

United Nations
Environment
Programme

Women and the Environment

POLICY SERIES



UNEP



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FOUNDATION

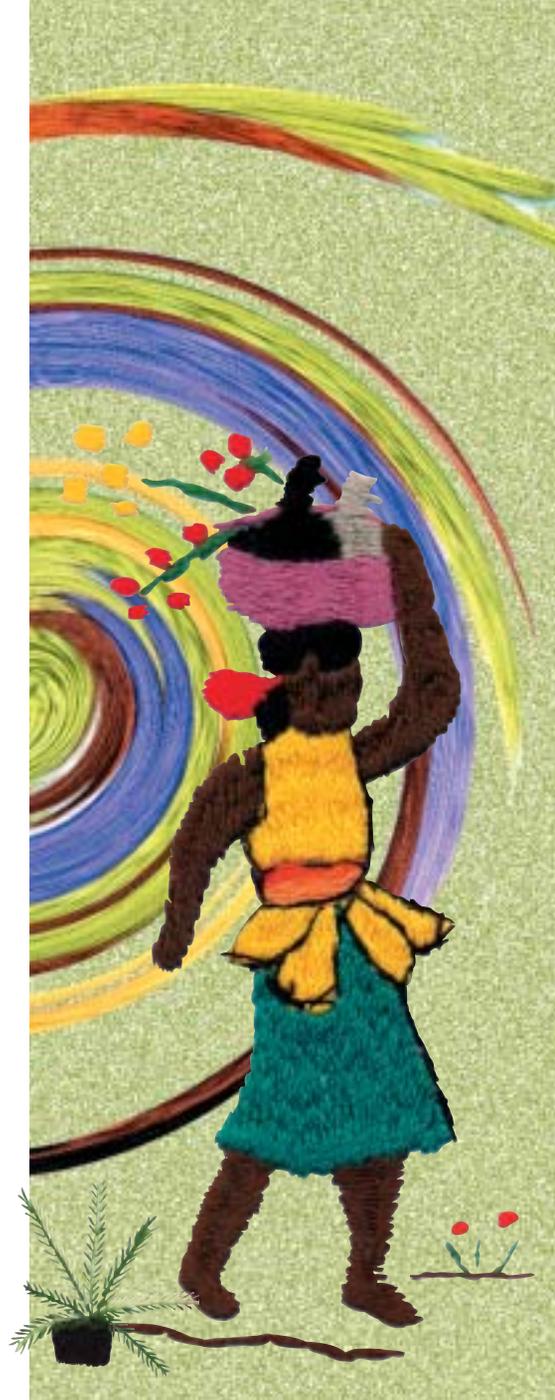




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Foreword



With *Women and the Environment*, the United Nations Environment Programme (UNEP) pays tribute to the essential contributions of women to environmental conservation and management. *Women and the Environment* sees women as crucial agents of change. It places half the world's population at the heart of the work of UNEP and its partners and challenges us all to take action accordingly, recognizing that gender equality and

equity is essential for achieving sustainable development, eliminating poverty and upholding human rights.

As the majority of the world's poor, women play decisive roles in managing and preserving biodiversity, water, land and other natural resources, yet their centrality is often ignored or exploited. This means that a chance for better management of those resources is lost, along with opportunities for greater ecological diversity, productivity for human sustenance and economic development. Moreover, while environmental degradation has severe consequences for all human beings, it particularly affects the most vulnerable sectors of society, mainly women and children.

This publication makes the often hidden links between women and the environment visible, with an explicit focus on the gender-related aspects of land, water and biodiversity conservation and management. UNEP hopes that *Women and the Environment* will inspire the environmental and sustainable development community to better understand the importance of gender, and to integrate a gender perspective across all of its work.

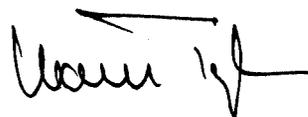
Box 1 chronicles how gender issues have been part of the UNEP mandate since the 1980s. As part of its objective to help achieve sustainable development, UNEP is now urging that national and





international policies and programmes at large must reflect gender equality and empowerment. This falls in line with the Millennium Development Goals – in particular Goals 1, 3 and 7, which call for the eradication of extreme poverty and hunger, promotion of gender equality and empowerment of women, and ensuring environmental sustainability.

Efforts in this direction also build upon the outcomes of the 1992 Earth Summit in Rio de Janeiro, the 1995 Beijing Conference on Women and the 2002 World Summit on Sustainable Development in Johannesburg. Collaboration and partnerships with civil society, including women's organizations, are essential. Strategic actions, as outlined in the last chapters of this publication, will help us to fulfil our mandate of environmental conservation for human development.



Klaus Toepfer
Executive Director
United Nations Environment Programme

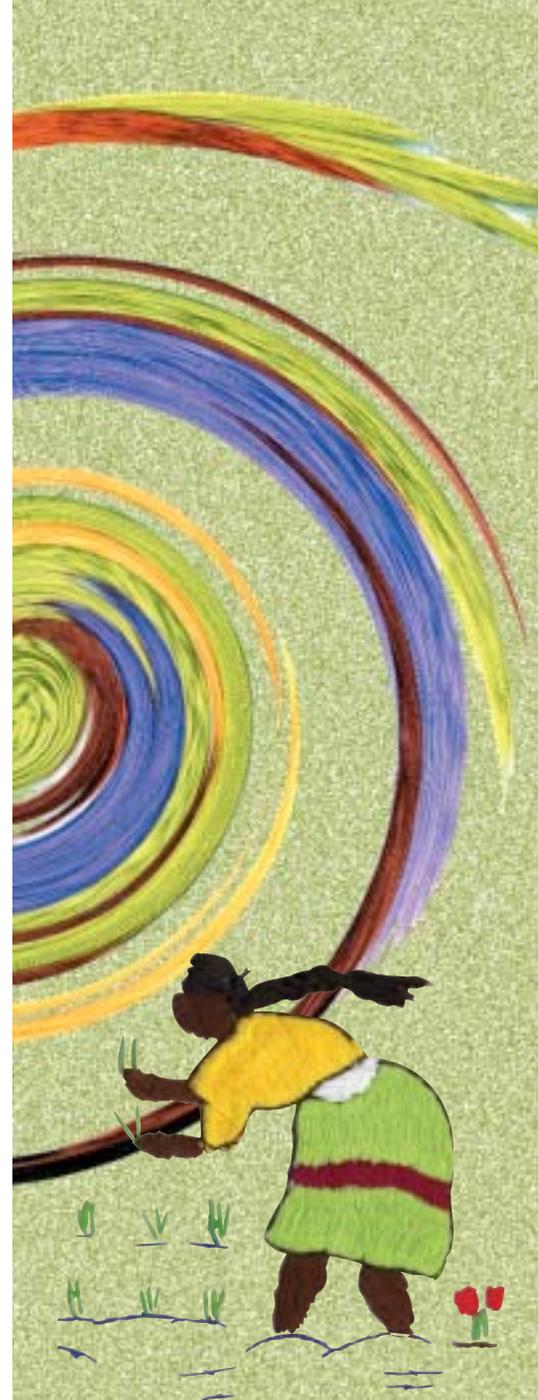
I Introduction

“We need to use natural resources properly so they will be there for generations to come.”

Sara Bock, Namibia

Women comprise over half the world’s population. They make a major contribution to the well-being and sustainable development of their communities and nations, and to the maintenance of the earth’s ecosystems, biodiversity and natural resources. In *Women and the Environment*, the United Nations Environment Programme (UNEP) highlights the many roles that women play. This publication shows that a gender perspective on environment and development calls for a specific focus on the contributions, needs and visions of women, as their positions have too often been neglected in environmental arenas. Stressing the value of examining sustainable development through a gender perspective, it explores specific policies, strategies and practices in environmental use and conservation. These should inspire and advance the work of UNEP, its constituencies and partners, including governmental and international agencies; and also civil society organizations.

Designed to appeal to women and men alike and enhance their awareness of gender issues, *Women and the Environment* invites men in particular to take an active interest. It is now widely understood that: “policies that target women only cannot achieve the best results. Nor can those which assume that public actions are gender-neutral in their effects. Hence, promoting gender equality implies a profound change in socio-economic organization of societies: not only in the way women work, live and care for the other members of the households, but also in the way men do, and in the way their respective roles in the family and community are articulated with the need to earn a living” (United Nations, 1995).





Box 1: UNEP's work on women and the environment

| | |
|----------------|---|
| 1980s | UNEP plays a pioneering advocacy role in linking women and the environment. |
| 1985 | Holds a Special Session on women and environment at the UN Third World Conference on Women, in Nairobi. Hires senior women advisers on sustainable development. |
| 1991 | Co-organizes the Global Assembly on Women and Environment in Miami, Florida, United States of America. |
| Since 1992 | Focusing more on internal functioning, less on external advocacy. |
| 1993/1995/1997 | The 17 th , 18 th and 19 th sessions of the UNEP Governing Council issue decisions on the organization and the role of women in environment and development. |
| 1995 | Issuance of the publication Gender and Environment: A UNEP Perspective. |
| 1996 | A policy statement from the Executive Director sets forth guiding principles for integrating gender into UNEP activities. |
| 1997 | Inclusion of gender sensitivity guidelines within UNEP's Project Manual. |
| 1999 | Appointment of a UNEP gender focal point. Report to the 20th session of the Governing Council on the "Role of Women in Environment and Development" (UNEP/GC.20/10). |
| 2000 | Issuance of the publication Success Stories: Gender and the Environment. |
| 2004-2005 | UNEP Programme of Work includes a commitment to make gender a cross-cutting priority in all its programmes, with an emphasis on the empowerment of women in environmental decision-making; active participation of women; technical assistance to women's networks; a focus on women in reports on environmental links to ill health; development of education and training materials; organization of workshops; and gender balance in meetings. |

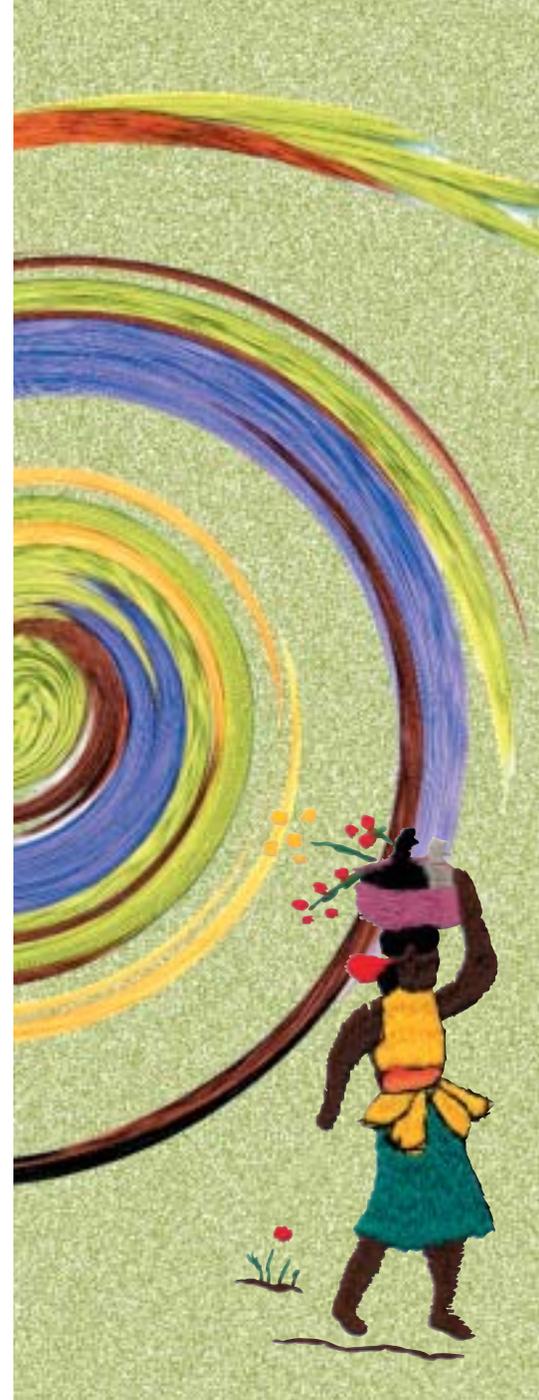
Sources: INSTRAW, 2003; personal communication with Klaus Toepfer, Executive Director of UNEP, August 2003

The following pages result from a partnership between UNEP and the Women's Environment and Development Organization (WEDO). An international advocacy organization, WEDO works to achieve a healthy and peaceful planet, seeking environmental, social, political and economic justice for all through women's empowerment and equal participation in decision-making, from the local to the global arenas.

Women and the Environment is based on 20 years of experience in this field, on existing publications and expertise, and on consultation between organizations and networks. A peer review meeting held in Nairobi on 17 and 18 November 2003 brought together 14 experts who shaped the development of the publication and its recommendations. Case histories submitted by women from around the world document with great clarity how women's knowledge and dedication are vital to sustainable environmental management.

This publication has come to life through the generous financial support of the United Nations Foundation, which promotes a more peaceful, prosperous and just world by supporting the United Nations and its Charter. Through grant-making and by building new and innovative public-private partnerships, it acts to meet the most pressing health, humanitarian, socio-economic and environmental challenges of the twenty-first century. UNEP is grateful to the Foundation for making *Women and the Environment* possible.

Following this introduction, the second chapter opens with an outline of some of the major issues related to women and the environment. It looks at the broader context of the still large gaps, for most women, in gender equality, along with some of the attempts to narrow them. Describing the evolution of development analysis from a focus on women as a separate group to its current more holistic emphasis on gender, the chapter considers an analytical framework for future discussions of women, the environment and development.





As biodiversity, desertification and water management are critical priorities in the work of UNEP, chapters III, IV and V highlight the importance of exploring those areas from a gender perspective. They delve into how women use resources, contribute their knowledge and promote environmental management and conservation. Those chapters also give an overview of the most relevant policy developments and points for future work. We hope that other issues, such as energy use and climate change, toxic substances and marine issues, will be tackled in future studies and documents.

The sixth chapter summarizes key strategies and policy recommendations for integrating gender perspectives within environmental management. It touches upon the institutional challenges, gender mainstreaming, women's empowerment and links between opportunities and capabilities. A series of conclusions appear in the seventh and final chapter, which also assesses the challenges and opportunities ahead and gives recommendations for future research and action.

As additional resources, the annexes feature definitions, a list of annotations, references and a bibliography, other sources of information, and contact points for contributors to the publication.

A great number of people played a role in *Women and the Environment*. Special thanks go to those who wrote case studies and boxes: Lorena Aguilar, Kitty Bentvelsen, Alice Bouman-Dentener, Thais Corral, Hilary French, Sascha Gabizon, Aseghedech Ghirmazion, Minu Hemmati, Iona Iacob, Mia MacDonald, Abby Taka Mgugu, Biju Negi, Margriet Samwel, Anna Tsvetkova and Leonor Zalabata. Gratitude is due also to the participants in the peer review meeting for sharing their time and expertise: Kitty Bentvelsen, Barbara Gemmil-Herren, Aseghedech Ghirmazion, Minu Hemmati, Davinder Lamba, Mia MacDonald, Mary Mbeo, Abby Taka Mgugu, Lucy Mulenkei, Biju Negi and Danielle Nierenberg. Finally, there is much appreciation for the written comments of Betsy Hartmann, and a very special word of thanks goes to Gretchen Sidhu and Edward Freeman for their editing work. All of your

contributions prove once again how collaboration between people of different regions, backgrounds, ages and genders can help us achieve a just and sustainable planet for all. A further testament to the role of women in particular in maintaining this momentum appears in the four boxes in this introduction.



Box 2: Khalida Bibi, Takya village, Pakistan

Khalida Bibi, 39, is one of 33 laureates who received the Prize for Women's Creativity in Rural Life 2003 bestowed by the Women's World Summit Foundation. Khalida's great knowledge of indigenous seeds makes her active in biodiversity conservation in her village. She can evaluate quality and water requirements simply by holding the seeds in her hands.

Within her house, she has created a village seed bank with more than 70 seeds from different crops. She grows both indigenous and hybrid varieties to test their productivity, and conserves only the best quality for distribution to other women farmers. A role model for these women, Khalida shows how they too can benefit from their indigenous knowledge, generate income and improve family living conditions.

Source: Women's World Summit Foundation Global Newsletter, no.12, July 2003, p.19

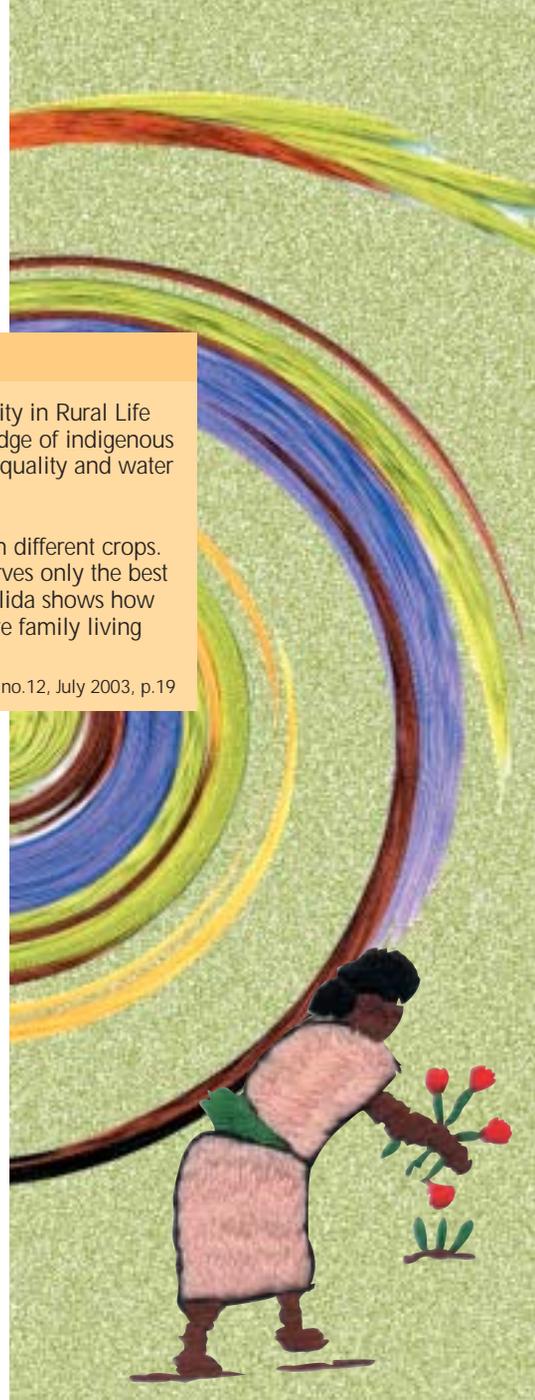


Box 3: Sara Bock, Nico-Noord community, Namibia

"At the beginning of 1990, we started a farmers' league and I was elected as chairman of the organization ... In 1993, the drought got worse and the livestock began to die at a fast rate and none of us could help each other. There was no grazing land and trees were cut to feed animals. I think the drought affected women the most because they could no longer (afford to) send their children to school, and the men had to go and work for the railway or very far from home.

"In 1995, we started a campsite project and other small projects. I also started a nature protection fund with the money that I received from the NNF (Namibia Nature Foundation), with the aim of combating desertification. Right now we are preparing a practical farm management project at Nico-Noord. I just pray that the Lord will grant my wish to restore communal lands and make life easier. I want to help improve the land because only that can help us. We need to use natural resources properly so they will be there for generations to come."

Source: <http://www.unccd.int/publicinfo/localcommunities/namibia1-eng.pdf>





Box 4: Maria Benavides, Dominican Republic

Maria lives in a small, isolated village in the Dominican Republic, a country where water is an increasingly scarce resource. Only 66 per cent of the urban and 25 per cent of the rural population have access to a safe supply. Until recently, Maria had to dedicate hours a day to fetching and storing water, with the help of her children.

Then the women's group to which she belongs stepped in and asked for support from MUDE (Mujeres en Desarrollo, or Women in Dominican Development), an organization that has worked on water and sanitation projects for nearly a decade. It collaborates with communities to provide appropriate technology, such as gravity systems, pumps and solar energy, and a distribution network with a tap in each home. Incorporating women's and men's particular knowledge of water sources, quality and other environmental conditions, MUDE also promotes the inclusion of a gender perspective in the Government's water and sanitation policies and initiatives.

Today, the entire community in Maria's village is involved in a MUDE-assisted water project, which includes a community water-management committee coordinated by a woman. Water is now more available and better in quality, while women are saving hours of work.

Source: Williams, 2002

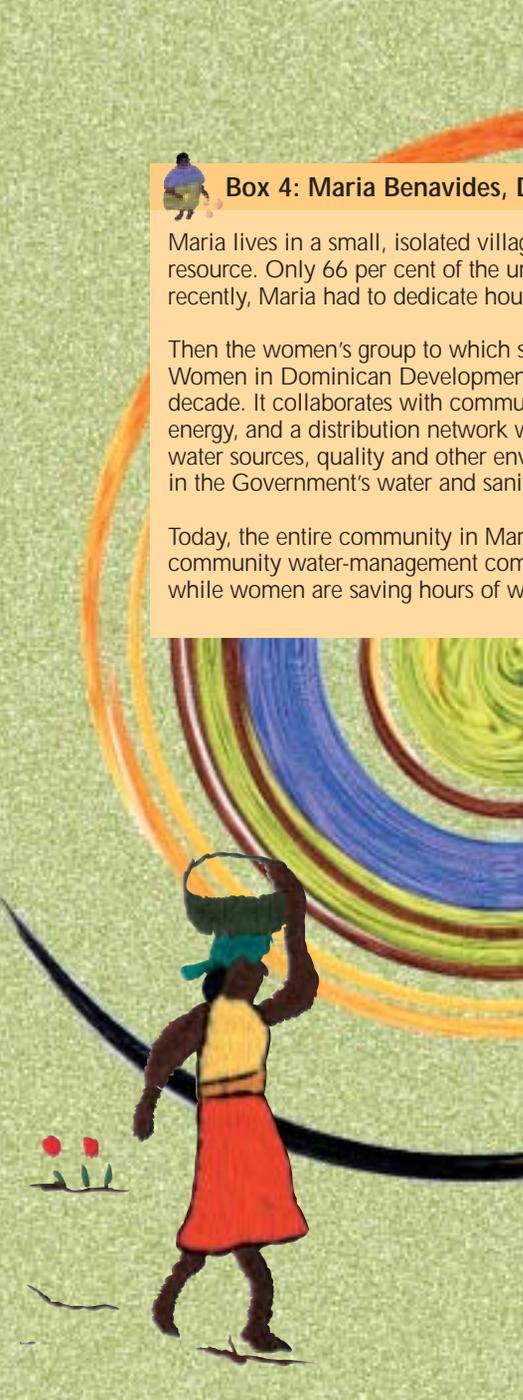


Box 5: Milya Kabirova, Ajgul, Russia

"We don't know how long the secret of the radiation accidents at the Mayak nuclear facility would have been kept had the Chernobyl tragedy not happened. Chernobyl stands at the cradle of the Urals ecological movement. My own work is inspired by that of my mother, Sarvar Shagiakhmetova. In 1995 she was the first person to start a lawsuit in order to get recognition of her and our family's diseases linked to radiation and to get compensation from the Mayak nuclear plant. The lawsuit that could have created a precedent for other cases was stopped when my mother died in October 1998."

"I have been working now for many years with other organizations in the Chelyabinsk region, and in 1999 I founded the (non-governmental organization) Ajgul, which means 'Moon Flower' in Tatar. It is a beautiful name for a sad flower that grows not under the sunshine but in the white stillness of the moon, resembling the nuclear winter. Our main objectives are to protect the civil rights of people who have been exposed to radiation and their descendants, to promote an ecological way of thinking, to promote the principles of humanism, to eliminate nuclear arms production and usage, and to promote public participation in shaping state policy and laws."

