involved in the analysis of the problem, nor in its solution.

For example, when concerns were raised in the 1970s and 80s about the shortage of biomass fuel for domestic energy in developing countries, and the impact of fuelwood gathering on forests and woodlands, two solutions were proposed: tree planting, and efficient stoves to conserve biomass energy.

The forestry sector largely failed to involve women in afforestation, and many improved stoves were designed in laboratories with little input from the women who would use them. As a result, many early stoves programmes failed to achieve their targets for dissemination and use. Women often rejected them because

they were barely more efficient and did not provide some of the subsidiary benefits of traditional stoves, such as space heating and ability to accommodate different sizes of pots. These failures drew attention to the need for women's participation and consultation, and brought the realisation that women could contribute to project success. The emphasis has now shifted to women's participation in planning, design and decision making. However, even women's participation does not always guarantee success, partly because of lack of attention to other gender aspects, such as social relations, women's status in the household or access to income.

Source: Cecelski 2004

Box 4: Network of Women Ministers of the Environment

In March 2002, 22 women ministers for the environment and 28 women leaders of intergovernmental and non-governmental environmental organisations in Africa, Asia, Europe, North and South America met in Helsinki, Finland. The meeting resulted in the creation of a Network of Women Ministers of the Environment (NWME) with a secretariat in Washington DC.

NWME is part of a new architecture of organisations founded to advance global democracy, excellence in governance and gender equality. It operates under the auspices of the Council of Women World Leaders, founded in 1996, and the International Assembly of Women Ministers, created in 2002.

NWME recognises that women constitute a majority of the world's poor, but are severely under-represented in policy-making roles. Given that women can bring to the table new ideas, approaches and strategies for protecting people and natural resources, the Network focuses on increasing the involvement of women in sustainable development issues. Some of its activities include:

- Developing recommendations for practical solutions to environmental problems confronting nations and the world;
- Building partnerships with appropriate civil society, non-governmental and intergovernmental agencies;
- Exchanging best-practice experiences in order to implement more effective policies; and
- Creating a critical mass of leadership to influence international and national policy.

For 2004–05, NWME has identified demography and sanitation, fresh water, energy and sustainable security as priority issues. In 2005, for the tenth anniversary of the Beijing Conference on women, the Network will explore gender and environmental perspectives of the Beijing goals.

Box 5: Women defend the trees

The Uttarakhand region in the Himalayan foothills in India is rich in forest resources such as timber, limestone, magnesium, and potassium, which have been commercially exploited over the centuries. Forest conservation policies traditionally restricted the access of local communities to these forests. Combined with large-scale deforestation due to logging, these policies resulted in large-scale migration from the region. In the 1960s, entire villages were depopulated.

Women often stayed behind in the villages. They faced increasing difficulties as environmental degradation deepened and spread, resulting in acute water, fuelwood and fodder shortages. Communities gave up raising livestock, adding to the problems of malnutrition in the region. Natural disasters increased in intensity as watersheds were deforested and flooding and erosion increased.

The increasing adversity of hill life prompted local people to resist the destruction of their land and livelihoods. The first confrontation occurred when a forest concession was granted to an outside company rather than to local interests. Activists fanned out across the Himalayas to organise communities against commercial logging operations that threatened their livelihoods.

In 1974, state government and contractors diverted the men of Reni village to a fictional compensation payment site, while labourers disembarked from trucks to start logging operations. Under the leadership of Gaura Devi, a 50-year old illiterate woman, women left their homes to hug the trees and prevent them from being cut. A four-day standoff ended in victory for the villagers.

The actions of the women of Reni were repeated in several other places in the region, as hill women demonstrated their new-found power as non-violent activists. Their spontaneous movement eventually culminated in the banning of tree felling above 1 000 metres in 1980, by India's then Prime Minister, Indira Gandhi.⁵³

⁵³Rawat, R. (1996). *Women of Uttarakhand on the Frontiers of the Environmental Struggle*. <http://www.bostonglobe.com/balaction.net/UK/chipko.html>

Box 6: Women ensuring their own water supplies

In several parts of the world, women have taken matters into their own hands to solve their water problems. In India, the Self-Employed Women's Association (SEWA), a trade union of 215 000 poor, self-employed women, launched a ten-year campaign to revive water sources in drought-prone districts of Gujarat. Women made up seven out of eleven members of the watershed committees set up at village meetings, and the chairperson was also required to be a woman. The committees performed soil and water conservation work, and created green belts and grass cover for better retention of water. The projects reduced soil salinity, resulting in more fertile land and a more sustainable source of income, while generating direct employment opportunities for about 240 women.