Source: Women in Europe for a Common Future (WECF), 2002, pp.97-100



II Women, environment and sustainable development: making the links

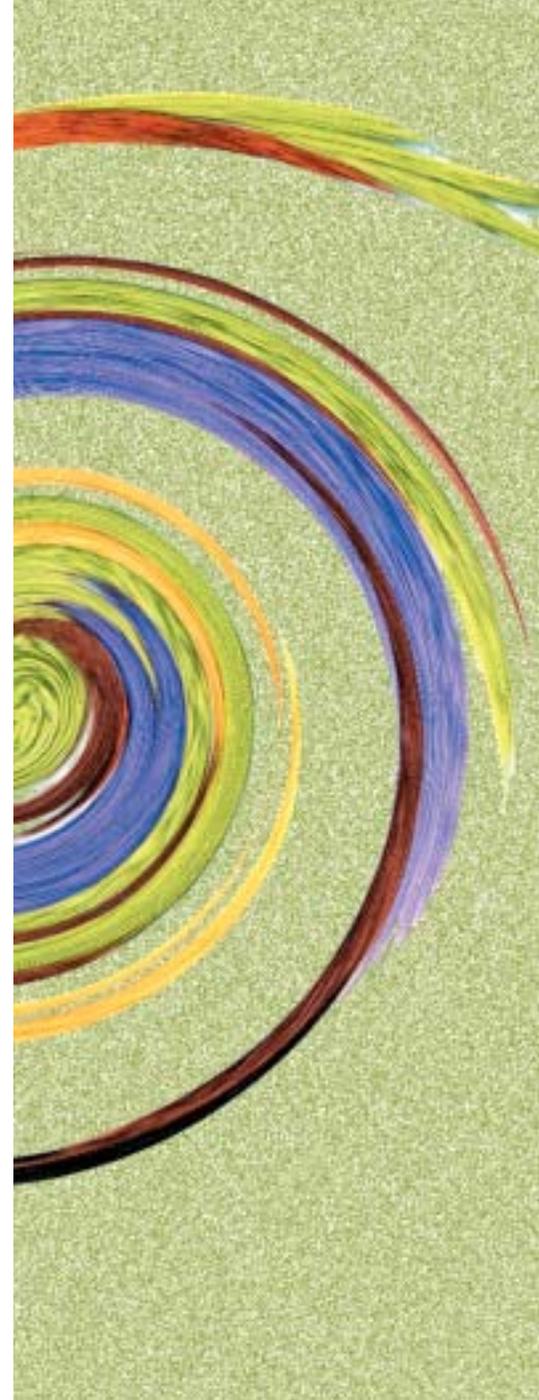
“Life is a whole, it is a circle. That which destroys the circle should be stopped. That which maintains the circle should be strengthened and nurtured.”

Julekha Begum, peasant woman from Gaibandha, Bangladesh

The world is unique for every human being, but, in general, women's lives vary greatly from those of men because of patterns of socialization related to gender. In terms of the environment, women around the world play distinct roles: in managing plants and animals in forests, drylands, wetlands and agriculture; in collecting water, fuel and fodder for domestic use and income generation; and in overseeing land and water resources. By so doing, they contribute time, energy, skills and personal visions to family and community development. Women's extensive experience makes them an invaluable source of knowledge and expertise on environmental management and appropriate actions.

Women, gender and equality – still a wide gap

While women's environmental contributions offer an incentive for a thorough analysis of gender, there is a broader perspective as well. A recent World Bank study (2002) found that gender equality is essential for countries' economies. And, as Aguilar (2002) argues, sustainable development is not possible without equity. In fact, it is a prerequisite for any action aimed at improving people's quality of life. This implies that gender equality and equity are not only a question of fundamental human rights and social justice, but are also instrumental, and a precondition, for environmental conservation, sustainable development and human security.





Box 6: Women and the environment: a rights-based approach

A rights-based approach to sustainable development describes situations not simply with regard to human needs or development requirements, but in terms of societal obligations to respond to the inalienable rights of individuals. It empowers people to demand justice as a right, not as a form of charity, and gives communities a moral basis from which to claim assistance when needed.

Source: Lorena Aguilar, IUCN

Another issue is that, sometimes, despite large obstacles, women have proven to be highly effective agents of change, organizing all over the world to demand and work towards a healthy environment. Innumerable organizations with women at the helm have contributed to setting a sustainable agenda through their advocacy and lobbying, developing alternatives to unsustainable development, and making sure that women's voices are heard and their perspectives taken into account (see also box 7).



Box 7: Green Belt Movement, Kenya

By **Mia MacDonald** (Worldwatch Institute)

"Trees are alive, so we react to them in very different ways. Often, we get attached to a tree, because it gives us food and fodder and fuel for our fires. When you plant a tree and you see it grown, something happens to you ... You see the relationship between a person and the environment. It is wonderful to see that transformation, and that is what sustains the movement!"

Wangari Maathai (in: Cuomo, 2001)

Launched in Kenya on Earth Day in 1977, the Green Belt Movement was one of the first efforts to incorporate the links between gender and natural resources within a grassroots environmental campaign – in this case, by mobilizing women to plant indigenous trees.

Since its founding, the Movement has created a national network of 6,000 village nurseries, designed to combat creeping desertification, restore soil health and protect water catchment areas. About 20 million trees have been planted by the Movement's 50,000 women members. While some trees have been



Box 7: Continued

harvested, millions more (including native fruit trees) still stand. In recent years, the Movement's work has expanded to include issues of food security and the production of native foods, such as millet and groundnuts, many of which have been abandoned in favour of fast-growing, more ecologically demanding crops for export, such as coffee, tea and flowers.

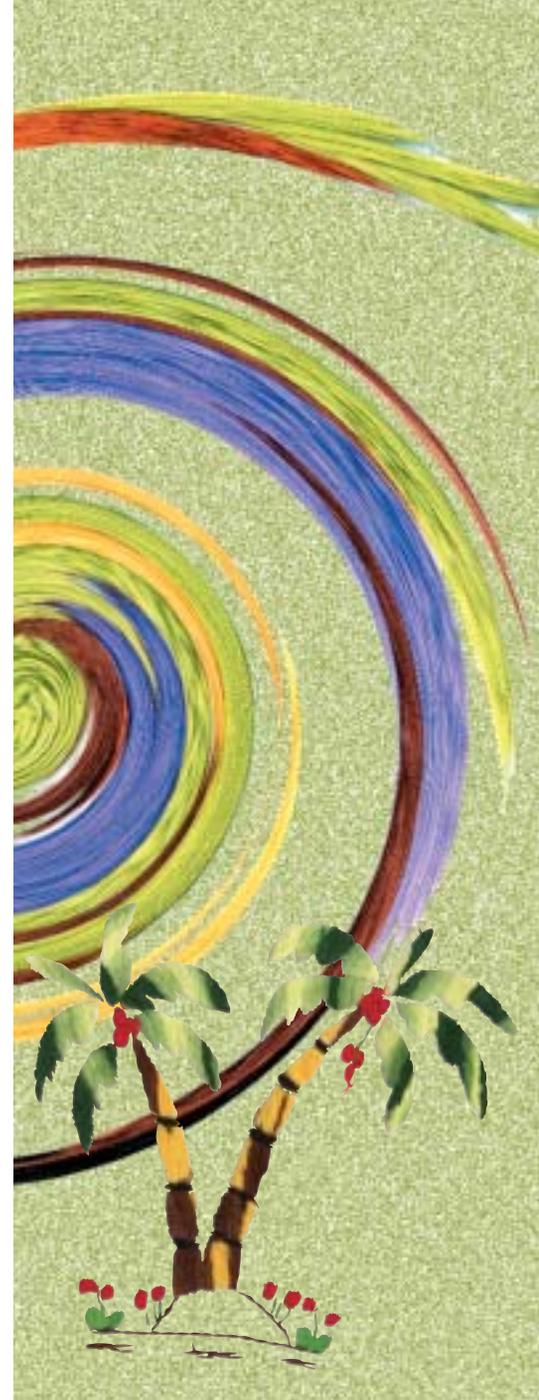
Conceived by the National Council of Women of Kenya, the Movement has always sought to address gender disparities, self-sufficiency and the role and power of women in environmental protection. The trees provide women with shade and windbreaks for crops, improved water resources, food and income (women are paid for seedlings that survive), as well as skills and autonomy.

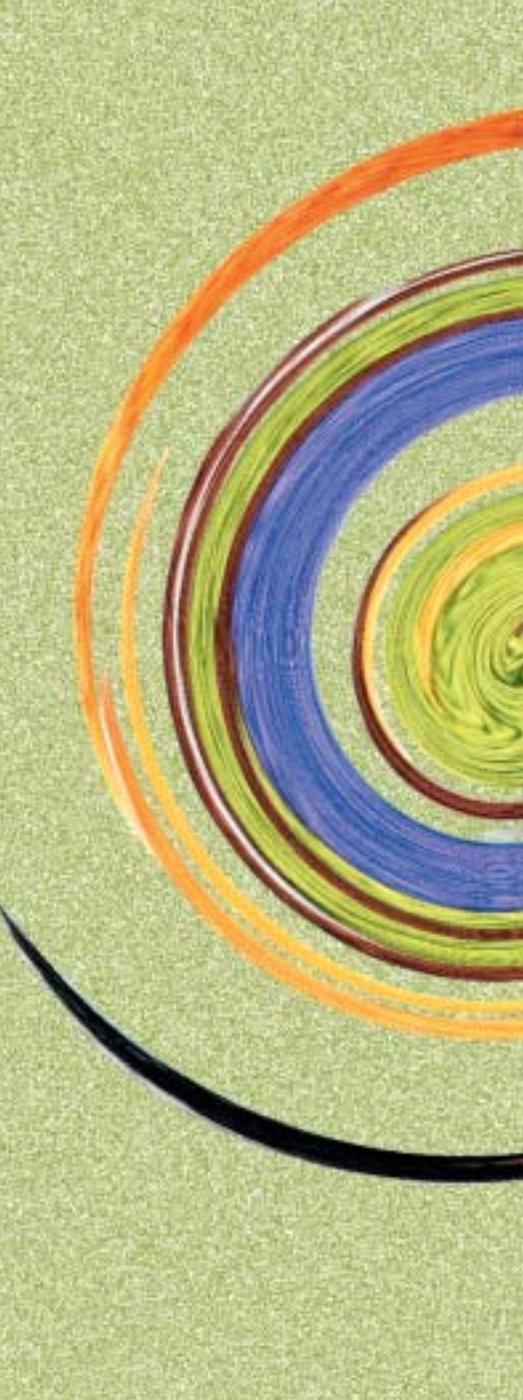
"Implicit in the act of planting trees is a civic education, a strategy to empower people and to give them a sense of taking their destiny into their own hands, removing their fear ..." says founder Wangari Maathai, now Assistant Minister for Environment, Natural Resources and Wildlife in Kenya's new Government.

The Movement's work has spread to other countries through the Pan-African Green Network, with NGO partners taking up tree planting and women's empowerment activities.

Sources: Maathai, 2003; Cuomo, 2001

Yet there is still limited recognition of what women contribute – or have the potential to offer – to survival and development. For most societies in the present world, discriminatory social structures and attitudes, at personal, community and institutional levels, persist in deeply entrenched patterns of gender inequality (see box 8). Many women encounter steep barriers related to their family and socio-economic status, including their living conditions in isolated or impoverished areas. Generally, women work longer days. They combine household and reproductive tasks – such as cleaning, cooking, shopping, childbearing and care giving, as well as the provision of water, fuel and other products – with productive activities in the fields or through other forms of income generation. Single parents, refugees and other displaced women, and migrant workers confront additional stumbling-blocks that often result in further marginalization and violence against women.





Box 8: Discrimination, deprivation and non-fulfilment

Basic data illustrate discrimination against women and the deprivation that often results.

Gender equality: Only seven developed countries have achieved high levels of gender equality and empowerment on all the selected Millennium Development Goal 3 indicators (see table 1, year 2000); among the developing countries, the highest levels are in Argentina, Costa Rica and South Africa.

Poverty: A majority of the world's poor are women and children. Although there is a commonly held belief that women comprise more than 60 per cent of the people living in poverty, the figure is lower in Latin America.

Mortality and birth rates: Women have higher mortality rates in a number of countries. The birth rate of girls is declining in countries such as India as a result of preferences for boys together with easy accessibility to sex determination tests, even though these are illegal.

Education: In 2000, 63 million primary age girls did not enrol in school; three fifths of the 115 million children out of school were girls; and two thirds of the 876 million illiterate adults were women. From 1990 to 2000, the gender ratio in primary education rose from 86 to 92 girls per 100 boys, but for young women (15-24 years old) in developing countries, literacy is 60 per cent, compared to 80 per cent for men of the same age.

Health: Globally, women constitute just under half of adults with HIV/AIDS, but in sub-Saharan Africa more than 55 per cent of infected adults are women; young women are two to four times more likely to be infected than young men. In South and South-East Asia, 60 per cent of young people infected with HIV/AIDS are female.

Work and employment: Women produce most of the food consumed in sub-Saharan Africa and (to a lesser extent) in Asia. Yet the poorest women in the world are employed in agriculture or in "informal" manufacturing and services; their work is vastly undercounted in employment statistics and they receive low and irregular pay. Even though women's participation in the formal economy continues to climb, their share remains much lower than men's and they earn less. In Cuba in 2001, for example, women worked 55 per cent of the total working hours, of which 29 per cent was paid work and 71 per cent unpaid.

Box 8: Continued

Men worked 45 per cent of the total hours, of which 67 per cent was paid and 33 per cent unpaid.

Access to services: In dozens of developing countries, poor people, ethnic minorities and women still lack access to public services and private opportunities.

Land rights: Women have unequal rights and insecure access to land and other natural resources – fewer than 1 in 10 female farmers in India, Nepal and Thailand own land. Landlessness in Latin America is on the increase, with Mexico showing the biggest gender gap in land ownership. There, women make up only 21 per cent of property owners, despite land reform (see case A below).

Decision-making: Women account for 30 per cent of the parliamentarians in just seven countries. Worldwide, they constitute only 14 per cent of the members of parliaments. No systematic differences exist between rich and poor countries, but there is considerable variation within each region. In the United States of America, women hold 12 per cent of the seats in the federal legislature; 38 developing countries can claim a higher share.

Sources: UNIFEM, 2002; UNDP, 2003

To a great extent, social and cultural contexts determine gender relations: patriarchal values instilled from childhood influence the attitudes of both men and women throughout their lives. Laws prejudicial to women's rights and claims often enshrine those values, and many current trends further feed the gap. These include globalization, skewed economic development, social problems (including poverty, insecurity, lack of access to basic assets, fragmentation, fundamentalism, violence, wars and HIV/AIDS) and environmental issues (such as environmental degradation, pollution, disasters and ecological change). All of these pose specific challenges for Governments and institutions, from better information-collection and awareness-raising to proactive policies and development efforts.





An evolving understanding of gender and development

Thinking on sex-specific social differentiation has shifted rather dramatically since the early 1960s. Then, the emphasis was mainly on women in development, which included supporting projects and policies that benefited women as a separate group. Critical analysts later concluded there was an urgent need to look more closely at the basic structures perpetuating inequality between women and men. After the 1985 United Nations Third World Conference on Women, the broader concept of gender began to emerge at international levels, gaining full recognition in 1995 at the United Nations Fourth World Conference on Women.

Apart from a merely technical and statistical angle, gender carries a strong element of politics and power. In moving the focus to the unequal status of women and men, gender and development analysis scrutinizes social, political and economic structures and development policies from the perspective of gender differentials. It is an approach that does not shrink from acknowledging that gender equality requires “transformative change” (Pietilä, 2002).

Several authors have warned that in this process women should not be seen as a single homogenous group. A slew of differences must be recognized, including social class and caste, race and education (Braidotti et al., 1994; Agarwal, 1998). Although the present publication focuses mainly on the position of women living in rural areas, box 9 illustrates that the position of urban women also needs specific attention. Moreover, the inequalities in consumption levels and the role of women in consumption should be underlined (see box 10).

And the need to address not only women but also men in terms of gender must be stressed over and over again.



Box 9: During urbanization, gender makes a difference

Urbanization processes are taking place at an unprecedented rate – almost half the world's population already lives in cities, and the numbers are on the rise. In Latin America, Europe and Central Asia, half the poor reside in cities, and by 2025, a third to a half of the poor in East and South Asia will dwell in cities and towns.

For people in those conditions, poverty is more than a lack of income and employment; it extends to squalid living conditions, risks to life and health from poor sanitation, polluted water, air pollution, crime, violence, insecurity (for example, slum razings), traffic accidents and natural disasters. A breakdown of traditional safety nets often takes place as well. And when people stream into the cities they lose their connection to the land. Many households develop survival strategies combining resources from the natural environment with income from work. A reliance on natural resources is particularly common where urbanization is not accompanied by equivalent levels of industrialization, as is increasingly the case.

Women manage this process, making use of whatever resources are available. In the absence of urban public planning, they provide water, fuel and other services to households and communities and take care of waste management. They also pursue various occupations for cash incomes, but this work is usually informal, unacknowledged, badly paid and carried out under harsh conditions.

Despite being the backbone of this form of subsistence economy, women's overall access to land and property is normally severely limited; patrilineal property inheritance traditions curtail their chances of having a secure place to live and earn. Women and men also have differing housing and infrastructure needs that often go unrecognized. For example, women frequently use their homes to generate income because of their gender-assigned role in the domestic sphere. And when privatization of public goods and services takes place, urban poor women and their families tend to be among the first to lose water and electricity, or be forced to pay unaffordable prices.

Gender analysis would go a long way towards better defining and protecting women's interests in urban settings, while women's participation in decision-making and governance structures also has to be reviewed. Institutional forms can help ensure the effective participation of women and a sufficient response to their interests. In terms of sustainable development, gender mainstreaming in local Agenda 21 processes, such as those promoted by the non-governmental organization REDEH (Network for Human Development) in São Paulo, Brazil, is of particularly great importance (see case D in chapter IV below).

A critical early step is affirming the essential role that women play in urban development and social organization. Important advocates of this message are organizations such as the international network Grassroots Organizations Operating Together in Sisterhood (GROOTS), which is dedicated to upgrading communities in urban and rural settings, and the Huairou Commission, which backs a gender perspective in habitat issues. Through its gender policy – Gendered Habitat: Working with Women and Men in Human Settlement Development (1996; updated 2001) – the United Nations Human Settlements Programme (UN-HABITAT) aims to integrate gender equality in habitat issues too.

Sources: Lee-Smith, 1994 and 1999; Ishani and Lamba, 2001; www.groots.org; www.huairou.org; www.unhabitat.org/genderpolicy



Box 10: Population, consumption and gender

Now topping 6.3 billion, the world's population will grow to an estimated 8.9 billion people by 2050, with nearly all the increase in developing countries. Although these numbers are lower than earlier projected – partly because of an increase in projected AIDS-related deaths – the almost 30 per cent expansion underscores the critical need for continued investment in reproductive health (which is also a human right). It is widely acknowledged that women's status – including their education, access to health care and services and job opportunities – is a key determinant of population growth rates.

More people are using more resources than ever before. But of similar importance to any discussion of this issue is how these resources are used. For example, if every person alive today consumed at the rate of an average person in the United States of America, three more planet Earths would be required.

Consumption is an inevitable part of our lives, or as the United Nations Development Programme (UNDP) 1998 *Human Development Report* defines it: "... consumption is a means to human development. Its significance lies in enlarging people's capabilities to live long and to live well. Consumption opens opportunities without which a person would be left in human poverty" (p. 38). Human consumption is dependent on the environment, and needs energy, water and many other natural resources and materials.

While consumption patterns in developed and developing countries differ significantly, there is an overlap in terms of the elite minority in developing countries and the growing numbers of the poor in industrialized countries. Globalization is also fuelling an explosion of consumption throughout the world. Yet 20 per cent of the highest-income countries account for 86 per cent of the total private consumption, while the poorest 20 per cent account only for 1.3 per cent. On one hand, overconsumption places increasing pressures on the environment; on the other, 1 billion people living in poverty have no survival options.

Women and men usually consume differently. In general, women first address the needs of their families, particularly their children, whereas men are more likely to spend resources for personal consumption. Women are the largest group of consumers or shoppers worldwide, making day-to-day purchasing choices. But as women are poorer than men in most societies, they often suffer heavily from a lack of basic necessities.

According to Hemmati (2000), there is evidence that women are more environmentally aware and engage more in environmental protection activities such as recycling, reuse and environmentally conscious shopping, but more empirical research is needed in this area. Other research should investigate the gender-differentiated impacts of the promotion of sustainable practices, such as labour-intensive organic agriculture and household recycling, and the prices of environmentally sound products, which might put additional demands on women's time and income.

Sources: MacDonald and Nierenberg, 2003; Hemmati, 2000; UNDP, 1998; UNFPA, 2003

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Several authors have warned that in this process women should not be seen as a single homogenous group. A slew of differences must be recognized, including social class and caste, race and education (Braidotti et al., 1994; Agarwal, 1998). Although the present publication focuses mainly on the position of women living in rural areas, box 9 illustrates that the position of urban women also needs specific attention. Moreover, the inequalities in consumption levels and the role of women in consumption should be underlined (see box 10).

And the need to address not only women but also men in terms of gender must be stressed over and over again.

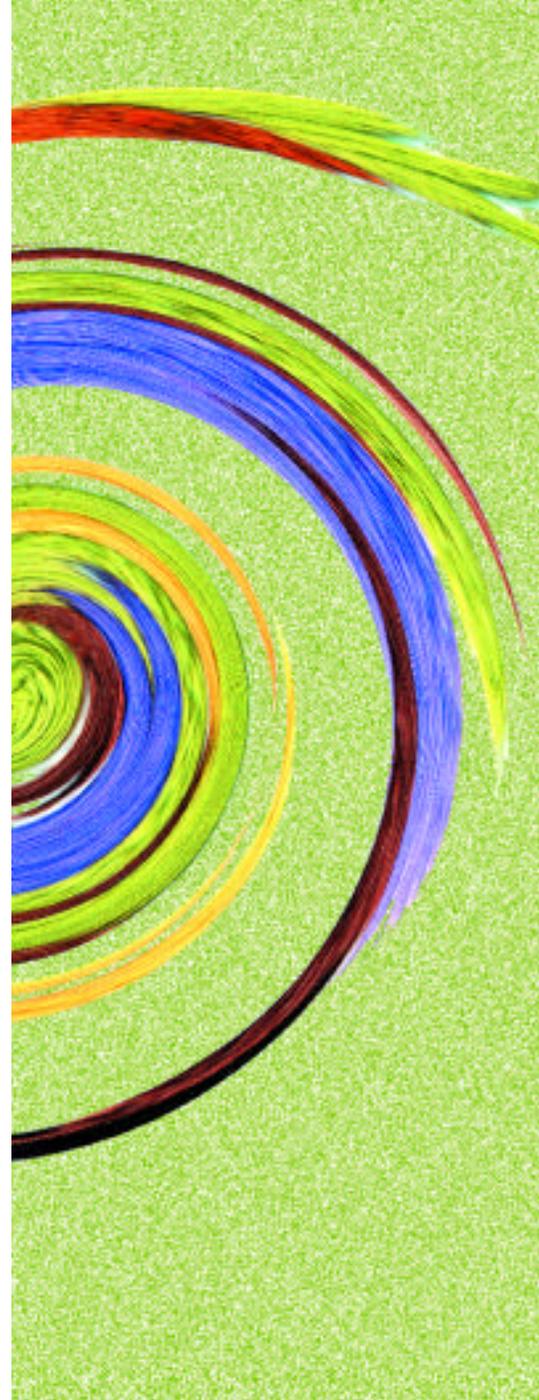




Table 1: International affirmations of women's rights in environment and development

| | |
|------|---|
| 1945 | The United Nations Charter reaffirms "the equal rights of women and men" in its preamble. Article 55 c states: "The United Nations shall promote universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion" (www.un.org/aboutun/charter). |
| 1947 | Establishment of the United Nations Commission on the Status of Women (www.un.org/womenwatch/daw/csw). |
| 1948 | Universal Declaration of Human Rights: "All human beings are born free and equal in dignity and rights" (www.un.org/Overview/rights.html). |
| 1975 | First United Nations World Conference on Women and associated NGO Forum in Mexico City; start of the United Nations Decade for Women: Equality, Development and Peace. |
| 1979 | The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) becomes the first international bill of women's rights. It obliges signatory Governments to take action to promote and protect the rights of women. All countries that have ratified CEDAW (171 as of March 2003) must report on specific measures they have taken to advance the status of women. The Optional Protocol to CEDAW, created in 1999, enables women victims of gender discrimination to submit complaints for review (www.un.org/womenwatch/daw/cedaw). |
| 1985 | The United Nations Third World Conference on Women and associated NGO Forum in Nairobi reviews and appraises the achievements of the United Nations Decade for Women. It produces the Nairobi Forward-looking Strategies, which recognize women's role in environmental conservation and management (www.un.org/womenwatch/confer/nfls.htm). At the Third World Conference, UNEP organizes a special event on women and the environment and nominates senior |

Table 1: Continued

| | |
|------|---|
| | women advisers on sustainable development. The Environment Liaison Centre International (ELCI) holds a series of workshops on women, environment and development at the NGO Forum. |
| 1990 | The World Conference on Education: Education for All takes place in Jomtien, Thailand and commits Governments to ensuring access to, and to improve the quality of, education for girls and women, and to remove every obstacle that hampers their active participation (www.unesco.org/education/efa/ed_for_all/background/world_conference_jomtien.shtml). |
| 1991 | <p>The WorldWIDE (World Women in Environment and Development) Global Assembly on Women and the Environment: Partners in Life meets in Miami, Florida, United States of America and presents 218 success stories (www.womenenvironment.org/pub151.asp).</p> <p>Organized by WEDO, the First Women's World Congress for a Healthy Planet, also in Miami, develops the Women's Action Agenda 21 (www.wedo.org/sus_dev/section1.htm and www.iisd.org/women/about3.htm).</p> <p>In Geneva, the secretariat for the United Nations Conference on Environment and Development holds the symposium Women and Children First: The Impact of Poverty and Environmental Degradation on Women and Children (Steady, 1993).</p> |
| 1992 | The United Nations Conference on Environment and Development produces the Rio Declaration and Agenda 21, as well as the Convention on Biological Diversity, the United Nations Framework Convention for Climate Change and the United Nations Convention to Combat Desertification. The meeting recognizes women as a "major group" in sustainable development and makes specific provisions to advance their position. These include chapter 24 of Agenda 21, entitled "Global Action for Women towards Sustainable Development", along with 145 other references. Rio Principle 20 reads: "Women have a vital role in environmental management |

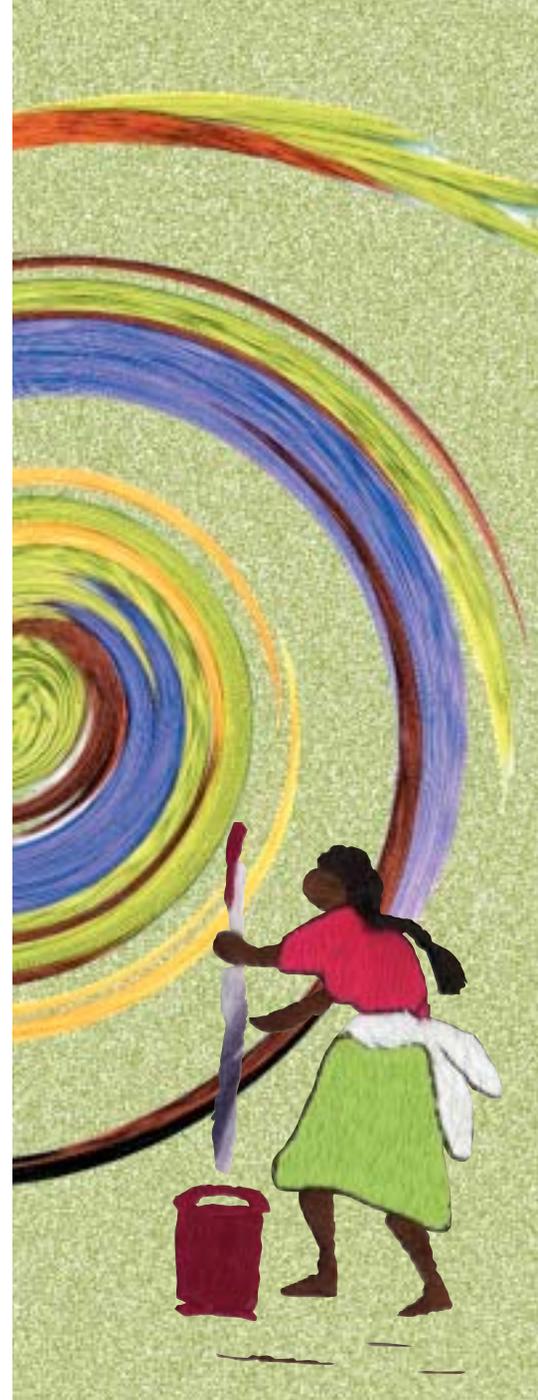




Table 1: Continued

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| | <p>and development. Their full participation is therefore essential in achieving sustainable development". At the NGO Forum that runs concurrently, the women's tent, Planeta Fêmea, attracts much attention (http://www.un.org/esa/sustdev/documents/UNCED_Docs.htm).</p> |
| 1993 | <p>The World Conference on Human Rights in Vienna clearly acknowledges that women's rights are human rights and that the human rights of women are an inalienable part of universal human rights (www.unhcr.ch/women).</p> |
| 1994 | <p>The International Conference on Population and Development in Cairo takes major steps forward on women's and girls' rights to control their lives and obtain equal status with men, including in the areas of reproduction and family planning. The Programme of Action affirms that women's empowerment, autonomy, equality and equity are important ends in themselves as well as essential for sustainable development. It also defines reproductive rights and applies principles to population policies and programmes. Calls on Governments to make sexual and reproductive health care available to all (women, men and adolescents) by 2015 (www.un.org/popin/icpd2.htm).</p> |
| 1995 | <p>The World Summit for Social Development in Copenhagen calls for the eradication of poverty and the promotion of social justice and women's rights (www.un.org/esa/socdev/wssd/index.html).</p> <p>The United Nations Fourth World Conference on Women in Beijing and the affiliated NGO Forum in Huairou provide an opportunity to consolidate decisions already made and bring them forward into the Beijing Platform for Action. It offers a road map for achieving gender equality in 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 (United Nations, 1996). Section K, on women and the environment, asserts that "women have an essential role to play in the development</p> |

Table 1: Continued

| | |
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| | <p>of sustainable and ecologically sound consumption and production patterns and approaches to natural resource management" (paragraph 246; www.un.org/womenwatch/confer/beijing/reports).</p> |
| 2000 | <p>Beijing+5: Beijing and Beyond convenes in New York and recognizes 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 (DAW, 2001; www.un.org/womenwatch/confer/beijing5/).</p> <p>At the Millennium Summit in New York, all 189 United Nations 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". The Declaration's eight Millennium Development Goals include Goal 1, eradicate extreme poverty and hunger; Goal 3, promote gender equality and empower women; and Goal 7, ensure environmental sustainability (www.un.org/millennium/).</p> <p>Security Council resolution 1325 (2000), on women, peace and security, recognizes the impact of war on women and recommends improving women's protection during conflicts as well as women's leadership in peace-building and reconstruction (http://www.un.org/Docs/scres/2000/sc2000.htm).</p> |
| 2001 | <p>The United Nations General Assembly special session on HIV/AIDS in New York adopts targets to promote girls' and women's empowerment as fundamental elements in the reduction of the vulnerability of women and girls to HIV/AIDS (www.unaids.org/Unaid/EN/events/un+special+session+on+hiv_aids.asp).</p> |
| 2002 | <p>The World Summit on Sustainable Development in Johannesburg issues the Johannesburg Declaration and Plan</p> |

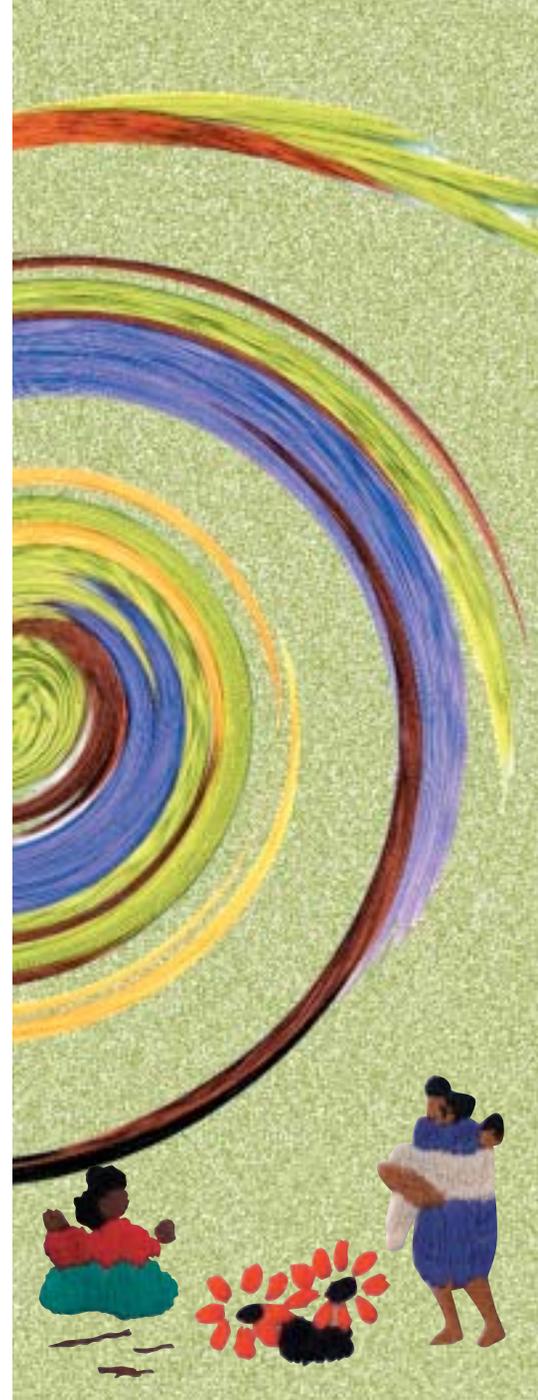




Table 1: Continued

of Action. It confirms the need for gender analysis, gender specific data and gender mainstreaming in all sustainable development efforts, and the recognition of women's land rights. The Declaration states: "We are committed to ensuring that women's empowerment, 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" (WEDO, 2002: www.johannesburgsummit.org).

2003

The eleventh session of the United Nations Commission on Sustainable Development decides that "gender equality will be a cross-cutting issue in all forthcoming work up until 2015" (www.un.org/esa/sustdev/csd/csd11/CSD11.htm).

Sources: UNIFEM, 2002; UNDP, 2003; Hemmati and Seliger, 2001; Pietilä, 2002; WEDO, 2003

An analytical framework

Insights gleaned from looking at how the thinking on women, gender and development has evolved in turn help structure discussions of the relationship between women and the environment. Several critical determinants for a baseline analysis emerge: work; division of labour and responsibility; access to and control of resources, knowledge, status and power; culture and traditions; and political participation. These can be divided into capabilities such as work and knowledge, and opportunities, including access, control, status, participation and decision-making.

Work, as the active, labour-based interaction of human beings with the material world, is important (Menon, 1991) because it involves people putting their personal time and energy into the use and management of natural resources. Historically, this interaction has been intricately tied to the natural environments in which human populations survived. Women's work often still involves this kind of direct connection, for example through the collection of water and fuel; gathering plant and animal

products and the management of agricultural, grazing and forest lands and also of fisheries. Any discussion of women and the environment must therefore account for the gendered division of labour and responsibility (Neefjes, 2000).

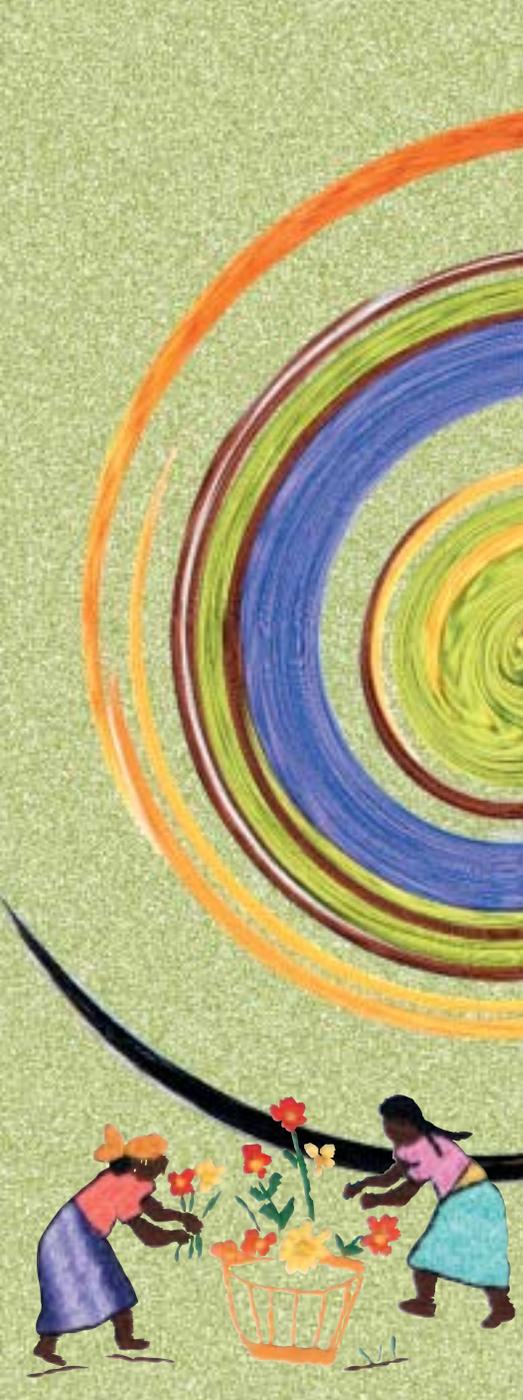
Knowledge systems are a second factor. The level of education is relevant, but so is traditional and conventional expertise. Many authors agree that women's knowledge about the environment is a highly valuable resource that has too often been cast aside. In particular, there is a need to recognize indigenous knowledge systems, which are often ignored by formal education systems. At the same time, because of their limited access to education women may be ignorant about less traditional environmental issues such as the safe use of agrochemicals, and how to deal with water pollution and waste disposal.

Access to and control over resources and their benefits is another critical issue. Since women have different rights (formal and traditional) over resources and decisions governing them than men do, a gender-differentiated approach is required to redress some of the inequities. A study on women's rights to land and water resources, for example, shows that accounting for gender, including in terms of ownership, helps to uphold these rights (NEDA, 1997) (see case A below).

Status, power and culture determine whether a person can realize her or his capabilities. A woman's position in the family and community, and her political participation, determine to a large extent her control over environment-related decisions such as harvesting and cropping methods, allocation of benefits including income, and conservation and environmental regeneration operations. It follows that this also influences the inclusion, or lack thereof, of women's visions, perceptions and priorities in decisions, processes and institutions (Neefjes, 2000).

Other socio-economic and cultural aspects affecting the interaction between women and the environment vary from location to location and





change over time. Yet in many cases, the links between the macrocontext and people's livelihoods are of paramount importance. The wider political economy (including economic trends, debt problems, trade regimes, public-private developments, the role of the state and conflicts) has a major impact. As Wichterich (2000) and others have shown, recent globalization trends have wrought rapid changes in global and local economies, societies and cultures, as well as in the environment and in gender positions in societies. Exclusionary practices by wealthier groups often prevent the poor from having access to basic services, including ecosystem services such as clean water, fuel and food products. Some people, including many women, have clearly suffered under the new



Box 11: Capabilities and well-being

Many factors determine the relationship between people and their physical environment, and the differing ways in which women and men contribute to and benefit from ecosystem services. These include provisioning services (such as food, fuels and fresh water), regulatory/supporting services (including the purification of air and water, maintenance of biodiversity, and mitigation of droughts and floods) and cultural services (comprising spiritual and aesthetic values, science and education).

The Millennium Ecosystem Assessment process, launched in 2001 by United Nations Secretary-General Kofi Annan, is coordinated by UNEP and aims to produce scientific information concerning the consequences of ecosystem change for human well-being. The Millennium Ecosystem Assessment stresses that the overall goal of development should be to enhance the well-being of people. This requires a multidimensional approach covering the minimum necessities for a good life, the experience of freedom, personal security, good social relations, and the conditions for physical, social, psychological and spiritual fulfilment.

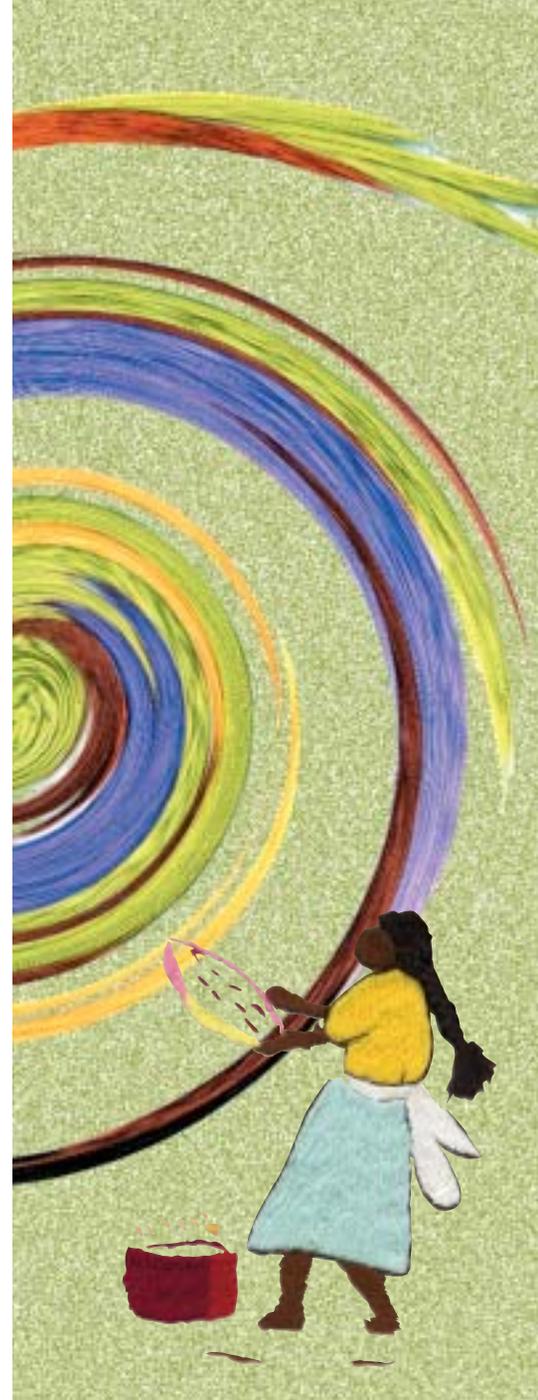
economic liberalization and privatization regimes (De Oliveira et al., 2003).

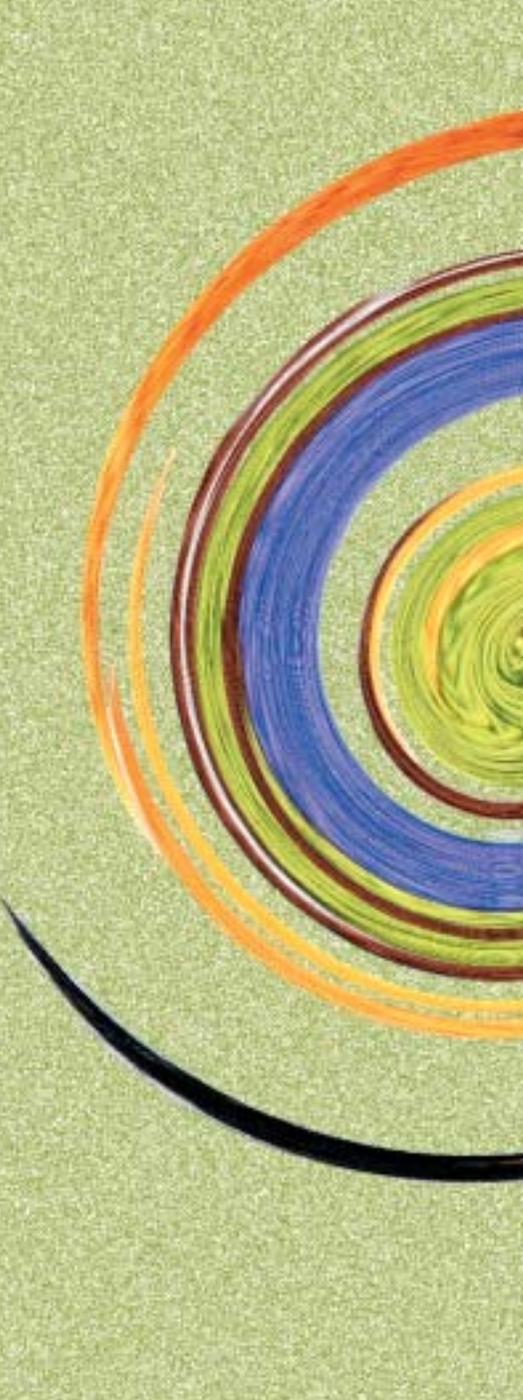
Any discussion on women's relationship to the environment should incorporate these different factors. It should also draw from a participatory appraisal involving the various stakeholder groups and explicitly including women and their organizations (Dankelman, 2003). In order to adopt policies and prompt institutions to take appropriate actions, it is useful too to distinguish women's practical needs, such as access to land and water, food security, health services and education, and their strategic needs, including political participation and decision-making.

To a large extent, women's capabilities determine their well-being and guarantee the necessary freedoms and related rights so that they can make their own choices and become agents of change (Sen, 1999). Capabilities can be seen as combinations of ways of doing and being from which people can choose the kind of life they value. The emphasis is not only on what has actually been accomplished, but also on the processes by which these ends are achieved.

This formulation explicitly captures the act of participating and doing for oneself, and under it, poverty is defined as a form of capability deprivation. Therefore, policies, including those on environment and sustainable development, need to create space that allows individuals to define their rights and institutions to protect and oversee the fair and equitable distribution of those rights for all members of society, women and men alike.

Sources: De Oliveira et al, 2003; www.millenniumassessment.org





Case A: In southern Africa, discrimination stands between women, land and water



By **Abby Taka Mgugu** (*Platform on Women's Land and Water Rights in southern Africa*)

In southern Africa, more than two thirds of women depend on land and other natural resources for their livelihoods. They are a critical support to the agriculture sector, producing 90 per cent of all food crops and providing 80 per cent of the labour.

Across the region, however, glaring inequalities between men and women prevail in relation to access to and ownership and control of land. Social, cultural, political and economic factors drive these forms of discrimination, which in some cases are perpetuated and deepened by racial inequities. A related issue is access to water, which is often linked to land rights.

Various policy frameworks in the various countries have attempted to correct land and water disparities. South Africa, for example, acknowledges that “apartheid policies pushed millions of black South Africans into overcrowded and impoverished reserves, homelands and townships”. The Zambian draft land policy states that “past land policies by the colonial administration were oriented towards benefiting the white settler community at the expense of the indigenous people”. The Zimbabwean national policy framework paper notes: “In a series of steps, the colonial regime established their own forms of tenure, expropriated the best quality of land for white commercial farmers and restricted the black African peasant farmer into marginal areas”.

The policies also touch upon gender. The Zimbabwean paper points out that “further inequalities and inequities exist within the weak and fragile customary land rights. Considered in the shadow of colonial power structures and struggles, the real practices of customary law perverted their supposedly original content based on harmonious and fairly homogenous communities ... both on gender and social lines and reproduced unequal and inequitable access and use of land, more particularly in relation to the female gender. Discriminatory ownership and inheritance rules biased against daughters and wives and widows were (and continue to be) the obvious manifestation of such inequities.”

Tanzania's land policy in turn states: “Under customary law women generally have

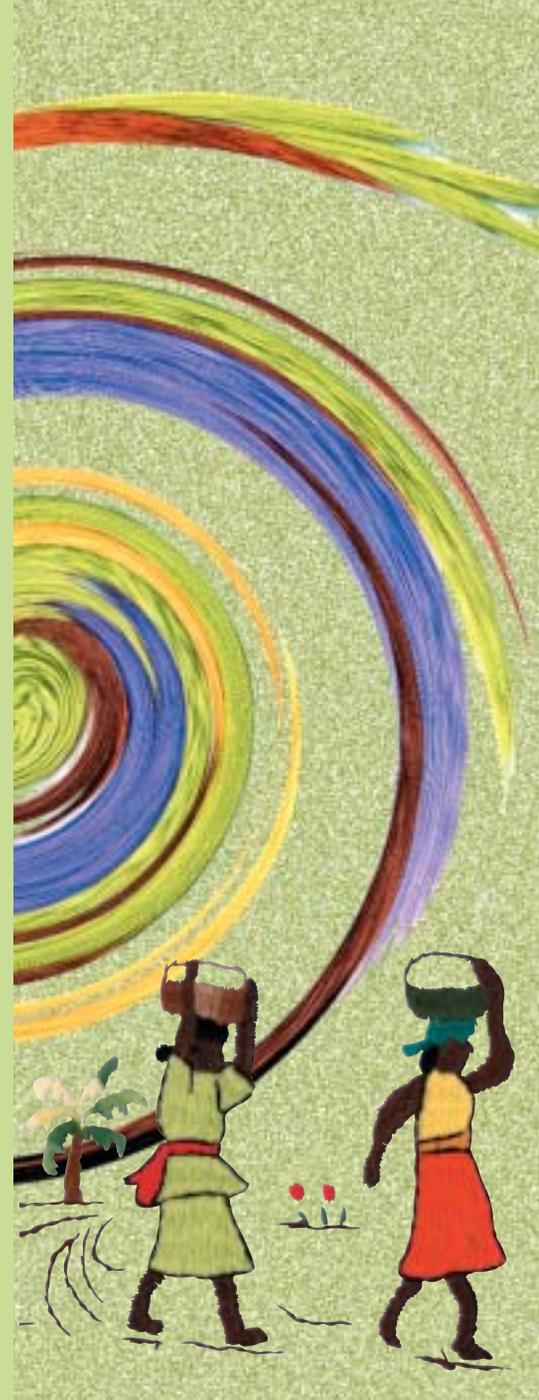
inferior land rights relative to men and their access to land is indirect and insecure". It mentions village councils that rely on custom to guide land allocation and continue to discriminate against women by assigning land to heads of household, who are usually men. South Africa's land policy, on the other hand, maintains that all forms of discrimination against women's access to land must be removed.