In Honduras, women in low-income urban neighbourhoods have taken on and managed their own licensed water-vending points, to fight back against high water prices from private vendors and license holders. The result has been lower and more reliable water prices, part-time employment for poor single women with children, and use of the group's surplus for neighbourhood projects. Women have used the local water supply for income generation through beer brewing, teashops and a launderette.⁵⁴

Box 7: Sanitation

Women have a vested interest in promoting sanitation systems, to ensure better hygiene for their families and hence a reduced disease burden. This interest was reflected in a study in Indonesia and Cambodia, which showed that the process for acquiring family latrines was mostly initiated by women. Women's interest was higher despite evidence that the extra work involved in keeping toilets clean and ready for use fell to women alone.⁵⁵

Box 8: Gender in the Kobe earthquake

Researchers have noted a number of gender-related dimensions of the Kobe earthquake:

- 1.5 times more women than men died in the earthquake. Researchers

⁵⁴Untapped Connections: Gender, Water and Poverty. Women's Environment and Development Organisation. http://www.wedo.org/sus_dev/untapped1.htm

⁵⁵Mukherjee, N. (2001). *Achieving sustained sanitation for the poor*. Water and Sanitation Program for East Asia and the Pacific. Jakarta, Indonesia

believe that this was because more elderly single women lived in poorer residential areas where the damage by the earthquake was more severe;

- Many more women than men developed post-traumatic stress disorder in the aftermath of the earthquake. Because water, electrical, gas, and sewage systems were all damaged, women suddenly were thrust into the position of keeping households together without modern support systems;
- Men faced pressure to get back to work as soon as possible. Many men had to sleep in their offices because of lack of transportation;
- Male alcoholism and suicides increased in the aftermath of the earthquake; and
- Domestic violence against women increased because of anxiety and pressure.

Source: Government of Japan 2003

Gender and Environment Milestones

1972

The Stockholm Declaration on Environment articulates the right of people to live in an environment of quality that permits a life of well-being and dignity.

1979

The UN General Assembly adopts the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), described as the first international bill of rights for women. Although environment is not specified in CEDAW, the Convention defines discrimination against women as "any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field."

1985

The UN Third World Conference on Women, and associated NGO Forum

in Nairobi, produces the Nairobi Forward Looking Strategies, which recognise women's role in environmental conservation and management.

1991

The Global Assembly on Women and the Environment convenes in Miami.

1992

The United Nations Conference on Environment and Development (UNCED) in Rio recognises women as a 'major group' in sustainable development and makes specific provisions to advance their position. These include Chapter 24 in Agenda 21, entitled 'Global Action for Women towards Sustainable Development'. Rio Principle 20 reads: "Women have a vital role in environmental management and development. Their full participation is therefore essential in achieving sustainable development."

1993

The World Conference on Human Rights in Vienna acknowledges that women's rights are an inalienable part of universal human rights.

1994

The International Conference on Population and Development in Cairo takes major steps forward on women's and girls' rights to control their lives and status in reproductive rights including family planning.

1995

The UN Fourth World Conference on Women in Beijing results in the Beijing Platform for Action, which offers a roadmap for 12 key areas: poverty, education and training, health, violence, armed conflict, the economy, decision making, institutional mechanisms, human rights, the media, the environment and the girl child. Section K, on women and the environment, asserts that "women have an essential role to play in the development of sustainable and ecologically sound consumption and production patterns and approaches to natural resource management".

2000

Beijing+5: Beijing and Beyond convenes in New York and recognises several emerging critical issues for women and girls, including work-related rights, gender-based violence, reproductive and sexual rights, education and social security, and access to productive resources. At the Millennium Summit in New York, UN Member States commit themselves to establishing a better, healthier and more just world by 2015. The Millennium Declaration promises "to promote gender equality and the empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable." Among the eight Millennium Development Goals are:

- Goal One: eradicate extreme poverty and hunger;
- Goal Three: promote gender equality and empower women; and
- Goal Seven: ensure environmental sustainability.

Security Council Resolution 1325 on Women Peace and Security recognises the impact of war on women, and recommends improving women's protection during conflict as well as women's leadership in peace-building and reconstruction.

Table 1: HIV/AIDS prevalence by gender, 2003

Percentage of the population aged 15–49 living with HIV/AIDS

	Total	Men	Women
Northern Africa	0.1	na	na
Sub-Saharan Africa	7.2	6.2	8.3
Latin America and Caribbean	0.7	0.9	0.5
Eastern Asia	0.1	0.2	0.1
Southern Asia	0.7	0.8	0.5
South-Eastern Asia	0.5	0.7	0.3
Western Asia	0.1	na	na
Oceania	0.5	0.7	0.3
Commonwealth of Independent States (Asia)	0.1	0.1	0.1
Commonwealth of Independent States (Europe)	1.1	1.5	0.8
Developed Regions	0.5	0.6	0.3

Note: na – not available

Source: UN Statistics 2004

2002

The World Summit on Sustainable Development in Johannesburg issues a Political Declaration, and the Johannesburg Plan of Implementation. They confirm the need for gender analysis, gender-specific data and gender mainstreaming in all sustainable development efforts, and the recognition of women's land rights. Principle 18 of the declaration states: "We are committed to ensure that women's empowerment and emancipation and gender equality are integrated in all the activities encompassed within Agenda 21, the Millennium Development Goals and the Plan of Implementation of the Summit".

2003

The 11th session of the UN Commission on Sustainable Development decides that gender equality will be a cross-cutting issue in all forthcoming work up until 2015.

The 2004–05 UNEP programme of work identifies gender as a cross-cutting priority in all UNEP's activities.

2004

The First Meeting of the Global Women's Assembly on Environment is held in Nairobi at UNEP. The resulting Manifesto engages to "continue the struggle for a peaceful, just and healthy planet for all... and to continue to work, develop, and support activities that contribute to gender justice, a cleaner safer environment, and a better life for our communities."

2005

Implementation of the MDGs within the context of gender and environment is a special topic for consultation at the 23rd session of UNEP's Governing Council / Global Ministerial Environment Forum.