There is growing demand nationally and regionally for water as a result of population growth, increasing urbanization and industrialization, and of intensified land use by mining and agricultural development. The Southern Africa Development Community (SADC), which is emphasizing development with equity to alleviate poverty, has called for the implementation of measures to ensure sufficient quantities and quality of water. The issue of access, however, has been complicated by the lack so far of national and regional strategies for the equal sharing of water resources from the 15 major river basins in the SADC countries.

An essential step in addressing this issue should involve confronting gender inequalities in using and owning water as an economic, social and cultural resource – the role of women and the importance of water to their livelihoods cannot be overemphasized. Various regional and international conferences on integrated water resource management have already clearly spelled out women's essential contributions to the provision, management and safeguarding of water (see chapter V below).

Yet women remain marginalized in water management, and this marginalization will only hinder effective national and regional strategies and block development goals. The same is true in terms of access to land. The question therefore is whether nations and the region can strike a consensus on the integration of gender into the land and water resource management discourse at all levels, something consistent with the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which all SADC member States have signed, ratified and/or acceded to. The Beijing Platform for Action also emphasizes the need for women to access, own and control natural resources – land in particular – as a way of alleviating poverty among women.

Closer to home, 12 of the 14 SADC countries have signed the 1997 SADC Declaration on Gender and Development, which states in its item B i that gender equality is a fundamental human right. Under item H iii, the Heads of State commit themselves "to promoting women's full access to, and control over productive resources ... in order to reduce the levels of poverty among women". The challenge now is to implement those commitments.





III Women and biodiversity: the core of existence

“Biodiversity to me is made up of the things and conditions that maintain the balance that we have lived with for centuries. It includes the animals, plants, rocks, rivers and spirits. The diversity of lifestyles and patterns of land use make biodiversity a vibrant and living thing for us.”

Malvila Vanninayakae from Sri Lanka (UNEP/IT, 1999)

The present chapter delves into the relationship that women have with biodiversity, highlighting its contributions to women’s survival, well-being and empowerment; the ways women make use of it; their knowledge, perspectives and visions; and their roles in conservation and management. The chapter concludes by touching upon some entry points for policies.



Box 12: What is biodiversity?

Biodiversity may be the basis of human well-being but human habits threaten to deplete it. Its definition is broad, spanning diversity between ecosystems and species, and also within species (genetic diversity). Agrobiodiversity encompasses all components of biological diversity of relevance to food, agriculture and the sustainability of agro-ecosystems.

According to the UNEP Global Environment Outlook, the Earth supports almost 100 different types of ecosystem. Among these, the richest arrays of species are found in coral reefs and tropical forests, which cover less than 10 per cent of the Earth’s surface. Worldwide, there are an estimated 4 million species, of which some 1.75 million have been described. But the total of the Earth’s diversity has not yet been fully recorded.



Box 12: Continued

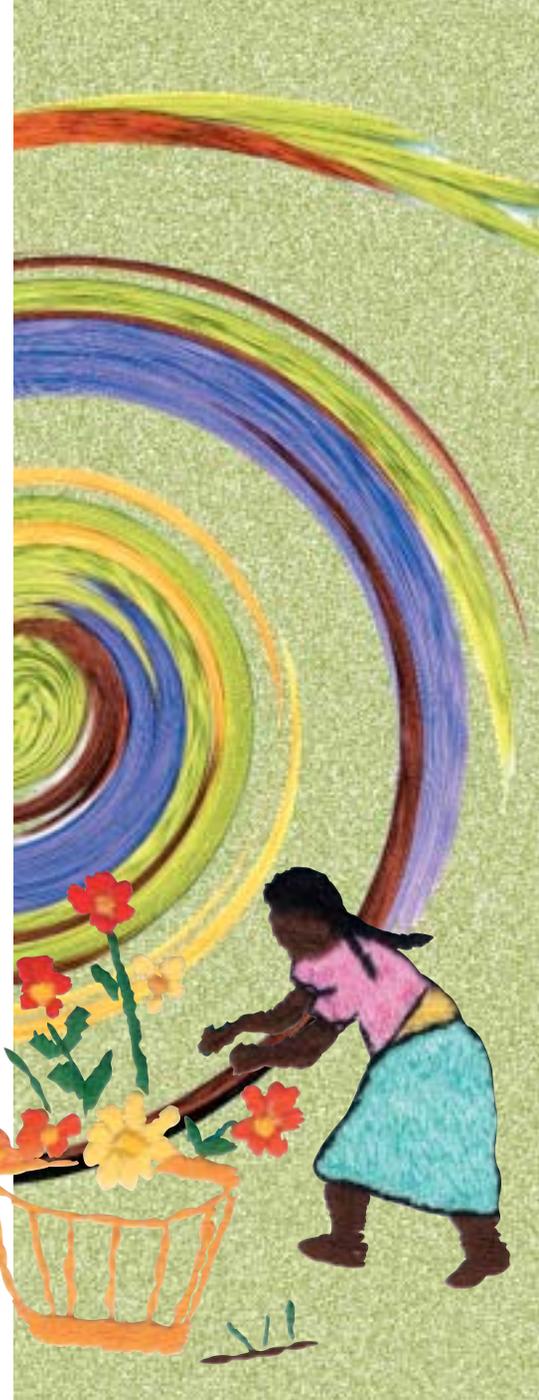
These living organisms contribute to a wide variety of environmental services, including regulation of the hydrological cycle and climate, protection of coastal zones, generation and conservation of fertile soils, pollination and breakdown of wastes. Species diversity buffers ecosystems against the effects of human change, with biodiversity ensuring local and global food security, providing the genetic basis for most food crops and increasing genetic resistance, obtained from wild varieties, to diseases.

Human health also depends directly on biodiversity, given that some 75 per cent of the world's population relies for their health care on traditional medicines derived directly from natural resources. Traditional medicine systems, such as Ayurveda in India, are based on pure plant extracts. Biodiversity is particularly crucial for people living in poverty, who directly depend on its services for their survival and livelihoods. Many people, including those in indigenous communities, also draw cultural and spiritual values from it.

Unfortunately, the loss of biodiversity is accelerating at an unprecedented rate. According to the World Conservation Union's 2002 Red List of Threatened Species, over 11,167 species face extinction. The most important drivers of biodiversity loss are unsustainable production and consumption, inequities in distribution of wealth and resources, demographic developments, international conflict, and international trade and agricultural policies. These result in land conversion, climate change, pollution, atmospheric nitrogen deposition and unsustainable harvesting of natural resources. As ecosystems falter, threats to food and water security, health care and economies grow.

To begin to understand these problems and frame alternatives to address them, the millennium ecosystem assessment, a major international collaborative effort, is working on mapping the health of the planet. It seeks to provide an integrated assessment of the consequences of ecosystem change for human well-being and to analyse policy options.

Source: UNEP, 2002; UNDP et al., 2000; www.millenniumassessment.org





Valuing and using biodiversity

“Biodiversity is the very core of our existence within our communities. You cannot say how many dollars this is worth because it is our culture and our survival. In this context biodiversity is invaluable ... We value our surroundings as our identity, as who we are and our inheritance that is given to us ... Our environment is many things, a classroom, a pharmacy, and a supermarket.”

Ruth Lilongula, Solomon Islands (UNEP/IT, 1999, p.162)

For many women, biodiversity is the cornerstone of their work, their belief systems and their basic survival. Apart from the ecological services that biodiversity provides, there is the collection and use of natural resources. For indigenous and local communities in particular, direct links with the land are fundamental, and obligations to maintain these form the core of individual and group identity.

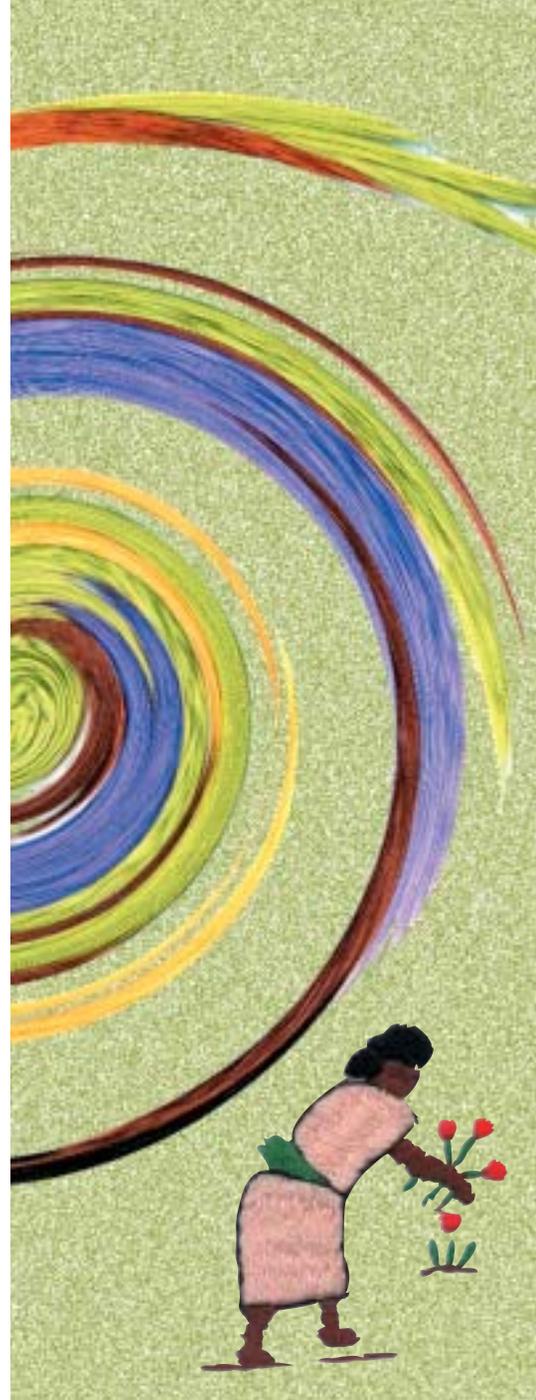
These relationships extend far back into human history, when division of responsibilities by gender began. Scientists have discovered that already in the early Stone Age (15,000-9,000 B.C.), women’s roles and tasks in hunter-gatherer communities were explicitly linked to biodiversity, with the natural environment in essence determining their status and well-being. For example, Owen (1998) describes women collecting and conserving edible plants that contributed 50 to 70 per cent of dietary requirements.

Today, women continue to gather firewood and other bush products for food, medicine, paint and house-building. Wild food enhances food security in many communities during unfavourable situations such as famine, conflicts, and epidemics (Kenyatta and Henderson, 2001). Poor women and children especially may collect grasshoppers, larvae, eggs and birds’ nests, with older women frequently delegating their

responsibilities to the younger women in the household (Van Est, 1997). In Burkina Faso, for example, rural women depend on the fruits, leaves and roots of native plants such as the baobab (*Adansonia digitata*), red (or Jamaican) sorrel leaves (*Hibiscus sabdarifa*), kapok leaves (*Ceiba pentandra*) and tigernut tubers (*Cyperus esculentus* L.) to feed their families, supplementing agricultural grains such as millet and sorghum. Over 800 species of edible wild plants have been catalogued across the Sahel alone (Easton and Ronald, 2000).

Women also take charge of many agricultural activities. After men have cleared the land, women sow, weed, hoe and bind the stalks. On their own plots, they manage home gardens, growing a wide variety of vegetables, relishes and condiments. Research on 60 home gardens in Thailand, for example, revealed 230 different species, many of which had been rescued from a neighbouring forest before it was cleared (www.fao.org/FOCUS/E/Women/Biodiv-e.htm). In many regions, up to 90 per cent of the planting material of the poorest farming communities may be derived from the seeds and germ plasm that the communities produce, select and save themselves.

Women farmers have in fact been largely responsible for the improvement and adaptation of many plant varieties. In the Kalasin region of northern Thailand, women manage the interface between wild and domesticated species of edible plants. They have not only brought new species of wild plants under cultivation in recent years, they have also spurred their communities to carefully regulate collection rights in the face of increasing commercialization (Easton and Ronald, 2000). Through the multivariate process of seed selection, they choose certain desirable plant characteristics and decide on the quantity and variety to be saved as well as the method of preservation. The moment that the crops begin to flower, women begin observing the plants, and later harvest seeds based on their size, grain formation and resistance to pests and insects.





Box 13: Guatemalan women conserve the genetic resources of maize

Huehuetenango Department in Guatemala is considered to be the place where maize first grew and it is still a primary dietary staple there today. In 1993, the United Nations Food and Agriculture Organization carried out a study in 31 municipalities across the Department, discovering that women are key to the conservation of the crop's genetic resources.

Women determine the seed-selection process, separating what is to be sown and what is used as food, and are in charge of shelling the grain from the cobs selected for seed for the following crop cycle. This manual harvest technique serves as a form of artificial selection which allows them to maintain the characteristics of local varieties as well as giving them the opportunity to recognize and propagate attractive mutations or new hybrids.

A combination of social, cultural and environmental factors, however, is now eroding the central role of women as resource decision makers. The result could be an erosion of genetic diversity, and a threat to food security.

Source: FAO and IPGRI, 2002

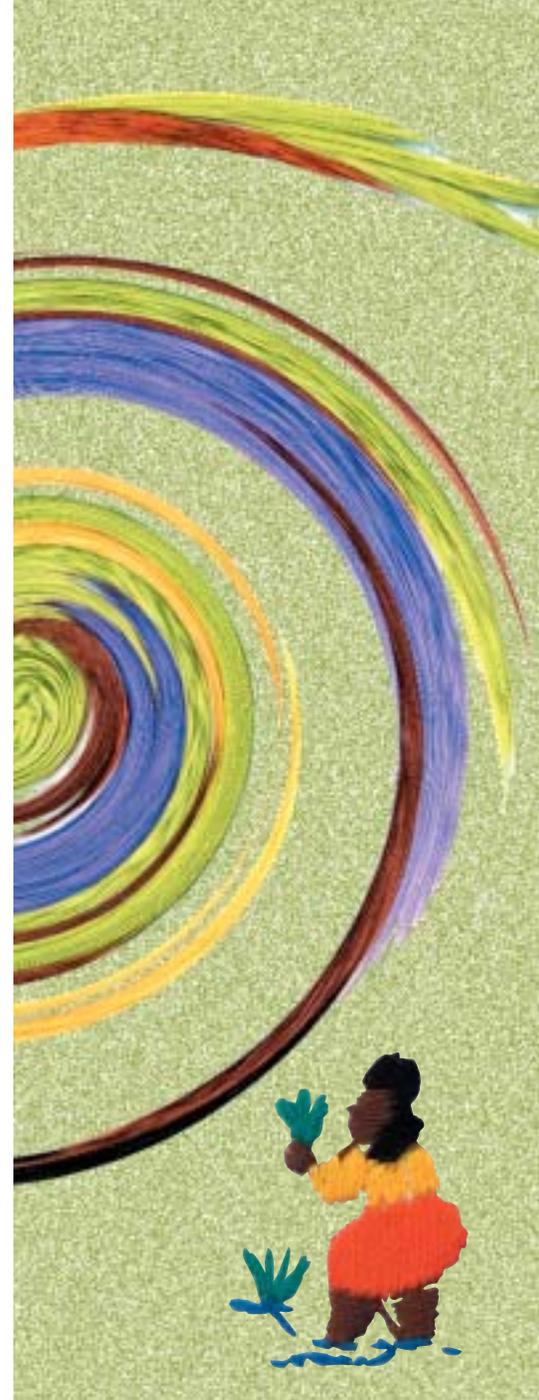
Around the world, women usually oversee small household livestock and sometimes even cattle, including choosing and breeding for preferred traits based on local conditions, such as available feeds and resistance to disease. In south-east Mexico, women keep as many as nine breeds of local hens, as well as local breeds of turkey, ducks and broilers in their solares (back gardens). In selecting the best breeds, they consider 11 separate characteristics and can easily distinguish the breeds and species based on each of these (Anderson et al., 1999). Also, diversity of livestock and cattle is often linked to diversity of vegetation.

Another women's task tied closely to biodiversity is the collection of medicinal plants, which may be used for curing ailments while also serving as fodder and fuel or even as manure and pesticide. Women often gather medicinal plants along road banks and fences because so many have access to only the most marginal land. Yet their knowledge is immense, because community well-being depends on it, and preservation

of this knowledge is crucial for maintaining biodiversity. On study walks in the Kanak valley of the province of Baluchistan in Pakistan, village women identified 35 medicinal plants that they commonly use. In an interview, Rehmat Khatoon, an older village woman, referred to wild medicinal plants in the following terms: “They grow up with no masters”. All her friends laughed because what she was really saying was that wild medicinal plants have no husbands to boss them around or to control them (FAO, 1997).

Plant and animal products often end up in artefacts, clothing, housing and utensils. For example, women of the Yakutat people in the Pacific North-West of North America were famous for the beauty and utility of their basketry, used as drinking cups, baskets, travelling trunks, mats, floor coverings and hats. The baskets also had a strong spiritual meaning, serving as a bridge between the maker and her past, present and future, as well as to her family and community (Walker, 1999).

This link between the physical and metaphysical is common in many cultures. In parts of India, traditional practices specifically emphasize the close ties between biodiversity conservation and spirituality. Auspicious days are chosen to start preparing the fields, sowing the seeds or harvesting. When heads of grain arrive at the threshing yard, women welcome the first cartload with a puja, or ceremonial offering. As the seeds are carried away for storage, women invoke the forces essential for a good crop in the next growing season. And before the seeds are sown, the women take them to the local deity and worship them. They make seed offerings to the village goddesses, which are later collected by the poor. Women also worship the draft animals and the farming implements that will be used for sowing. Interestingly, these procedures are followed only for traditional seeds, not for new high-yielding varieties (Ramprasad, 1999; Shiva, 1993).





A source of expertise

“Maori must always earn access to knowledge. If you ask and you are not worthy you will get no reply. Only when you have demonstrated your wisdom and your skills will you be taken to one side and the knowledge will be passed on to you. Knowledge, like the korowai [a Maori cloak with a hand-woven border], is sacred.”

Nancy Waretini, New Zealand

Both men and women acquire traditional environmental knowledge, which stems from generations living in close contact with nature (see also case B below). It is generally socially differentiated, however, according to gender, age, occupation, socio-economic status and religion. Gender-related differences in terms of labour, property rights and decision-making processes and perceptions also shape knowledge systems, so men and women end up with varying forms of expertise. Men may know a great deal about trees used for timber, for example, while women are authorities on those providing fruits, medicines and fodder.

As is clear from the previous pages, women’s understanding of local biodiversity tends to be broad, containing many unique insights into local species and ecosystems gained from centuries of practical experience. A study in Sierra Leone found, for example, that women could name 31 uses of trees on fallow land and in forests while men could name only eight (Domoto, 1994). In a sample participatory study, women hill farmers in Dehra Dun, India provided the researchers with no less than 145 species of forest plants that they knew and used (Shiva and Dankelman, 1992).

Highly sophisticated and dynamic, this kind of knowledge is traditionally shared between generations. It encompasses information about locations, movements and other factors, explaining spatial patterns and timings of ecosystems. As women farmers and resource users constantly experiment with plants and animals in order to improve their quality, they adapt their

knowledge to multiple uses. Home gardens become small laboratories where women try out diverse wild plants and indigenous species. Experience and innovation result in sustainable practices to protect the soil, water and natural vegetation, such as natural pest controls as an alternative to agricultural chemicals.

In Kenya, researchers have found that men's traditional knowledge is actually declining as a result of formal schooling and emigration while women retain not only a refined and widely shared level of general knowledge about wild foods, crafts and medicinal plants, but are also acquiring new – men's – knowledge about natural resources, as roles and duties change (Rocheleau, 1995).

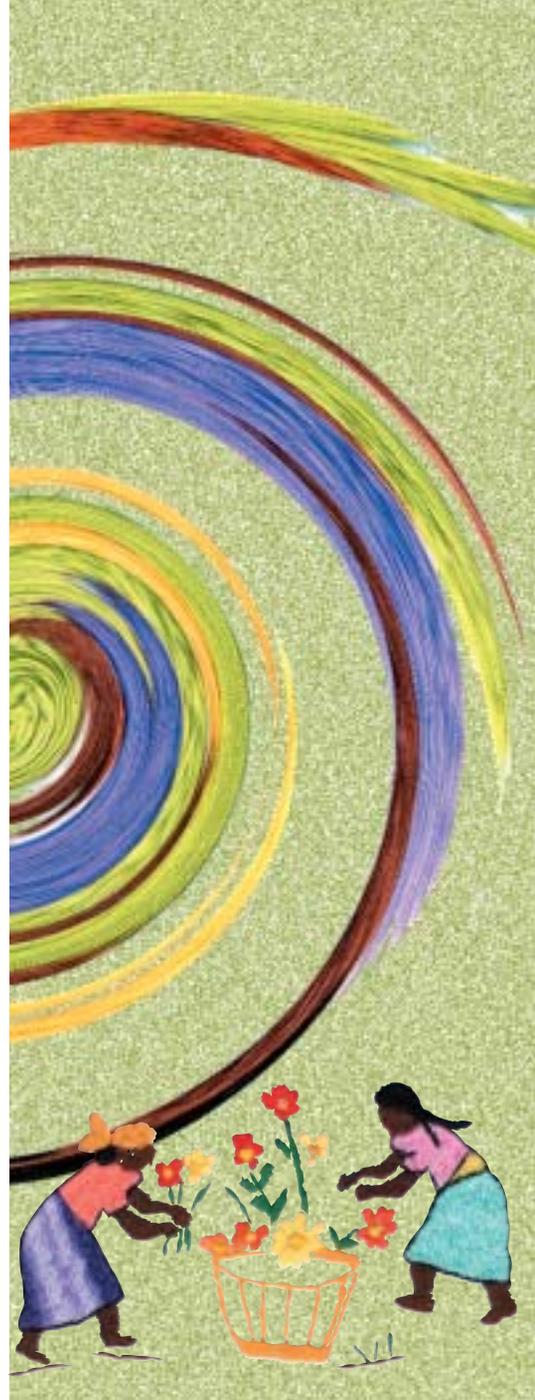


Box 14: A gender-specific plan for the Amazon

In Jaú National Park, located in the north-eastern zone of Amazonia, the Fundação Vitória Amazônica has developed a participatory environmental management plan with a gender-specific angle. A socio-environmental survey first investigated women's and men's understanding of conservation issues. During a mapping process, it soon became evident that women were better informed about how their families were using land in different locations, where the resources were and how they were obtained. Men managed commercialization and financial issues. The project revealed that conserving natural resources in protected areas depends upon the active involvement of the residents and the promotion of gender equity (IUCN, 2003).

From neglect to exploitation

Despite its value, researchers often fail to study local women's knowledge, automatically regarding it as insignificant. A researcher collecting germ plasm in Southern Sudan, for example, learned only by accident about the local plant-breeding activities of women: "We came to a village, and after some discussion with the people, we thought we had been granted permission to take some heads of sorghum. But on picking these, a woman came shouting furiously after us." It turned out the woman was responsible for the seeds, and it was strictly forbidden to remove them before she had made her selection (Berg, 1994, p. 75; in Zweifel, 1999).





At the opposite extreme, some of the current official development approaches and intellectual property regimes actually threaten to turn women's local knowledge against them. There is a real danger that indigenous knowledge will be extracted, patented and sold for the benefit of industry and research institutions, undermining women's autonomy and their access to and control over vital resources. Many groups, such as Diverse Women for Diversity, warn against such biopiracy, a danger made even more acute by the fact that current patent systems are effectively inaccessible to indigenous peoples.

Other forces eroding women's knowledge and status are the large-scale modernization of agriculture and the destruction of biodiversity, through large-scale logging or other major projects, for example, and biotechnology (Shiva, 1993). All these factors enhance the cycle of exploitation, commercialization, biodiversity deprivation and poverty; breaking it will require new knowledge built on traditional knowledge systems, such as those related to sustainable agriculture.

Many non-governmental organizations have expressed particular concerns over the ongoing impact of current agriculture and trade policies, trade-related intellectual property rights (TRIPS) agreements and intellectual property rights in general on the conservation and sustainable use of biological resources, and on the equitable sharing of benefits. For its part, the World Parks Congress, held in Durban in September 2003, stressed the need to address the growing problem of coercive conservation measures, which tend to suck away local access to environmental resources. It proposed seeking alternatives that enhance conservation benefits beyond boundaries.

With clear calls for equity and social justice in conservation efforts now echoing around the world, the Towards Equity Series from the World Conservation Union (IUCN) can be a valuable guide and resource (see case K below).

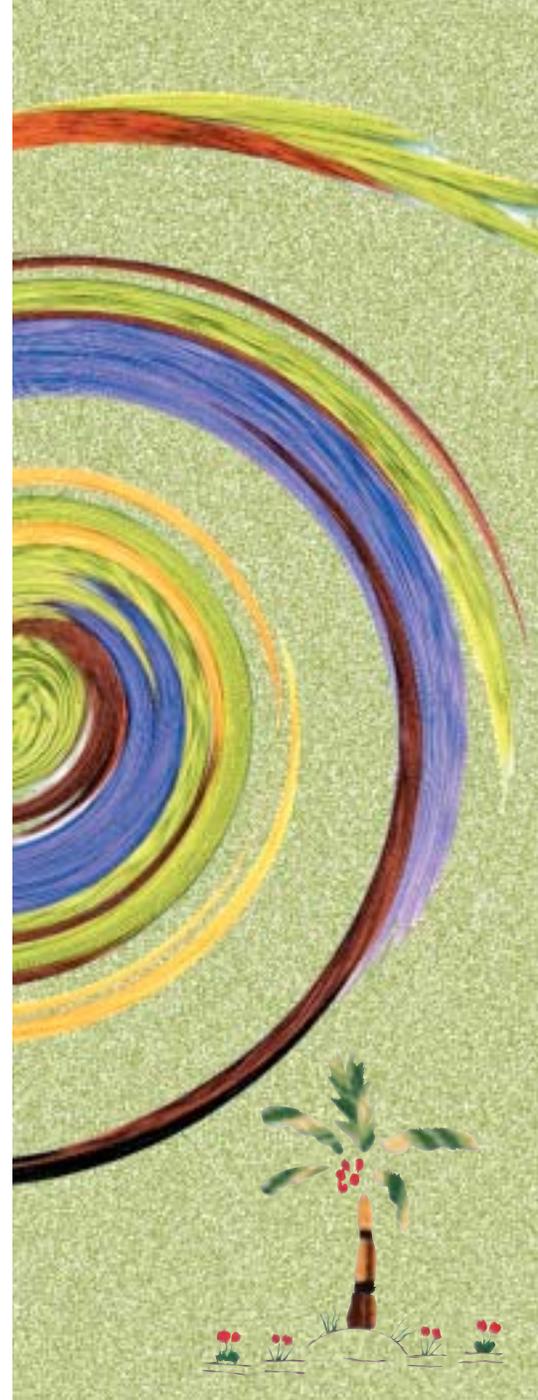
Entry points for policies and development

There are several possibilities for enhancing women's position in biodiversity conservation, including through policy-making, research, programmes and projects, and women's organizations and networks. Apart from national initiatives, international policy frameworks also offer specific entry points.

In terms of policies, one of the objectives of Agenda 21 (UNCED, 1992) is the recognition and promotion of "the traditional methods and the knowledge of indigenous people and their communities, emphasizing the particular role of women, relevant to the conservation of biological diversity".

In its preamble, the Convention on Biological Diversity (1992) recognizes "the vital role that women play in the conservation and sustainable use of biological diversity" and affirms "the need for the full participation of women at all levels of policymaking and implementation for biological diversity conservation". In its article 1, the Convention has as its objective the "... fair and equitable sharing of benefits arising out of the utilization of genetic resources, including by access to genetic resources ...". (See also the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing Arising out of their Utilization, adopted at the sixth Conference of the Parties, in 2002 (decision VI/24).)

The Convention itself focuses on an array of measures for conservation, sustainable use and benefit-sharing. Although women's organizations have been advocating a gender perspective at most of the Convention's recent meetings of the Conference of the Parties, it has not yet been fully mainstreamed in implementation. In fact, neither the decisions of the Conference of the Parties nor the recommendations of the Subsidiary Body on Scientific, Technical and Technological Advice have taken much account of gender's significance. The German Technical Cooperation BIODIV project, among other initiatives, seeks to promote greater attention to gender in achieving the Convention's objectives.





In a speech to the Intergovernmental Committee for the Cartagena Protocol on Biosafety, a subsidiary body of the Conference of the Parties, meeting in The Hague in 2002, Sandra Lee, Conservation Minister of New Zealand, emphasized: "We also need to give greater recognition to the role of women in conservation. Women have a vital role to play in affecting community choices, as key decision makers, as important players in economic and political processes in some societies, and through their influence on the next generation. We need to recognize this, and take concrete steps to build their capacity, by addressing issues of empowerment for women in all societies and by providing them with access to information and tools for good biodiversity management."

Another global policy tool is Strategic Objective K.1 of the 1995 Beijing Platform for Action, in which Governments agree to "Encourage, subject to national legislation and consistent with the Convention on Biological Diversity, the effective protection and use of the knowledge, innovations and practices of women of indigenous and local communities, including practices relating to traditional medicines, biodiversity and indigenous technologies, and endeavour to ensure that these are respected, maintained, promoted and preserved in an ecologically sustainable manner, and promote their wider application with the approval and involvement of the holders of such knowledge; in addition, safeguard the existing intellectual property rights of these women as protected under national and international law; work actively, where necessary, to find additional ways and means for the effective protection and use of such knowledge, innovations and practices, subject to national legislation and consistent with the Convention on Biological Diversity and relevant international law, and encourage fair and equitable sharing of benefits arising from the utilization of such knowledge, innovation and practices" (paragraph 253 (c)).

Also, the Plan of Implementation of the World Summit on Sustainable Development calls for the enhancement of women's participation in all ways and at all levels relating to sustainable agriculture and food security

(paragraph 40 (f)). It says also: “Encourage and enable all stakeholders to contribute to the implementation of the objectives of the Convention and, in particular, recognize the specific role of youth, women and indigenous and local communities in conserving and using biodiversity in a sustainable way” (paragraph 44 (k)).

Further, on an ongoing basis the United Nations Forum on Forests is an intergovernmental policy forum to promote the management, conservation and sustainable development of all types of forests, and to strengthen political commitment towards that end. It has recognized women as one of several major groups partaking in a multistakeholder dialogue. The Uganda Women Tree Planting Movement and the Green Earth Organization of Ghana facilitate the affiliated women’s caucus.

With regard to projects and programmes, several initiatives around the world aim to enhance women’s position in biodiversity conservation and management. Examples include the action, research and outreach programme Green Health, set up by the University of the Philippines at Los Baños Institute of Biological Sciences. It has worked among women and men in the communities of Surigao del Norte on the north-eastern tip of Mindanao, teaching women the use of herbal plants to treat simple ailments. The women have learned not only which plants can cure which ailments, but also how to make herbal medicine to bring in additional income.

Another case is the Greater Quehuche Plan Ecotourism Project, promoted by the Ak’Tenamit Association at Rio Dulce in Guatemala. Although tourism does not automatically benefit local women, and in many cases steals their control over their resources, this project sets out to offer women alternative livelihoods. The president is 25-year-old Candelaria Coc Maas, an Indian woman descendant of the Mayan Q’eqchi’ ethnic group. She comments, “Before [the project], women had little say about anything, but now increasing attention is paid to our views and opinions”. The project follows a gender equity process, with





responsibilities and benefits equally distributed between women and men, and 100 per cent of the project-related income goes to the community (IUCN, 2003).

Concerted research can go a long way towards further exploration of women's contributions to biodiversity, chronicling its extensive impact on their lives. Under its Sustainable Use of Biodiversity Programme, the International Development Research Centre has devised Gender and Biodiversity Research Guidelines based on the rationale that research concerned with the equitable and sustainable use of biodiversity must address the inequities between women and men associated with access to resources and knowledge (IDRC, 1998).

In a recent publication, *Women and Plants*, Patricia L. Howard (2003) and 16 other experts explore gender relations in biodiversity management and conservation, looking at the domestic arena, plant conservation, women's rights, gendered plant knowledge in science and society, women's status and welfare, and the effects of biodiversity loss. Another example is a Peruvian-German cooperation project being carried out among four village communities in the provinces of Ayacucho in the Andes and San Martín in the rain forest. It takes a hands-on approach by collecting information about biodiversity, its conservation, food security, the community's vision of the cosmos, and role distribution and gender relations.

Through interviews with men and women from different age groups, the Centro de la Mujer Peruana Flora Tristán intends to garner insights into how knowledge about biodiversity is distributed among different groups. Participative workshops have discussed some of the research. The project also aims to sensitize policy-makers to gender issues and to influence the Peruvian Strategy for Biological Diversity (BIODIV, GTZ, 2000).



Box 15: Workshops mobilize women on poverty and biodiversity

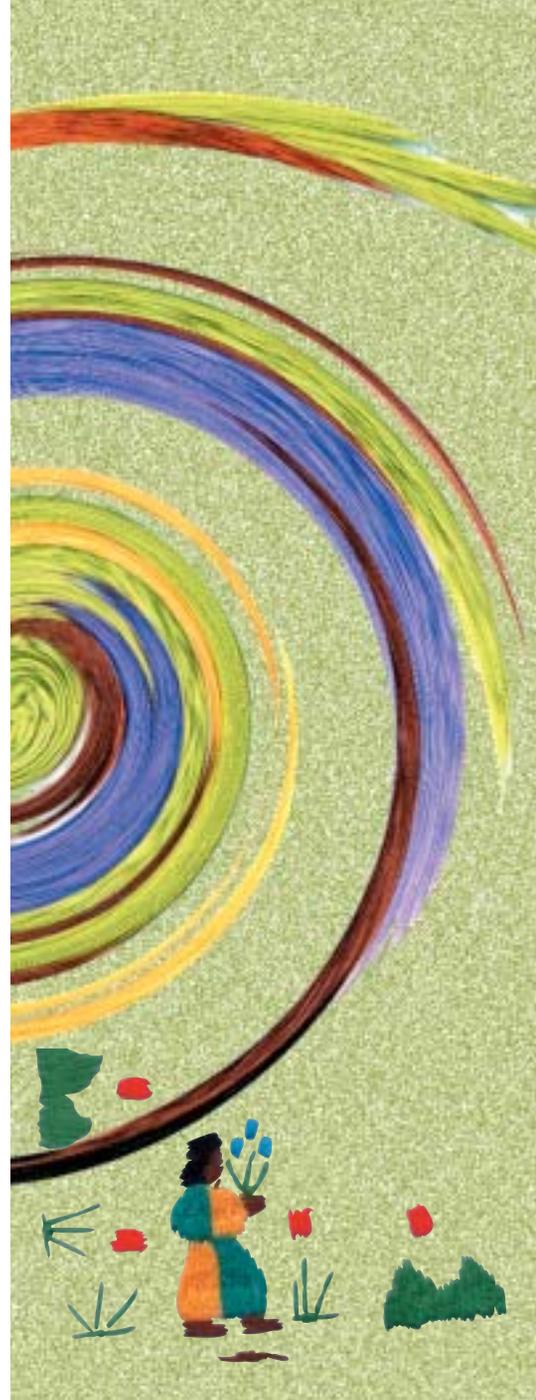
In 2003, recognizing women's essential contributions to fighting poverty, the UNEP Division of Policy Development and Law and its Regional Office for Africa supported two workshops for West African and Central African women on "The Crucial Role of Women in Managing Biodiversity as a Means of Poverty Reduction". The events formed part of a series of regional workshops on poverty reduction, the outcomes of which will feed into the overall UNEP strategy on poverty and the environment.

The first two workshops were held in Abidjan, Côte d'Ivoire, and N'Djamena, Chad, in June and July. More than 150 women participated from all walks of life, including representatives from local communities, trade unions, and civil society, especially national and regional women's organizations and cooperatives and also women's and indigenous peoples' advocacy groups. Policy-makers from the national, local and community levels along with representatives from intergovernmental organizations also attended.

Both workshops discussed the central role, especially of rural women, in developing countries and looked at how those groups are key to the future of the Earth's food and livelihood security; the management of livestock; and the conservation and sustainable use of plant and animal diversity. They noted that despite numerous policies and legal agreements recognizing women's contributions, the relationship between women and agrobiological diversity has not yet been clarified by environmental technicians, experts, policy-makers and planners.

One important outcome was the creation of subregional networks of women on poverty and environment in West and Central Africa. Equally significant was that the relevant Ministers attended, ensuring that issues related to women and the environment will rise on national agendas. Both workshops also attracted wide media coverage, achieving a broader level of public outreach.

Source: UNEP DPDL, written communication





“In our area, people were eating turtles. Now I know the importance of conserving turtles. If we eat all of them there will be no species of turtles ... I’ve educated the whole community by telling them it is not good to eat turtles.”

Swabra About, a 16-year-old girl living in Kiunga Marine Reserve, northern Kenya (MacDonald & Nierenberg, 2003)

Women worldwide are also organizing to make their voices heard and to promote biodiversity conservation and sustainable management at local, regional and international levels. Before the fifth meeting of the Conference of the Parties to the Convention on Biological Diversity, held in Nairobi in May 2000, a workshop on indigenous women and biodiversity noted: “We live in a world where women’s voices are often marginalized. This is especially true with respect to indigenous women’s knowledge about the conservation and sustainable use of biodiversity. We advise the Conference of the parties to ensure the full, active and equal participation of women, specifically from indigenous and local communities, within all elements in its programme of work.”

In 1998, to bring women’s perspectives more consistently into both local and global forums discussing biodiversity, the international network Diverse Women for Diversity was launched. It strives to mobilize a global campaign of women on biological diversity, cultural diversity and food security, and speaks out about globalization, genetic engineering and patenting of life forms.

An older and now widely known national case is the Chipko movement in India, made up primarily of village women who stopped commercial logging in the 1970s by embracing trees in their community forests. Chipko led to a re-evaluation of the country’s forest policy and a ban by the Supreme Court of India on green felling in the Himalayas (see case C below). The Save Our Seeds Movement, or Beej Bachao Andolan, subsequently sprang up among local farmers in the central Himalayan region of Garhwal (Uttaranchal). It has preserved in situ a rich variety of

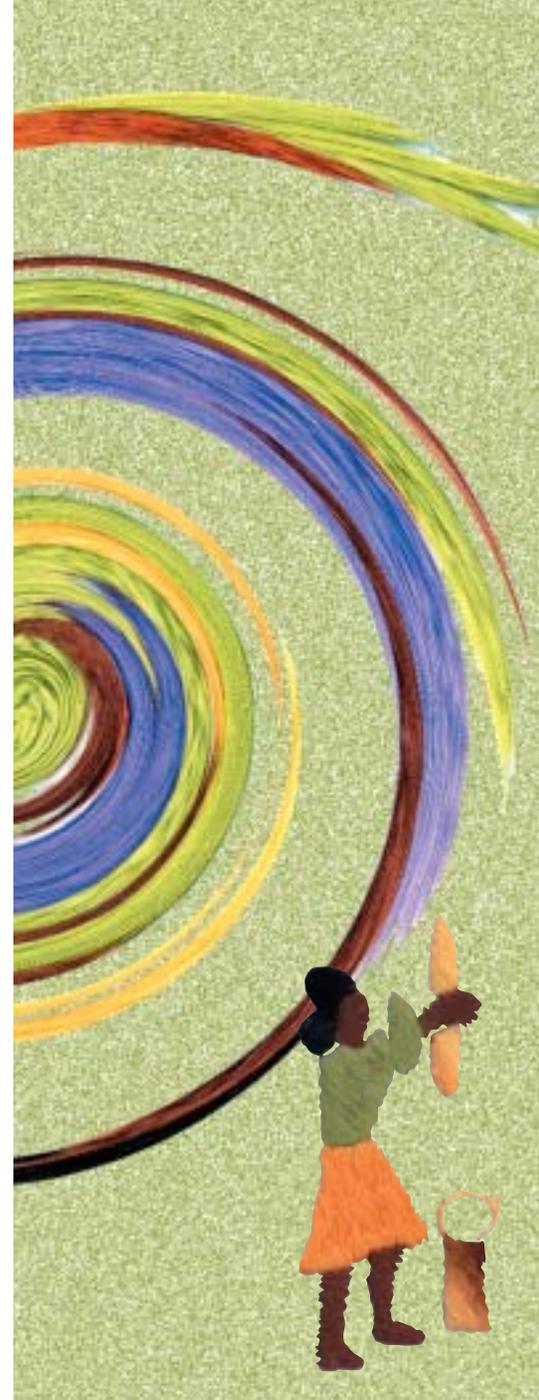
traditional seeds, ensuring food security and the well-being of both the people and the land. The Mahila Samakhyas, an umbrella organization of women, works on these and other development issues through women's welfare groups in about 250 villages.

Conclusion

This chapter has portrayed how biodiversity is essential for securing livelihoods and reducing poverty, and how gender can determine people's roles in the use, conservation and management of biodiversity. Rural women in particular have an intense interaction with natural resources, given their heavy involvement in collecting and producing food, fuel, medicinal remedies and necessary raw materials.

With knowledge passed down through many generations, women frequently acquire a profound understanding of their environment and of biodiversity in particular, yet their contributions to conservation go unrecognized. Biodiversity loss and biopiracy now endanger their knowledge and resources, including through the erosion of their diverse resource base. Lack of ownership and control over land and resources (see case A above) along with limited access to education and services, impose major constraints.

While the Convention on Biological Diversity mentions women's roles, its implementation requires a greater focus on gender. Fortunately, there are already many inspiring examples of integrating a gender perspective into biodiversity conservation, and research is starting to gain steam. More needs to be done to achieve the full and active participation of women in decision-making, assure their access to services (including education) and resources, and open the door to equal sharing of benefits. An essential first step is better collection of gender-specific information and data, while awareness on the potential wealth of women's contributions should be raised in all forums and institutions dealing with biodiversity. Above all, conservation efforts need to draw from the principles of social justice, equity and equality.





Case B: For indigenous peoples, conservation begins with cultural values



By **Leonor Zalabata Torres** (*Arhuaco people, Sierra Nevada de Santa María, Colombia*)

“To the extent that we are losing our own cultural values, we lose indigenous women’s values. To recover our cultural values is to recover women’s values.”

As indigenous women, our relationship with biodiversity in our territories is one where everyday activities manifest as cultural practices. These practices form our peoples’ identity while protecting and maintaining our natural resources. They are closely linked to the upbringing of our children and to our agricultural work, and they are a decisive factor in sustaining human life in our own spaces, in harmony with our traditional knowledge. They carry on our culture and the Earth itself, guaranteeing the continued existence of indigenous peoples in the world.

Nowadays, technology has demolished many ecological borders, divided the components of living beings into particles and is attempting to regulate all these components. But the indigenous view is different: it is an insight into the interconnection of all components, seeing the interrelations between them, their surroundings and their uses. Encapsulating the unity of all beings, it emphasizes fundamental values that are of the utmost importance for the sustainability of all beings, humankind and the natural world.

One of the main threats to balancing biodiversity according to our traditional knowledge are programmes planned and imposed from outside, including conservation projects, as these do not take into account our indigenous values and views. Indigenous peoples in the Sierra Nevada de Santa María in northern Colombia, for example, have watched many institutions make big investments here. But they have not achieved their goals because they have interests different from the respectful conservation of nature, and they have not used the right methods. To succeed, such activities have to be guided according to our own institutions, and should also seek to promote the well-being and sustainability of indigenous populations. This requires that we all unite our efforts, and establish a common language, common principles and unified activities within a common spirit to achieve the common conservation goal.

For our peoples, the different social, cultural and political roles are integrated into dynamics that are much more in harmony with human needs. “Being a

woman” and “being a man”, for instance, both have their own place in our traditions, forming integral parts of the whole. Yet men and women are also the same, with equal respect paid to the different tasks involved in caring for biodiversity and people.

When a girl is born, in our culture we say that the mountain laughs and the birds cry, because her future activities include maintaining the forest and are not connected with logging in order to sow (so her work will not feed the birds). In the case of a boy, the opposite is said, that the mountain sheds tears and the birds laugh, because men will partially log to cultivate when needed and, at the same time, the food they grow will also feed the birds. These metaphors reflect the difference in functions, but not as a kind of superiority or inferiority.

Imbalances only come with the loss of cultural values. When the outside system penetrates, vices and contradictions bloom in indigenous communities and peoples. To preserve biodiversity, it is essential to preserve our way of sharing our knowledge.





Case C: Facing a new threat to a forest, Chipko returns



By **Biju Negi** (*Beej Bachao Andolan (Save our Seeds), India*)

The forest of Advani in Tehri Garhwal (Uttarranchal, India) is roughly midway between Tehri, site of the controversial Tehri Dam, and Rishikesh, where the Ganges river spills from the Garhwal Himalayan mountains onto the plains. The forest was one of the hotbeds of the Chipko Movement in the early 1970s, which prompted a review of the country's existing forest policy and a ban on green felling in the Himalayan region. Bachchni Devi, then in her thirties, was one of the many women from the villages around Advani who kept constant vigil in the forest, standing guard over trees, facing the axes of the forest contractors with a quiet, unwavering Gandhian determination, until the latter gave in and retraced their steps.

Today, Bachchni Devi is well past 60 but her determination still shines through her eyes. And so when the forest was threatened again three years ago, she was among the first to rally the women and men of her village to set up a human ring of protection around the trees. The new demons, it turned out, rose from the Tehri dam.

The dam is still many years from completion, but already forests are being marked and at places even cleared along the proposed route for the electricity transmission lines from Tehri to Meerut, near Delhi, about 400 kilometres away. In a swift, suspect move, the Power Grid Corporation of India, which is responsible for this transmission, hired contractors to clear 80-metre-wide stretches of forest in discontinuous patches. The people in the nearby villages could not recall a survey being carried out to decide this route. They suspected it had been determined in collusion with the forest contractors, because it passed through the most lushly forested areas.

In August 2001, on the Hindu festival day of Rakhi, when sisters tie sacred threads on the wrists of their brothers, over 100 old and young women and men, led by Bachchni Devi, marched under a steady monsoon rain to the forest of Advani. They all tied rakhis (sacred threads) on the trees in the forest and resolved to prevent them from being cut. The gathering warned the Government that if a resurvey was not conducted, it would face Chipko once again. Speaking to the crowd, Bachchni Devi said: "We did not protect these trees so many years ago, only to see them cut now!"

IV. Women and desertification: a dynamic relationship

Women serve on the front lines of dryland management. Drylands are hugely important areas of biodiversity, and home to 2.3 billion people worldwide, both rural and urban dwellers. At the same time, drylands are among the most risk-prone ecosystems. This section will investigate the complex interaction between local communities – and women in particular – and desertification, and also anti-desertification initiatives.



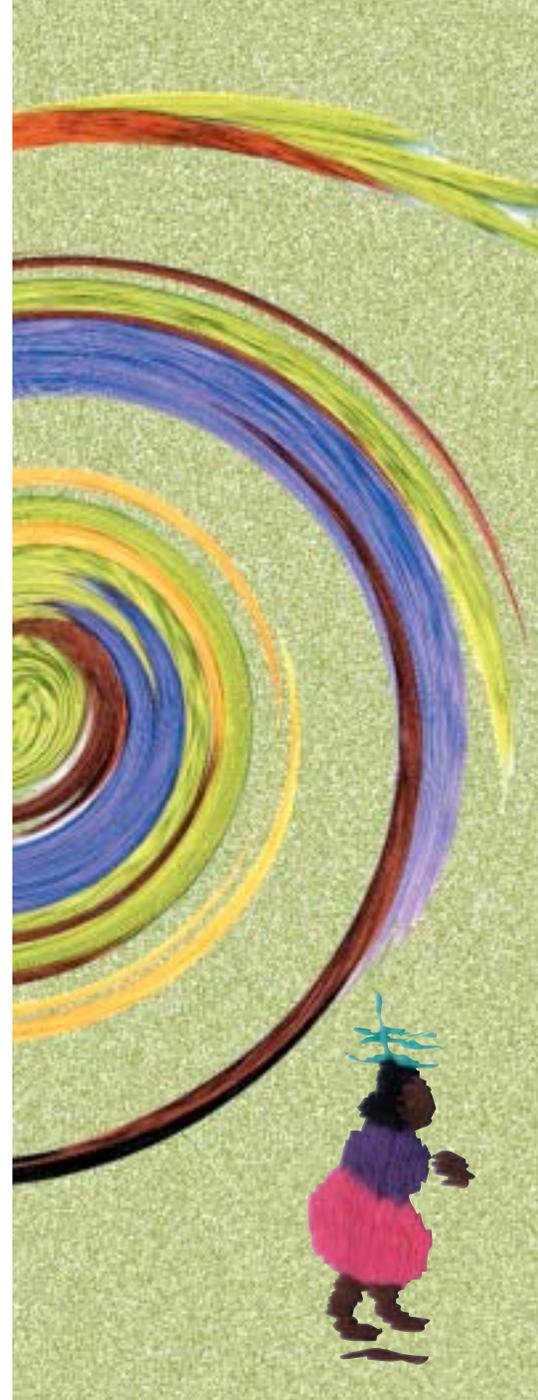
Box 16: What is desertification?

Deserts expand through the degradation of land in arid, semi-arid and dry sub-humid areas. A worldwide phenomenon that threatens many ecosystems, desertification affects about two thirds of countries, including in Asia and around the Mediterranean. At risk are the health and livelihoods of over 1 billion people, about one fifth of the world's population.

There are meteorological, ecological and human dimensions to desertification, and climatic changes are both a consequence and a cause. In many cases, traditional and durable rain-fed agricultural methods and ancestral pastoral practices are fading away. What results is overgrazing, deforestation and land clearance, poor irrigation practices and overcropping.

The impacts are enormous, generating waves of migrants, the disappearance of dryland biodiversity and the decline of fertile agricultural lands. Dryland socio-ecological systems are dynamic, functioning in different but highly interlinked patterns. Understanding land degradation and restoring areas suffering from it calls for an integrated approach to conservation, one that simultaneously considers both biophysical and socio-economic issues.

Sources: Koohafkan, 1996; EarthAction, 2001; Reynolds, et al., 2003





Strong socio-ecological links

The connection between biodiversity and communities is tighter and closer for drylands than in almost any other ecosystem. For communities living in these regions, natural resource management is the most important factor in livelihood security and they learn to strike a delicate balance in what can be a fragile environment. Understanding this along with other socio-ecological dynamics will help enhance prospects for people's survival and the management of natural resources.

Traditional knowledge systems and institutions are particularly vital to dryland natural resource management because they have proven their reliability over time. For example, communities often have established, flexible land-use practices, with seasonal or temporal access rights and corridors of movement. But even though those systems are effective many are now being undermined. It is important to investigate how traditional knowledge is bowing to fast-changing pressures, and to understand its value under current conditions (Barrow, 2003).

While equity and power issues loom large for most dryland areas, they are not well understood. Livestock-sharing groups, for instance, may be seen as very gender insensitive as only men speak at meetings while women sit and listen. Yet there can be many other ways by which men and women discuss, argue and make informed decisions. Women in drylands generally play important roles in preserving their land for food, fuel (cooking, heating and lighting) and shelter. In many of the dry agricultural areas of the world, including much of Africa, women traditionally devote much of their time and effort to the land. They grow, process, manage and market food and other natural resources. They may have gardens, work in the fields, raise small animals, collect feed for animals, process tree products for sale and collect fuel and water. Many invest great vigour and energy into ensuring the day-to-day survival of their families and communities.

Despite all those efforts, women living in drylands also tend to rank among the poorest of the poor, with little power to bring about real

change. They are often excluded from participation in land conservation and development projects, from agricultural extension work and from policies that directly affect their livelihoods. Ownership and decision-making over livestock is normally in the male domain, and even in female-headed households there is still an element of male decision-making in the form of extended family members.

Given women's many important contributions, combating dryland degradation clearly requires a more concerted effort to ensure their full participation.

Increasing workloads and responsibilities

Land degradation affects men and women differently given their differing productive roles. While stress and hardship rise for everyone as the resources closest to a community begin to disappear, women usually end up travelling longer distances to compensate, often under harsh and unsafe conditions. Their workload grows as they struggle to collect food and fuel (FAO, 1993). Erosion and diminished soil fertility cut into agricultural production and additional sources of income. And if a family can no longer survive using its traditional production strategies, young people in rural areas, especially men, embark on seasonal or permanent migration. This puts a sharp strain on those left behind – very often the women – as labour increases but results in less output because of the declining carrying capacity of the soil. Women also take over roles traditionally handled by men (FAO, 1993).

In pastoral societies, when cattle die, men migrate to new pastures or shift to a different location where they pursue other activities. Women and children may also leave the community, but generally as a group to hunt famine foods, as well as pods and other tree products for tanning or as medicines to sell in distant markets. With men gone, if villages are raided, women and children may even be raped or killed. Other scenarios that result from the loss of livestock involve men turning to idling, gambling and drinking cheap brew, leaving women as the sole breadwinners (Njoroge, 1999).





Knowledge for survival

As is true in other environments, women in dryland areas are the primary custodians of indigenous knowledge systems. They have acquired extensive understanding of their natural environment, of its flora, fauna and ecological processes. They know the best trees for fuel, which plants have medicinal uses, where to find water in the dry season and the conditions for growing local crops. The coordinator of the United Nations Volunteers in Kenya noted: “When we go to the field, especially in the semi-arid parts, we find that women are the invisible managers and practitioners in combating desertification” (UWTPM, 2003).

Women take this knowledge and develop survival strategies. For example, in Yazd, the “desert capital” of the Islamic Republic of Iran, they have devised a number of highly sophisticated technologies for agricultural production, such as food production in tunnels constructed underground (www.undp.org/seed/unso/women).

A lack of land

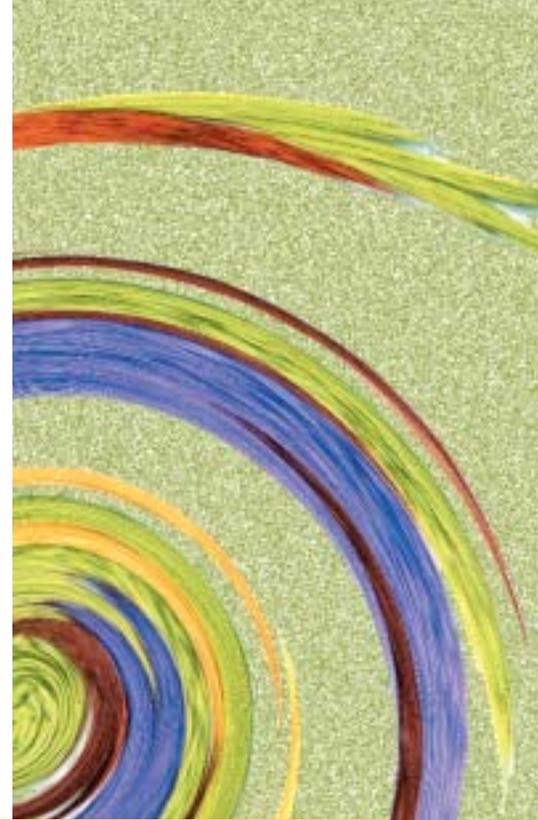
Despite their skills, women’s autonomous access to natural resources is often extremely limited as traditional rules restrict their property rights over land, soil, trees and water. When such resources become scarce, as is the case with desertification, time-honoured customs such as gleaning by poor people, women in particular, are no longer permitted. The decline in available resources may also result in the male head of household selling his land, which strips the family of an essential safety net.

Although this is a common scenario, Governments around the world still prefer to grant land titles to “heads of household”, who are generally the men, whether they are present or not. With land reform taking place in many countries in Africa and elsewhere, Governments are amending rural land legislation, which could be an opportunity for redressing imbalances. Often the new legislation simply synthesizes existing legal systems, including traditional and customary laws, together with modern agricultural legislation related to public and private ownership and use.

New legislation must correspond to society's expectations, secure the support of the rural population and account for the pluralistic nature of land legislation. However, the gender aspects of land tenure, which are often bypassed, need full attention. Protecting customary rights should not accentuate inequalities within communities or sanction harmful environmental behaviour (FAO, 1993).

Women's voices and actions

Women's perspectives rarely appear in the realms of decision-making, politics and administration related to drylands even though they may be the prime managers of dryland resources. Cultural practices and religious norms may hinder women from active participation. An elderly woman in Kenya, for example, reported in a workshop for pastoral women that during a year of severe drought when forage was becoming scarce, she advised her husband to sell the goats while they were still healthy so that they could get a good income. He did not want to do so as the number of livestock reflects a herder's status. Eventually, they lost everything and had to depend on food aid (Njoroge, 1999). However, there are also many cases of women organizing themselves to improve their livelihoods and combat desertification. Boxes 17, 18 and 19 below feature some striking examples.



Box 17: Brazil's "widows of drought"

The semi-arid north-eastern portion of Brazil is highly populated, with periodic droughts that spawn encroaching deserts, unequal distribution of land and severe hardships for most people. The migration of men on a large scale leaves women to run their households. They become known as "widows of drought" as in many cases their husbands never send any promised remittances home and neglect to return.

Leading women activists Rosilda Silva Cruz and Vanete Almeida, members of the largely male Rural Labourers' Union, are now mobilizing women's participation in development activities in the region. They both began their community involvement at an early age and have worked in grass-roots movements since that time.

Ms. Silva Cruz, one of only four women in the union's directorate, coordinates six women's action groups and takes an active part in radio broadcasts disseminating information on drought and environmental degradation, and also on political issues affecting rural women workers. Ms. Almeida helped to organize the first Rural Women Workers' Meeting in the region, and has since branched out to make international connections with women leaders combating desertification. "We believe in what we are doing", she says with pride (see also case D below).

Sources: www.undp.org/seed/unso/women/film.htm; Branco, 1999



Box 18: Mobilization through education in China

Desertification afflicts up to half of China's vast population. In the dry and degraded rural area 1,000 kilometres west of Beijing, women farmers Ms. Niu Yo Qin and Ms. Chao Jiniu are mobilizing their communities to halt erosion by planting willow and poplar tree cuttings. Reclaiming hectares from the advancing desert provides places to plant vegetables while also opening opportunities to improve education, health and living standards.

"If we want to be richer, not poor like today, we must increase the education, the knowledge of our younger generation. Because if our generation here is educated, they will understand the seriousness of desertification, and if they want to reclaim the desert, they must have the knowledge, they must be educated," said Ms. Yo Qin.

Source: www.undp.org/seed/unso/women/film.htm



Box 19: Women in Uganda take up tree-planting

The Uganda Women Tree Planting Movement, a regional partner of Kenya's Green Belt Movement, plays a major role in combating desertification. Among other activities, it brings a gender perspective to the international arena and helps shape Uganda's World Desertification Day celebrations.

In 2003, when the theme of the Day was water resources management, the Nakasongola district, located in Uganda's "cattle corridor", was selected for the celebrations. An awareness-raising campaign included radio broadcasts, speeches, posters, fact sheets and a school poster competition. Restoration projects involved tree planting around the district's inselbergs – isolated steep hills – and seeding grass around the Wabigalo dam to prevent it from silting up so quickly.

Source: (UWTPM, 2003)

Policy responses

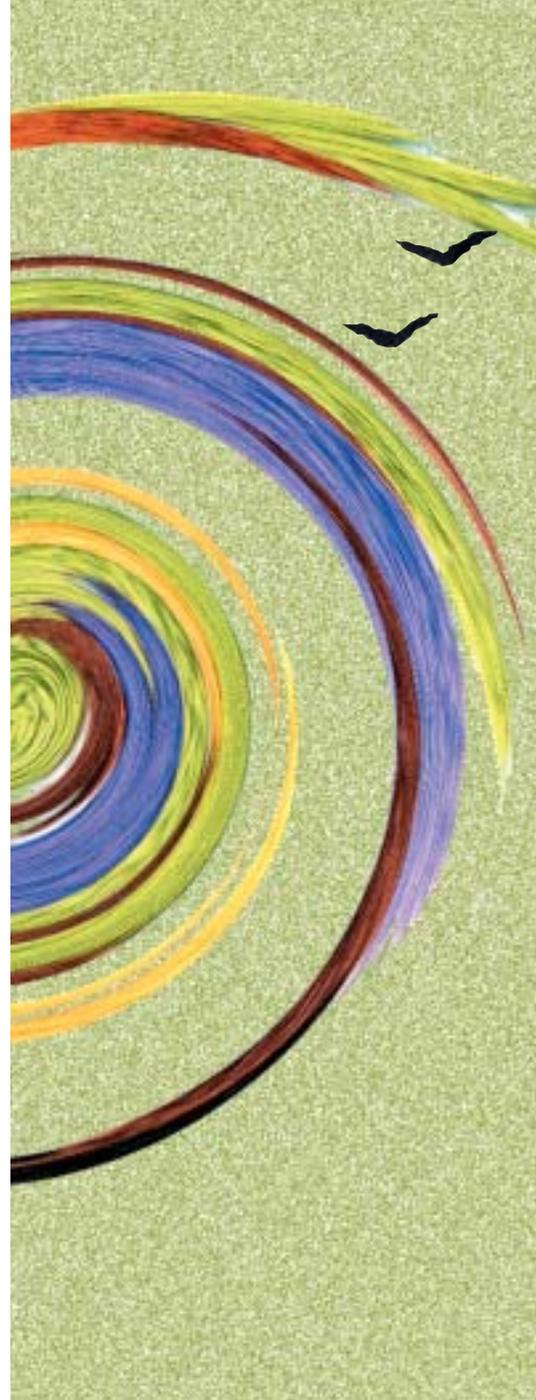
The United Nations Convention to Combat Desertification, which was adopted in June 1994 and came into force in December 1996, is the most important international framework for prevention and rehabilitation of desertification. By September 2003, 190 Governments had ratified the Convention, committing themselves to providing greater technical and financial resources to combat desertification and mitigate the effects of drought in arid, semi-arid and dry sub-humid zones in their own countries and globally. Many countries are now compiling national and regional action plans.

The Convention recognizes the role which women play in sustainable development in dryland areas and endorses women's equal participation, particularly in establishing and supplying knowledge. The Convention's Conference of the Parties has agreed to promote awareness and facilitate participation of local communities, particularly their women, in decisions which affect them. In 1999, it designated the theme of World Desertification Day as "Women's Role in Combating Desertification".

Other activities involve strengthening women's role in the process of implementing the Convention through local organizing, workshops and initiatives to bolster participation. Senegal, for example, set up a national forum on the involvement of women in its national action plan. And in Kenya, 30 to 50 per cent of the participants in the national action plan preparatory process were women. The Islamic Republic of Iran carried out a study on gender discrimination, with a component to encourage traditional methods used by women in rural and nomadic areas for protecting rangelands (GTZ, n.d.).

However, obstacles to these commitments include a limited understanding of gender issues, and of how to translate ideas about gender into specific actions. Other constraints are the lack of gender expertise, limited existence and use of gender-disaggregated data and the often prevailing traditional views on gender roles.

In 1997, an expert group from the Office to Combat Desertification and Drought (UNSO) of the United Nations Development Programme issued an action plan for enlarging women's position in implementing the Convention. Its goal is to weave gender throughout all forms of implementation, including through decentralized planning, systematic funding mechanisms, responsive partnerships, the participation of women in decision-making, the gender sensitization of representatives and the use of gender-specific criteria and indicators for monitoring. The strategy contains guidelines for monitoring and reporting, gender analysis, training, awareness-raising and capacity-building, a roster of specialists and funding mechanisms. All those actions





aim to ensure that women in dryland areas exercise their right to assume full responsibility as managers of natural resources and other livelihood activities (UNSO/UNDP, 1997).

In 2003, at the sixth Conference of the Parties of the Convention to Combat Desertification, held in Havana, the Global Biodiversity Forum organized an interregional session entitled the "Ecosystem Approach to Dryland Management". One of three workshops concentrated on gender and traditional knowledge and formulated some specific recommendations on gender mainstreaming. The World Conservation Union also launched a handbook on gender and desertification that sets forth a methodological proposal on how to mainstream gender equity in work related to drylands (Blanco and Velásquez, 2003).

Several Governments have individually supported women's initiatives and involvement in desertification control. For the 1999 World Desertification Day, for example, the Government of Morocco launched a series of workshops to listen to women's concerns and standpoints and to assess their needs (Economics, 1999). On that same occasion, President Abdou Diouf of Senegal commended the Fédération des Associations Féminines du Sénégal (FAFS) on its pioneering work in promoting the role of women and urged strong coordination in the implementation of the Beijing Platform for Action and the Desertification Convention, recognizing that they can complement each other. In South Africa, the Convention's secretariat and the Government of South Africa organized a stakeholder workshop in Pretoria in 1999. The workshop discussed implementation of the Convention, the national action plan and the gender mainstreaming process, and resulted in a national platform for further cooperation in those areas (www.undp.org/seed/unso/women).

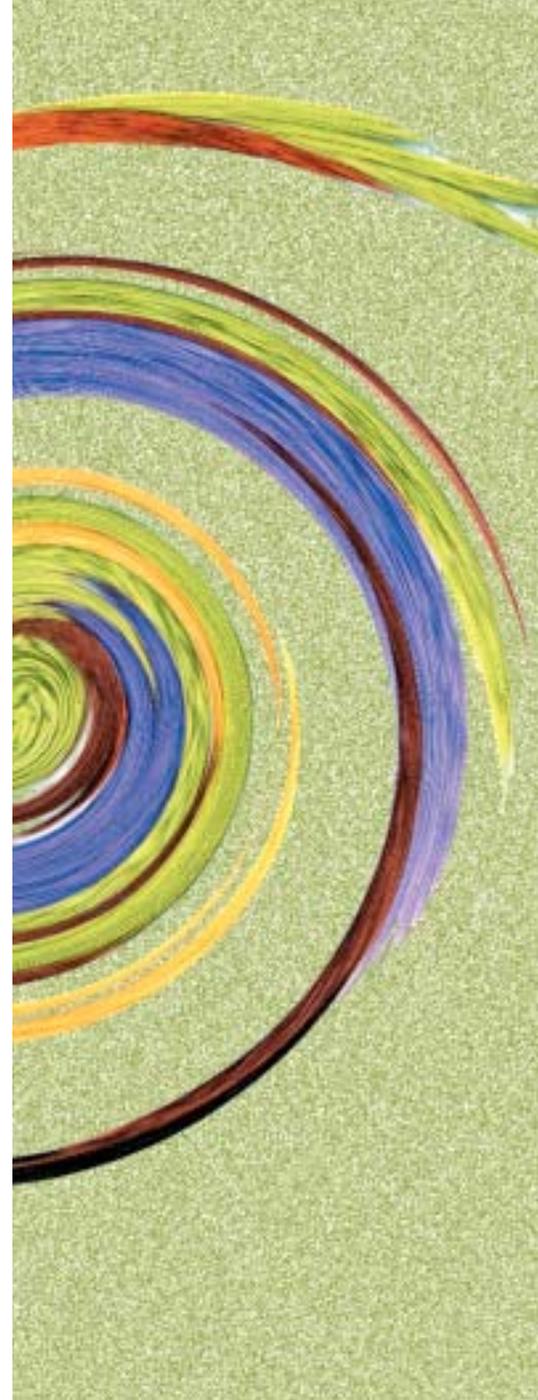
International agencies such as the United Nations Development Programme and the United Nations Development Fund for Women, along with several bilateral donors, have supported similar initiatives. Since 1998, the United Nations Development Fund for Women and its partners

have worked in Ghana and Nigeria to reduce environmental degradation and desertification through the renewable energy systems development programme. It builds local capacity among women to develop, operate and maintain alternative, renewable energy systems, using agriculture and human waste to run small enterprises, and to plant neem (*Azadirachta indica*) and other fruit trees. In Burkina Faso, the fund has backed the environmentally sound production of shea butter from the nuts of the shea or karite tree (*Butyrospermum parkii*) by training 300 women producers (UNIFEM, 1999; <http://www.un.org/ecosocdev/geninfo/afrec/vol15no4/154shea.htm>). Projects supported by development agencies can sometimes begin to shift traditional forms of inequity – for example, women might have a first opportunity to own livestock such as camels.

Conclusion

Desertification is a complex and serious environmental and social phenomenon. However, drylands are not just prisons of poverty and deprivation. Communities have developed important strategies and a repository of knowledge and expertise that allows them to respond to and survive in challenging conditions. Although women's social position is often subordinate, they perform many essential survival tasks and have developed valuable skills and practices that complement men's knowledge. Severe environmental degradation, however, puts extra burdens on women, who are often left behind to run households when men migrate.

Women worldwide enjoy little autonomous access to natural resources, or to ownership of land and other resources. But even though traditions and social norms may hinder women's roles in participation and decision-making in dryland management, there are many examples where women have organized themselves to combat desertification. These include participation in shaping and implementing the United Nations Convention to Combat Desertification, which is gender-sensitive in its wording. Some specific steps have now been taken to mainstream gender in carrying out the Convention, particularly at the national level. More concerted, widespread progress remains a challenge.





Case D: Brazil. Empowering women helps to combat desertification



By **Thais Corral** (REDEH – Network for Human Development)

In 2000, the Network for Human Development (REDEH) designed the project Strengthening Women's Action in Water Education to address gender issues in public policies for combating desertification in north-east Brazil. The region is the poorest in the country, with an exceptionally low human development index. Nearly 3.6 million people live in areas affected by drought and desertification, with women in particular affected by the lack of basic systems for water and sanitation. Their life expectancy is less than 60 years, while maternal mortality exceeds 200 per 100,000 births. A common phenomenon is also the high level of male out-migration during the times of severe drought, leaving women and children to fend for themselves.

REDEH is a Brazilian non-profit organization whose mission is to strengthen the role of women in sustainable development. One of the leading women's organizations at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, it has been actively involved since then in the national, state and local implementation of Agenda 21 and other multilateral environmental agreements, such as the Convention to Combat Desertification.

The project in north-east Brazil involved two parts, starting with the development of an educational kit to address gender issues and desertification. It consisted of a manual showing how the community leaders could become "change agents" to combat desertification, a series of radio programmes and campaigns, and a video on how local leaders could help the community. These materials evolved from a participatory process, and used language and symbols culturally familiar to the local population. Focus groups discussed gender concepts to avoid marginalizing men.

The other very important component of the strategy was the training methodology it used, which was geared to give local leaders the appropriate tools to work with their own communities. Radio was promoted as a valuable instrument for community involvement and education.

To launch the project, a pilot study was started in five municipalities of the State of Pernambuco as a component of the Government anti-desertification programme. The study has now been replicated in several other States in the Brazilian north-east.

Over 975 community leaders attended training workshops and learned about gender, local empowerment and the democratization of information in order to better deal with drought. They took away information about a tree (*Moringa oleifera*) whose seed purifies water and can easily be cultivated in the region, and about how to care for the rainwater collected in the cisterns installed by the Government.

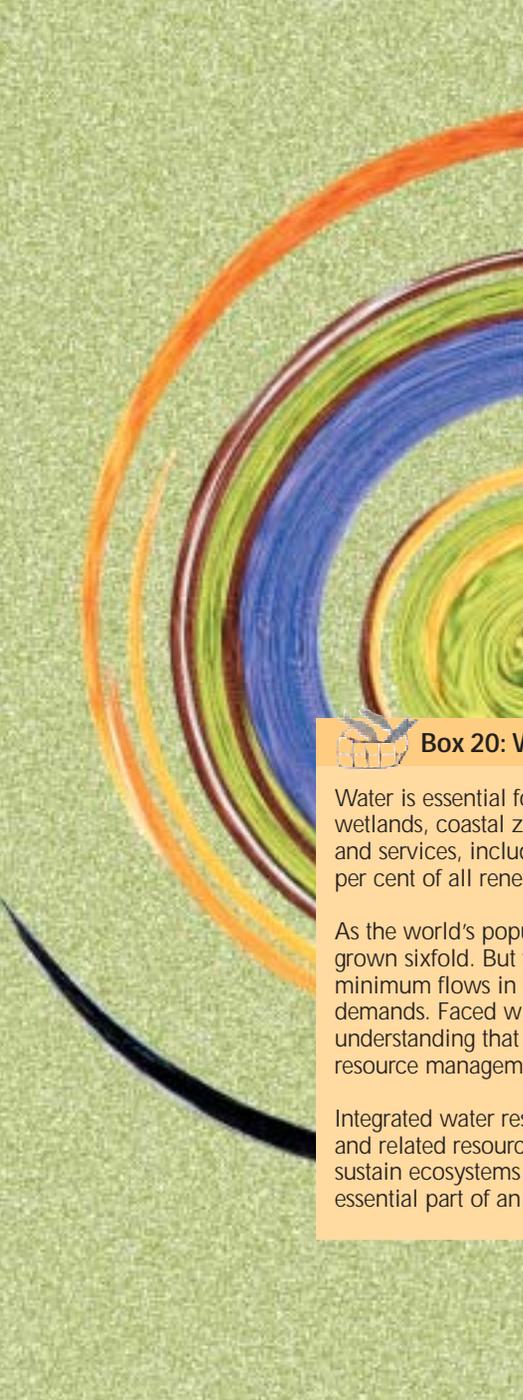
Also, radio programmes were produced by REDEH in each city and then broadcast in public squares and markets. Designed to inform the general population about coping with drought and desertification, how gender relations influence the management of water was one of the subjects included.

From the beginning, the Strengthening Women's Action in Water Education project set out to combine local and regional expertise on drought and desertification with the knowledge of the Network for Human Development on integrating gender within sustainable development policies and programmes. The project also focused on strengthening the roles of various social actors, including teachers, small farmers, nurses, local politicians, union leaders and housewives, and gathered a multitude of possible solutions and experiences. Each participant received tools for further work, so that, for example, teachers could disseminate the information in schools, nurses in hospitals and so on.

Overall, the project helped solidify new partnerships between Government and civil society for social mobilization and awareness-raising to foster sustainability. REDEH also considers the combination of radio for social mobilization with capacity-building for a diverse set of leaders to be an important achievement. Despite the fact that radio is the best communication device for reaching the general population, it is not commonly employed either in general work on development, or in water management projects.

Perhaps most significantly, bringing together women and men for the community leaders' training proved valuable for working with local perceptions of gender. Up until that point, not enough attention had been paid to this topic. Policy-makers, for example, have not adopted indicators to track how desertification affects men and women differently. The project raised the profile of these issues in the policy-making arena while also stressing the leadership capacity of women in their own communities. Past policies tended to look on women as victims. Now there is a better chance that they will recognize that women, if empowered, become very important agents of change.





V. Women and water management: an integrated approach

“Women play a central part in the provision, management and safeguarding of water.”

Dublin Principle 3, International Conference on Water and the Environment
Development Issues for the Twenty-first Century, Dublin, 1992

Awareness is growing of the importance of a gender approach to water supply and management issues (Francis, 2003). The present chapter examines the value of water systems and looks at women's reproductive and productive roles as they relate to using and managing those resources. It also explores lessons drawn from recent experiences in policies and programmes.



Box 20: Water is life

Water is essential for all forms of life and crucial for human development. Water systems, including wetlands, coastal zones, surface waters and aquifers, provide a vast majority of environmental goods and services, including drinking water, transport and food. Globally, irrigated agriculture draws down 70 per cent of all renewable water resources, and industry and energy supply also consume a sizable share.

As the world's population has tripled over the last century, the use of renewable water resources has grown sixfold. But water's sustaining role in ecosystems remains undervalued, despite the fact that minimum flows in water bodies are needed to support environmental health and increasing human demands. Faced with shortages and a grim future if current trends continue, there is a growing understanding that sustainable water management requires water governance, including integrated water resource management.

Integrated water resource management coordinates the development and management of water, land and related resources. It seeks to maximize social and economic welfare in an equitable manner, to sustain ecosystems and to bring together the technical, ecological, social and political spheres. An essential part of an integrated approach is the participation of stakeholders, including local communities.

At the root of poverty

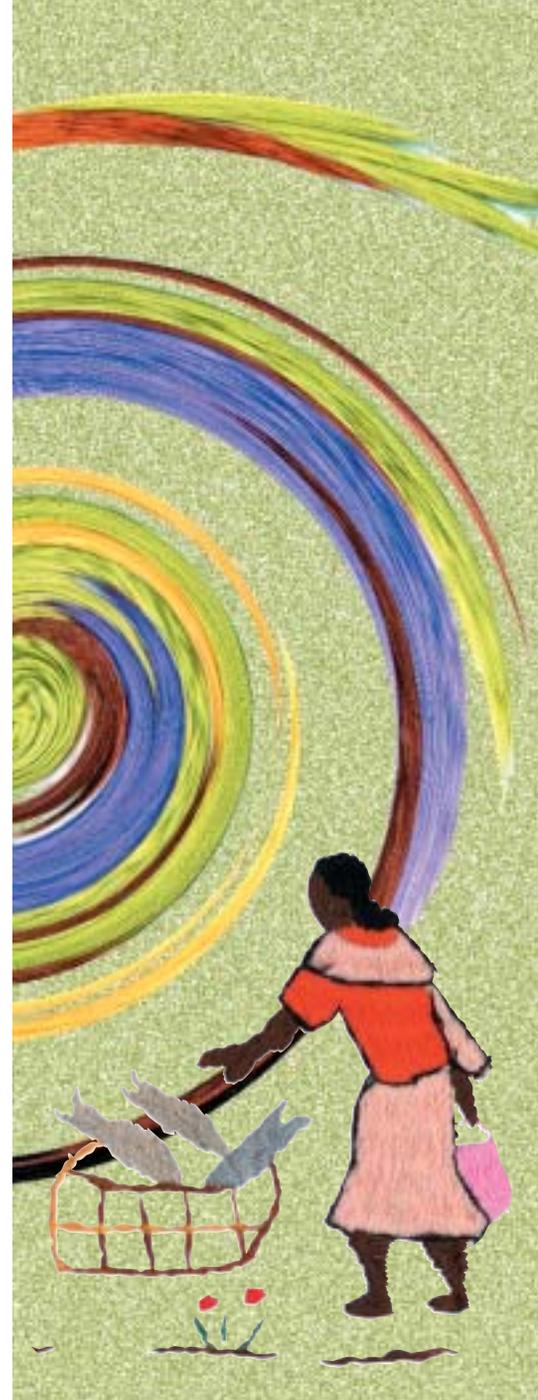
“Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.”

Millennium Development Goal 7, target 10

Water deprivation is a major concern, involving both the quality and the availability of water. According to the United Nations Food and Agriculture Organization, over 230 million people live in 26 countries classified as water deficient, of which 11 are in Africa. It is expected that by 2025 almost two thirds of the world's population are likely to experience some type of water stress, and for 1 billion of them, the shortage will be severe and socially disruptive. Water scarcity hits the poor and most vulnerable first and hardest, as impoverished families draw most heavily on “common property” resources such as water bodies and inshore fishing grounds. At the same time, the wealthy and affluent, and also industry, tend to draw more heavily on these.

There are several primary threats to water supplies, starting with pollution with organic and chemical substances, a major concern in many industrialized and developing countries. Major sources include inadequate sewage systems, waste disposal, industrial effluents and agricultural residues. Pollution disrupts not only the ecological balance but also harms the health of the entire community. Eighty per cent of all sickness in the world is attributable to unsafe water and poor sanitation, and water-borne diseases – such as diarrhoea, malaria, schistosomiasis and hepatitis A – kill 3.4 million people (mostly children) every year.

Water may also disappear through the irreversible degradation which takes place when wetlands, flood plains and coastal ecosystems are destroyed (Gender and Water Alliance, 2003). Deforestation, in particular in catchment areas, and the damming of rivers are another danger, while the impact of climate change on water systems – through droughts and





flooding, as well as extreme weather conditions – are becoming more and more visible. From 1991 to 2000, over 90 per cent of the people killed by natural hazards lost their lives as a consequence of extreme hydrological circumstances. This translates into major economic consequences, as the 2000 floods in Mozambique clearly demonstrated: GNP subsequently plummeted by 23 per cent (Prince of Orange, 2002). And whenever clean water is scarce, the livelihoods of the poor and women are often the first to suffer the consequences.

Women's reproductive and productive roles

Women and men assume distinct responsibilities in using and managing water and water systems. In most societies, women and girls collect every litre of water for cooking, bathing, cleaning, maintaining health and hygiene, raising small livestock and growing food. Rural men need water for irrigation and larger livestock, but women often care for the milk cattle and young animals. They also oversee family health. Because of these differing gender roles, women and men have different stakes in water use. There is a tendency to overemphasize women's reproductive roles in relation to water resource management – in other words, those tasks that span providing, managing and safeguarding water for use by the family. Water is also used in building and repair work (for example, in making bricks and in plastering), for crops and food processing, and in transport. But women have pressing needs too for water to engage in economic production, including agriculture and microenterprise. Gender disparities ensure that those needs frequently go unmet, with discrepancies in land tenure, access to water, participation, resource control, capacity and skill development, marketing and commercial linkages (GWA, 2003).

Sometimes women's needs are in direct conflict with those of men: for example, food production can be an important source of family food and income for women, but women's access to irrigation is minimal (UNDP, 2002). Gender analysis also reveals that women cope with disproportionate economic and other forms of fallout from floods, dam construction and water pollution. In 1991, after the flood action plan of

Bangladesh began – including gender analysis – it soon became clear that women bear a greater burden in contending with those natural disasters: not only do their normal responsibilities increase, but female-headed households are disadvantaged in terms of relief and rehabilitation. Many resort to a distinctive pattern of emergency borrowing and selling of assets, such as jewellery and utensils. Women also tend to be at greater risk of long-term economic loss than men (GWA, 2003). From a gender perspective, therefore, conservation of aquatic ecosystems can be viewed as critical in terms of improving women's access to resources essential for livelihoods, such as forests, fish species and agricultural land.

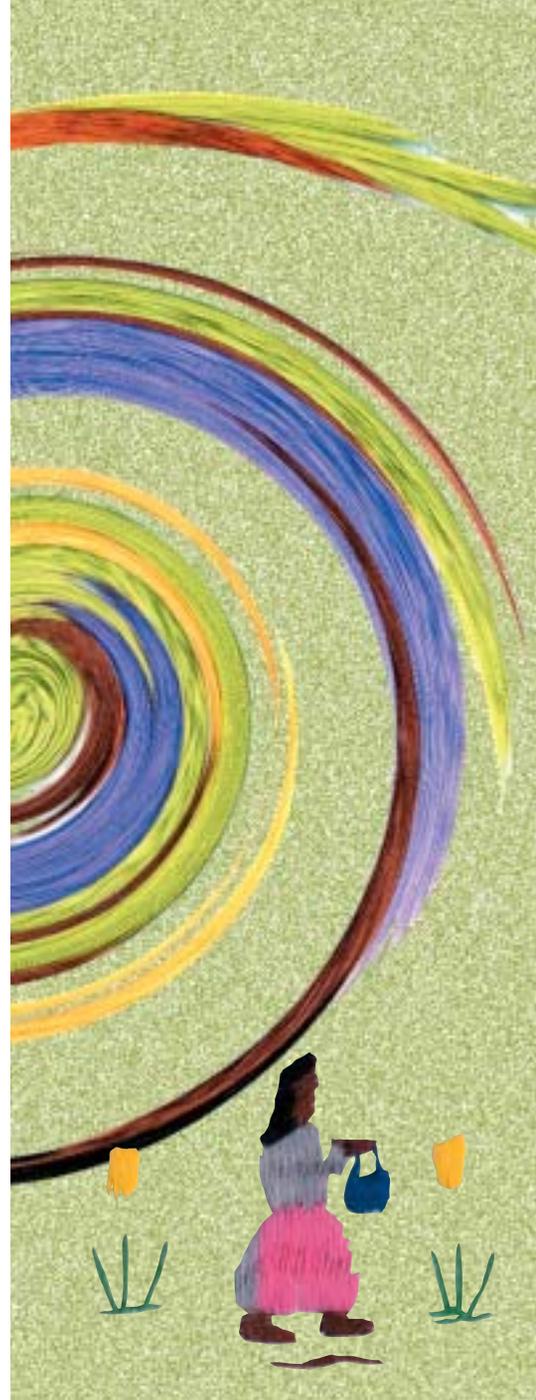
This imbalance extends also to the purely domestic arena. All over the world, women and girls assume what can be the time-consuming and dangerous duty of supplying the water needs of their households. Many walk long distances to fetch water, spending four or five hours per day burdened under heavy containers and suffering acute physical problems, especially in drought-prone areas (see box 21). In some mountainous regions of East Africa, for example, women spend up to 27 per cent of their caloric intake in collecting water (Lewis, 1994). In urban areas, women and girls wait hours queuing for intermittent water supplies. Many then have no time for other pursuits, such as education, income generation or cultural and political activities.



Box 21: A single source for drinking

In Nepal, around 200 families in some villages in Ramechaap district have struggled with acute water shortages for the past few years. They have just one source for drinking: a natural spring. Families sometimes have to wait four hours to collect a single bucket of water. "Night and day, the spring is ever occupied by containers and people", says Jhuma Shrestha, a local woman standing in the queue. "We rely on the spring just for drinking water. For washing, bathing and providing water to our animals, we go to faraway Khahare stream."

Source: Kathmandu Post, 2003





Since they are in regular contact with poor-quality water, women face a higher exposure to water-borne diseases and pollution, as has been the case with the arsenic-infused well water in Bangladesh. Seventy per cent of the world's blind are women who have been infected, directly or through their children, with trachoma, a blinding bacterial eye infection occurring in communities with limited access to water (GWA, 2003). Even when water-borne diseases do not afflict women personally, their burdens increase in caring for others who are ill, while the cost associated with family illness deepens family debt and poverty. There are also strong links between women, water and non-water-borne illnesses. In particular, the exploding number of people infected with HIV/AIDS – for example, in southern Africa – has made collecting and using water more difficult as women strive to keep up with the competing demands of caring for the sick as well as doing their own work and that of ill or deceased household members. Many are infected and ill themselves.

When water is scarce, people must buy it, frequently without any guarantee of quality. High prices can swallow large proportions of family income, highlighting the importance of distinguishing between cultural and socio-economic categories, even within a gender analysis: class, wealth, age, religion and caste are important factors. Better-off women might have private wells for irrigation and domestic purposes, resources to buy safe water or treat unsafe water and domestic help to bring water from other sources. Poor women and girls do not have such options and end up with contaminated supplies. Many also lack basic education on efficient use and pollution prevention, even as they may have learned strategies to conserve water.

Similar considerations apply to a related and sometimes major problem for women: sanitation. In most communities, women must walk long distances to find some privacy, often in bushes or fields, where their personal safety is at risk. There is an increased incidence of sexual and physical assault when women have to walk to remote areas to defecate. Deforestation and loss of vegetation aggravate the situation. Because of

the absence of clean and private sanitation facilities in schools, 10 per cent of school-age girls in Africa do not attend school during menstruation or drop out at puberty (GWA, 2003). Proper sanitation facilities are therefore a top priority for women and girls.

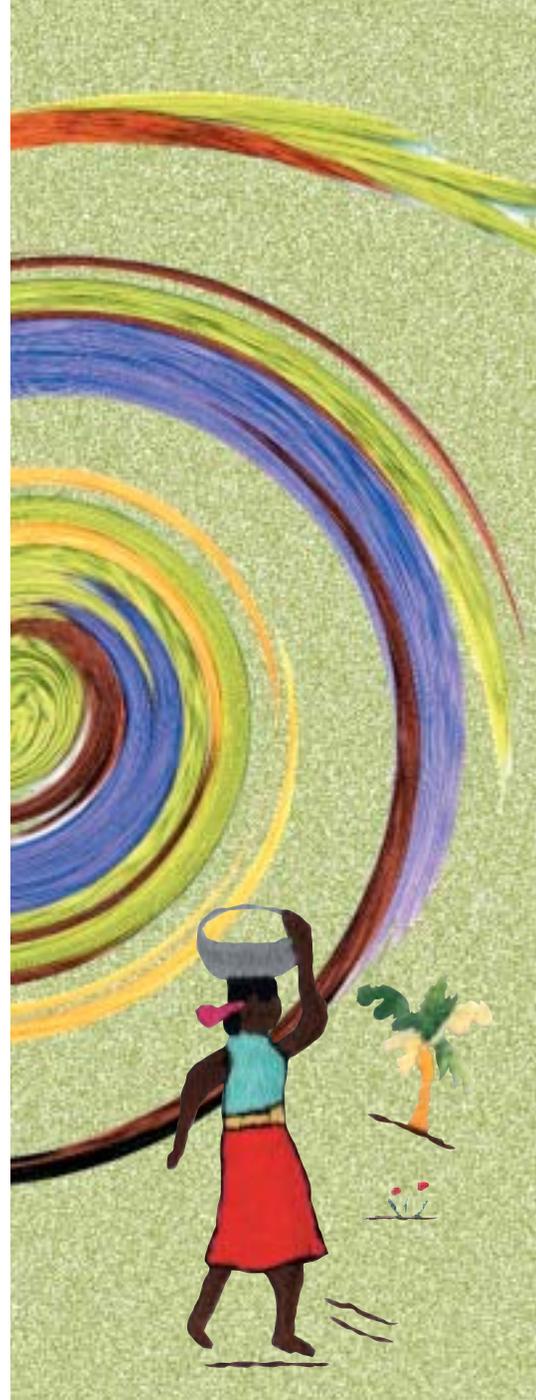
Access to and control over water resources

“The human right to water is indispensable for leading a life in human dignity. ... The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.”

**Committee on Economic, Social and Cultural Rights, Geneva, November 2002,
United Nations document E/C.12/2002/11**

Commonly, entitlement to water is linked to entitlement to land, but land tenure laws may be informed by customary and formal legal systems with built-in inequalities, a recipe for aggravating the gender disparities in ownership and rights that distort women's access to environmental assets in many parts of the world (NEDA, 1997). In Sudan's Wadal Abbas region, for example, women traditionally enjoyed the right to own land and have access to water. Then the British established the Blue Nile Irrigation Scheme in 1954, taking land away from the existing farmers, both women and men, and reallocating new plots exclusively to men. Female farming declined as the scheme expanded (Bernal, 1988).

Colombia and Costa Rica maintain some of the most progressive, gender-sensitive land reform policies, which typically link land and water rights. But most countries in Latin America have put an end to State redistribution of land and have moved towards “parcelization” of cooperative or communal land. Many women, already seriously disadvantaged in the land market, have lost what little share they had in communal land and water (GWA, 2003).





Some other countries, such as Lesotho, have sold their water resources to neighbouring countries, leaving local women facing shortfalls and stoking conflicts over access. Others have flung open the water sector to privatization, arguing that water management by large corporations will be more efficient, a position backed by World Bank policies. Worldwide, women have been the first to signal the problems that have followed: lack of access, huge price hikes, water cut-offs because of unpaid bills, lack of systems of accountability, deterioration in water quality and threats to hygiene. Sharp debates between stakeholders have sprung up, with proponents of privatization arguing that applying that model to water provision services does not imply privatization of water resources; that privatization can add value; and that Governments continue to have a major responsibility to provide a framework for water-use rights (Prince of Orange, 2002). However, many of the experiences to date – such as in Cochabamba (Bolivia), Atlanta (Georgia, United States of America) and Dar es Salaam (United Republic of Tanzania) – clearly underscore that safe and affordable access to water can be at stake, and that poor communities lose out when common, public resources become commercialized.



Box 22: No payment, no water

“The one truck is the security of the Uni-city, the other is the boys’, which they use to cut off the water”, says Cecilia Davis, a resident of a township on the outskirts of Cape Town. The trucks are the town’s enforcers. “These are the people that come in and cut the water off of people. What they are going to do without water?”

Davis is a single mother with four children still living with her and no income – a plight that is not uncommon in the township, where 60 per cent of people are unemployed. Home is a cold, dark, three-room cement shelter with a tap but no water. In recent years, Davis’ monthly water bill has soared by 300 per cent.

Since she is unable to pay it, the city cut her water off 12 months ago. Davis’ life now revolves around fetching water from neighbours – several pots a day.

Source: Carty, 2003

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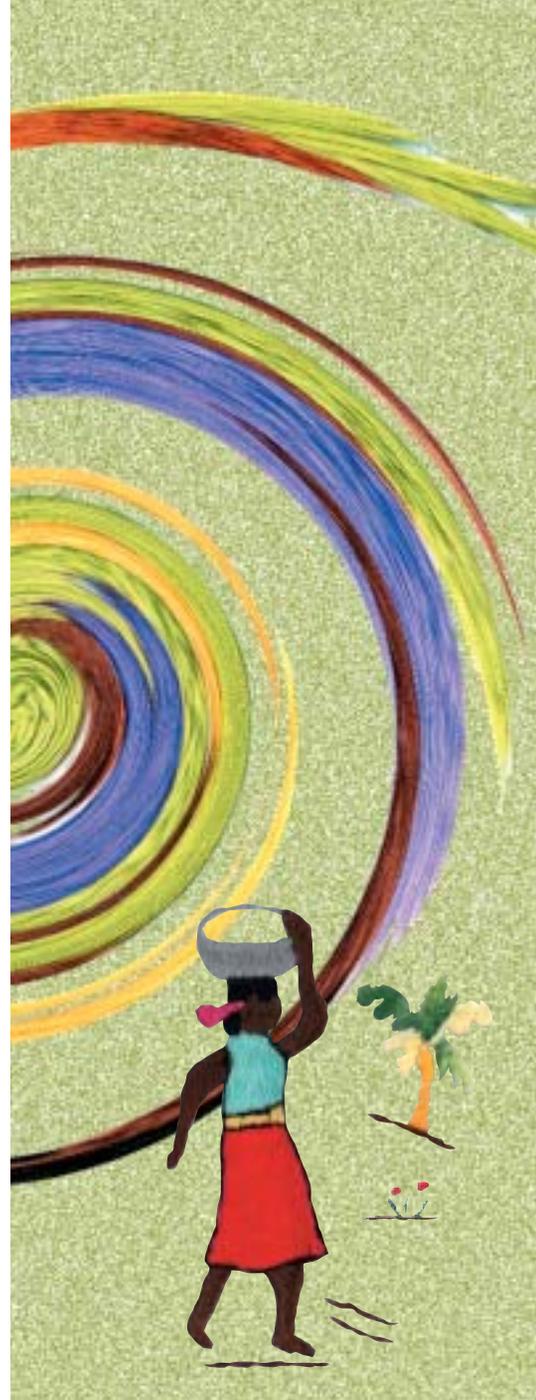
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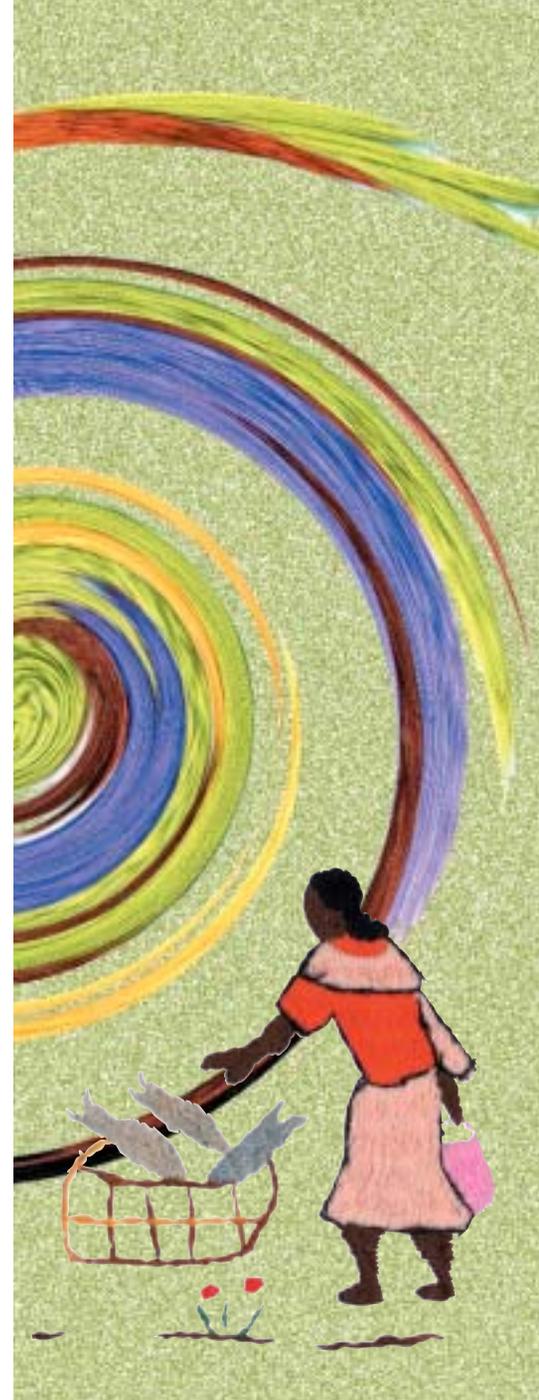
Source: Carty, 2003

On the whole, women's equal participation in decision-making is a prerequisite for more equitable access to both water and sanitation, and could lead to services that respond more effectively to men's and women's different demands and capacities (Francis, 2003). Women playing influential roles at all levels over the long term could also hasten the achievement of sustainability in the management of scarce water resources. But only a few make it to the water corridors of power today (GWA, 2003). Even in community-based projects, men usually make the decisions, chairing the local water users' association or water committee, for example, while women linger in the background doing the hard work, as treasurers, of collecting water fees. Also, women in some cases cannot make well-informed choices because they lack exposure to science and technology (Rathgeber, 1996).

However, they do possess extensive knowledge, experience and common sense regarding the use and management of water resources, and these could be tapped. Ignoring this can be counterproductive: in the Tihama region of Yemen, for example, a project planted trees without consulting the local people. The selected species consumed a large quantity of water in an area facing scarcity. A dialogue with local women, who are responsible for plantation on marginal land, would have helped to avoid this problem from the start.

Women's voices and actions

By the 1970s, women in several parts of the world had started actively organizing to stop degradation of their water systems. Village women in the Chipko movement in India held on to the water-saving capacity of their forests by opposing felling by contractors. Narmada Bachao Andolan (the Save the Narmada Movement), also in India, has struggled for years to stop the damming of the Narmada river. Women, under the leadership of Ms. Medha Patkar, are in the forefront of the Movement. Although the submergence of villages has started, the crusade for justice continues.





In Cameroon, women withheld their labour in an irrigated rice project as they were not assigned land but were expected to work in their husbands' fields. They started growing sorghum for family subsistence outside the irrigation scheme, where they had control over their own labour. Similar cases have occurred in Burkina Faso, the Gambia and Kenya (World Resources Institute et al., 1994). In Bolivia, Ukraine and the United States of America, among many other countries, women are protesting the sale of water services to multinational corporations. They are also cleaning up rivers, maintaining watershed areas and initiating a diverse array of water projects. The women of Limai, in Indonesia, formed a women's group that started a water project, first choosing the locations and then raising the initial capital by cultivating a communal field. They later invited the men into the local water committees that manage the service (Francis, 2003).

Other situations find women coming together to mainstream a gender perspective in water management, such as through the international Gender and Water Alliance, or, at the local level, the Network on Gender, Energy and Water in Nepal (Network on Gender, Energy and Water, 2003). The alliance promotes gender mainstreaming in all aspects of water-resource management through studies, publications, information sharing and training (www.genderandwateralliance.org).

Policy entry points

In the area of formulating policies to foster a gender approach to water management, a number of principles have already been articulated. The challenge lies in their implementation, along with a series of other international, national and local commitments (WEDO, 2003). Some of these are listed below.

For example, the International Conference on Water and Environment, held in Dublin in 1992, recognized the central part that women play in the provision, management and safeguarding of water (Dublin Principle 3) and recommended positive policies grounded in addressing women's specific needs. It called for equipping women to participate at all levels in

water resources programmes, in ways which they themselves define. Chapter 18 of Agenda 21 later reflected this same focus on gender in water management.

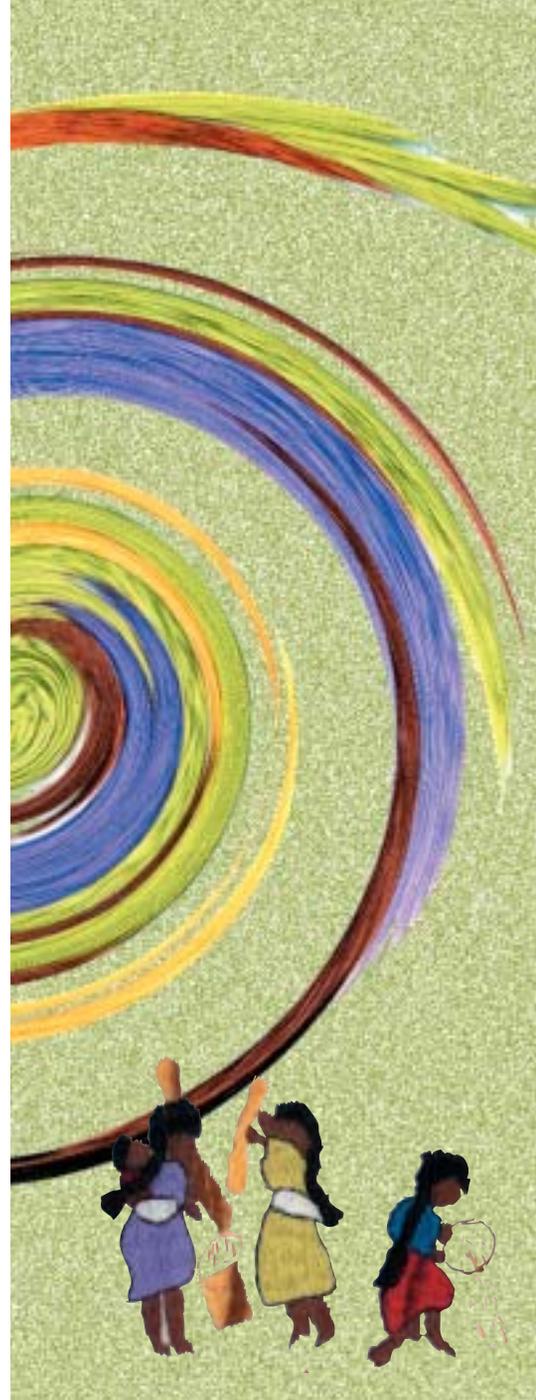
In March 2000, the second World Water Forum issued The Hague Ministerial Declaration (<http://www.worldwaterforum.net/Ministerial/declaration.html>). It outlines seven challenges, including:

- Meeting basic needs: to recognize that access to safe and sufficient water and sanitation are basic human needs and are essential to health and well-being, and to empower people, especially women, through a participatory process of water management.
- Governing water wisely: to ensure good governance, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources.

The 2001 Ministerial Declaration of the Bonn International Conference on Freshwater (http://www.water-2001.de/outcome/Ministerial_declaration.asp) says, among other things, that “Water resources management should be based on a participatory approach. Both men and women should be involved and have an equal voice in managing the sustainable use of water resources and sharing of benefits. The role of women in water related areas needs to be strengthened and their participation broadened.” Also, the Declaration’s recommendations elaborate steps to promote gender equity in governance.

In 2002, the World Summit on Sustainable Development issued the Johannesburg Plan of Implementation (<http://www.johannesburgsummit.org>). The Plan of Implementation underlines in its paragraph 25 that the implementation of the Millennium Development Goal on safe drinking water and sanitation should be gender sensitive and that access to public information and participation by women should be facilitated.

At the third World Water Forum, held in Kyoto, Japan in 2003, a strong gender lobby organized several gender theme sessions. This effort found





its way into the first paragraph of the Ministerial Declaration (see <http://www.world.water-forum3.com>), which declares: “Water is a driving force for sustainable development including environmental integrity, and the eradication of poverty and hunger, indispensable for human health and welfare. Prioritizing water issues is an urgent global requirement. Each country has the primary responsibility to act. The international community as well as international and regional organizations should support this. Empowerment of local authorities and communities should be promoted by Governments with due regard to the poor and gender.”

Other efforts to implement gender-sensitive water and sanitation activities are taking place both within and outside the United Nations system. The United Nations Inter-Agency Network on Women and Gender Equality (<http://www.un.org/womenwatch>) established the inter-agency Task Force on Gender and Water in 2003, while several countries have moved forward on integrating gender and social equity in water policies, legislation and regulations. For example, the 1997 National Water Policy of Uganda has the full participation of women at all levels as one of its principles. In Zambia, the 2000 Mainstreaming Gender in Water and Sanitation Strategy recommends the formulation, adoption and implementation of internal gender policies by organizations and institutions that are involved in the provision and promotion of water and sanitation.

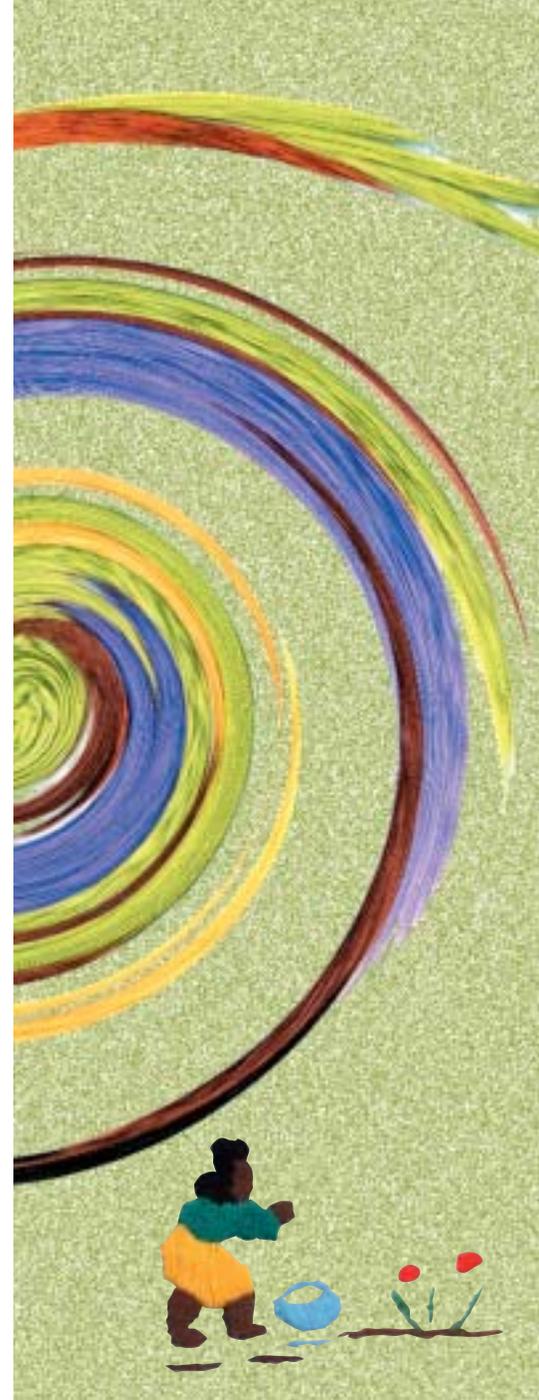
The Water Code of the Philippines explicitly defines the right of access to water as a resource for various primary uses, irrespective of whether it is from a natural source, drinking water supply or irrigation scheme. It implicitly recognizes the rights of poor women and men. In South Africa, after an extensive consultation exercise on a planned water policy, the Government issued a White Paper strewn with references to poverty and gender and stressing the importance of women’s representation and information. These guiding principles shaped the 1997 Water Services Act and the 1998 National Water Act (GWA, 2003).

Conclusion

Water is a basic human need. The present chapter has highlighted the work, efforts and skills that women put into the management and use of this essential resource. These pertain not only to their reproductive roles in the household but also to their productive tasks and income-generating activities. Critical stumbling blocks for women regularly arise in terms of land tenure, access to water, resource control, affordability of privatized resources, participation and capacity. As a result, water scarcity, pollution and additional limits on access pose extra burdens on them.

Managing water in an integrated and sustainable way can actually improve gender equity by easing access, both to water and to related services (UNDP, 2002). Experiences around the world have shown that moving in this direction calls for mainstreaming gender. At the same time, women themselves are already strong advocates for their own concerns, which have become a central part of the water agenda at many levels (Yoon, 1991). Frameworks still need to be developed that ensure that both women's and men's concerns and experiences consistently appear as an integral dimension of water projects, legislation, policies and programmes (Francis, 2003).

International recognition of the need to fill this gap is growing, and countries are devising inclusive water policies and programmes that account for the differing demands and needs of women and men. These do not preclude the involvement of men or children. And, in general, they must link clearly to the broader goals of economic development and poverty eradication, given the centrality of water as a resource. In many of these efforts, formal and informal women's networks can play important and stimulating roles.





Case E Romania. A village improves drinking water and women's participation



By **Sascha Gabizon, Margriet Samwel, Kitty Bentvelsen** (*Women in Europe for a Common Future*) and **Iona Iacob** (*Medium & Sanitas [Environment & Health]*)

In rural Romania, over 7 million people draw drinking water mostly from wells. These are often polluted with nitrates, bacteria and pesticides that flow in from latrines, waste dumps and agriculture. The health effects are both long-term (thyroid and brain dysfunction) and immediate (blue-baby syndrome, diarrhoea, hepatitis), and can be lethal to small children.

In 2002-2003, the NGOs Medium & Sanitas and Women in Europe for a Common Future (WECF) carried out a multistakeholder pilot project to develop replicable, low-cost, short-term solutions to Romania's water-related health hazards (see <http://www.wecf.org/WECFRomaniaproj.html>). Targeting primary-school children and newborns, the project aimed to understand women's needs and give them tools to contend with some of the problems they face. It began in the village of Garla Mare, with 3,500 inhabitants, as the health statistics there revealed many cases of methaemoglobinemia (blue-baby syndrome). The illness is caused by high nitrate levels in water used to prepare baby formula.

Water quality tests showed three prominent types of pollution in the village: faecal bacteria, nitrates and the endocrine-disrupting pesticide atrazine, which is now banned in a number of countries. None of the 78 wells tested had safe water. Latrines in people's gardens were the primary cause of bacterial and nitrate pollution, while agriculture (and possibly leaking pesticide storage) contributed atrazine and some of the nitrates.

A 12-member project committee was formed, balanced by gender and ethnicity. Its objective was to consider ways to reduce water pollution, in co-operation with the mayor of the village and Medium & Sanitas. A first step involved opening a project information office under a local coordinator. On a given day, villagers could come with a sample from their well and check its nitrate levels, which made water testing a very visible and convincing experience. For its part, Medium & Sanitas conducted a survey among 480 inhabitants about their knowledge and experience with health effects from water pollution. It showed that there was little awareness about the link between polluted water and health: people assumed that if the water looked clean, then it was clean.

An in-depth socio-economic and gender analysis followed. The study revealed that the unemployment rate in the village was very high, with most families depending only on pensions or children's allowances, which were so low that they could hardly cover sufficient food and electricity. All respondents recognized the principle that they would have to pay for an improved water supply; however, over half would not be able to do so.

The assessment of gender differences in terms of roles and activities found that these differences were not always rigidly applied. Especially in families without daughters, the husband or son(s) assisted the mother in several tasks typically performed by women, such as fetching water. In general, though, women were dealing with water supply issues: hauling buckets from the private or community hand-wheel well and going down to the spring to do the laundry. During the summer, up to 90 buckets a day could be fetched for animals, the garden, dishes and clothes. Only a few families possessed an electric pump on their well. Most used a non-sealed pit latrine. These were generally not emptied when the pit became full – rather, a new hole would be dug.

An additional finding of the analysis was that several women who were able to breastfeed were using a Government scheme providing formula milk to women unable to breastfeed. Formula milk was perceived as better and a status symbol, but the polluted well water used to prepare it carried a risk of blue-baby syndrome.

Villagers discussed the results of the water tests, the survey and the gender analysis at a town hall meeting. A number of experts presented solutions, ranging from a centralized water supply connected to a large filter to preventive measures such as eco-sanitation and organic farming. The local Government did not have any funds to improve the water situation, however, and since most villagers could not afford to pay for drinking water, a financial scheme with bank loans and a long-term payoff was impossible. The community opted to focus on preventive actions for the short, medium and long term.

To supply clean water and promote better hygiene immediately, a water filter was especially designed to cut down on nitrates, micro-organisms and pesticide pollution and was installed in one of the schools. Villagers with small children and other persons at risk could now come and collect clean water. In both schools, the project built hand-washing basins and disseminated educational materials on how to use the filtered water.

For the medium term, hygienic dry compost toilets, which separate urine and faecal material and do not pollute groundwater, were placed in one school and in two





private homes, serving as examples of how easy, low-cost and comfortable these toilets are.

Addressing agricultural pollution was a critical long-term issue. The project initiated cooperation between the farmers in Garla Mare and organic farmers in Constanza and Sibiu (Romania) and the Netherlands. Organic farming does not pollute the groundwater, is better for the health of the villagers and is appropriate from an economic point of view given the high demand from importers of organic produce in Western Europe, who are willing to pay premium prices. A training visit for 21 women and seven men farmers from Garla Mare was organized to study an organic farm in Sibiu. If sufficient interest exists, an organic farmers' cooperative will be established in Garla Mare to set up contracts with importers from Germany and the Netherlands. For the villagers, this should reduce unemployment and also their exposure to pesticides in the course of their work and in their drinking water.

During the project, a women's club became active and discussed ways to improve the village's standard of living. One meeting highlighted the advantages of breastfeeding when drinking water is polluted, even if breast milk contains pollutants, as the positive aspects compensate for the higher intake of pollutants. Other initiatives, some of which are still continuing, have concerned reforestation, collection and recycling of waste, organic agriculture and employment opportunities involving second-hand clothing.

Project results

The start of the Garla Mare project was not always easy. Political or personal interests sometimes swayed cooperation between the mayor and the committee, while associations with the Communist past tarnished the concept of voluntary contributions to the community. Lower-income people were in some cases reluctant to participate, and it took time for the villagers to accept the idea of participation in general.

However, the active women's group demonstrates that it is possible to inspire women to reflect on their own situation and come up with feasible improvements. Other achievements include the fact that both parents and children in the two schools now benefit from better hygiene and clean drinking water. No new cases of blue-baby syndrome occurred during 2002 and 2003, and the project has increased knowledge among the villagers and schoolchildren about the link between health and the environment.

In retrospect, the socio-economic and gender analysis gathered essential insights

into the needs and views of the villagers, particularly the women. Women mostly did not dare to speak up in public meetings, but they did in the focus interviews and in the women's club, and became instrumental in highlighting issues such as the use of polluted water for baby formula.

Overall, the project serves as an example of how to provide better-quality water and sanitation at a low cost. Clearly demonstrating that the people most directly affected are themselves the best qualified to identify and tackle their most pressing needs, this project could be readily adapted to many rural areas of Eastern Europe and in the Commonwealth of Newly Independent States, which face similar problems.





Case F: Ukraine - In search of safe water, young mothers mobilize on multiple fronts



By Anna Tsvetkova (MAMA-86)

In Ukraine, water resources are limited and unequally distributed. Large-scale dams, irrigation schemes and navigation canals cut across the major rivers, while the chemical industry, mining, metalworking, hydropower generation, transport and agriculture have severely polluted these and other water sources.

The situation has reached a breaking point, yet there are few funds to contend with it. As a result, the quality of urban water services is low. In rural areas, over 75 per cent of the population uses traditional wells, often polluted by nitrates, pesticides and micro-organisms. Over 800,000 people have to buy water, usually of poor quality, on the retail market. In some areas, water-borne diseases, such as hepatitis A and rotavirus infections, and nitrate poisoning (blue-baby syndrome) run rampant.

Data and decision-making

In 1991, following the Chernobyl nuclear disaster, a proactive group of young mothers established MAMA-86 as a Kyiv city public organization. From the start, its principal objective has been to secure the environmental rights of Ukrainian citizens, primarily of children and women. Today, MAMA-86 has blossomed into a national environmental NGO network of 17 organizations from various regions of Ukraine and is an active partner in Women in Europe for a Common Future (WECF). Its activities call upon the public to take charge of the sustainable development of their society, with a special focus on the environmental challenges of an economy in transition.

With water being such a serious problem, MAMA-86 kicked off the Drinking Water in Ukraine campaign in 1997, together with 11 organizations from its network. The goal is to improve access to safe and affordable drinking water through public awareness, participation in decision-making and the development of pilot projects. One early initiative addressed a lack of information disclosure, which makes it difficult for the public to obtain the kinds of reliable official data, including data on water, that help people decide on practical steps which they can take. Believing that education on the uses of information can revive citizens' sense of ownership and personal responsibility for resources, MAMA-86 began carrying out regular data-gathering and independent research on drinking-water quality, along with polling public opinion on the issue. It presented the results at round tables, workshops, seminars and conferences at the local, national and international levels.



Broad public consultation led to efforts to advance public participation in law-making. MAMA-86 prepared a list of public amendments to the draft drinking water act based on the discussions, and concerted lobbying convinced Parliament to consider a third of the proposals. In 2002, it passed the Drinking Water and Water Supply Act of Ukraine, granting citizens better access to information on drinking-water issues and the right to organize public hearings on water-related issues. The Act is not gender sensitive, but it provides the basis for water-sector reform in Ukraine and improves the protection of consumer's rights. Subsequent public hearings have already delved into local water reforms, tariff reforms, consumer rights and drinking-water quality.

In the area of pilot projects, the MAMA-86 network has raised funds to demonstrate how various suggestions for solving water problems that emerge from public consultations can work in practice. Many small-scale and low-cost alternatives are later replicated – an exchange of knowledge and positive experiences that catalyses public attention. The first pilots debuted in Tatarbunary – in the Odessa region – and in Sevastopol. They involved, respectively, developing a community-based water purification project, and treating wastewater from the Infectious Diseases Hospital, along with repairing water supply, sewerage and heating systems.

Since 2001, MAMA-86 has been implementing a specific programme of technical solutions for improving access to safe drinking water in urban and rural areas. It consists of 11 pilot projects that work on the local level, fostering public involvement in sustainable solutions through partnerships between the authorities, the public, science and business. There is a strong emphasis on public education on water saving and resource protection, the use of water meters, reliance on local water instead of long-distance transportation, cost-benefit analysis and shared responsibility for funding and co-maintenance.

One pilot study, for example, which began in 2002, seeks to ease the severe pollution in local wells used by over 11 million people in rural areas. Many are decades old and have never been cleaned, due in part to a lack of public information about maintenance as well as limited funds and services for cleaning. Among 100 wells tested near the town of Nizhyn, the concentration of nitrates in 70 per cent of them exceeded safety standards by two to ten times. MAMA-86 established well-cleaning services in Yaremche and in Nizhyn, supplied pumping equipment and enlisted private firms to provide services in outlying areas. The project itself cleaned 25 collective wells.

Another initiative focuses on children's morbidity rates from gastrointestinal diseases and cancer in Poltava oblast, where the figures rank very high. From 10 to 15 cases





of acute nitrate poisoning among children under three months were registered between 1999 and 2001, most probably caused by nitrates in drinking water used for baby formula. In response, MAMA-86 launched a broad public information and education campaign on nitrate contamination in 2001 (lectures for medical personnel, lessons at schools, meetings with villagers, multistakeholder round tables at local and regional levels and wide dissemination of the information through all available channels, including TV and radio). In the village of Pesky, a partnership with local authorities and businesses embarked on the rehabilitation of old artesian wells. It replaced aging pumps and parts of the water supply network, and added a water purification system. Now over 4,500 people in Pesky and some nearby settlements can drink clean water.

All these activities are initiatives by women who work actively on environmental and health issues, research the negative consequences of environmental pollution on human health and share their knowledge to help people survive in the conditions they live in. As women are responsible for the future of their children and families, they are highly motivated to be active and to achieve success in the struggle for life.

MAMA-86 is drawing lessons from the experiences gained in the pilot projects and will give the models which it develops for solving drinking water problems wide dissemination. In November 2003, MAMA-86, in partnership with WECF, started a new Matra (social transformation programme run by the Ministry of Foreign Affairs of the Netherlands) project on cooperation for sustainable rural development, with a focus on water supply, eco-sanitation and organic agriculture. It is a follow-up to the MAMA-86 drinking water campaign in Ukraine, and of WECF experience in eco-sanitation in Romania (see case E above). The main objective is to protect drinking-water sources in rural areas through new approaches such as eco-sanitation and organic agriculture, to raise public awareness concerning these issues and to develop pilot projects run by local communities.

Case G: Women replenish the Aral Sea



By Kitty Bentvelsen (*Women in Europe for a Common Future*)

The Aral Sea was once the world's fourth-largest inland sea, located between Kazakhstan in the north and Karakalpakstan, an autonomous region of Uzbekistan, in the south. The local population used to draw its livelihood from fishing, commercial shipping, industry (including fish processing) and agriculture. But problems started in the early 1960s with the diversion of the Amu Darya and Syr Darya rivers, both feeding the Aral Sea. The water was destined for irrigation for the large-scale cultivation of cotton in Uzbekistan and wheat in Kazakhstan. At that time, the Soviet Union hoped to become independent in its production of those commodities. What it did not predict was the impact on the Aral Sea: suddenly, inflows dropped drastically, with the water level falling 23 metres. The surface area shrank by approximately 60 percent, and the volume by almost 80 per cent, while salinity increased from 10 to 45 grams per litre. The Aral Sea has now split into two parts, south and north.

Pollution also struck the sea, largely as a result of chemical and biological weapons testing, industrial projects and the mixing of the inflowing river waters with agrochemicals and defoliants. As the water disappeared, vast salt plains were left behind. Storms carried salt dust up to 180 miles away, dumping it on pastures and arable land. Across the region, winters became colder, summers hotter and the agricultural growing season shorter.

Today, the Aral Sea is a shadow of what it once was. A recent study has predicted that the western part of the much larger south Aral Sea will vanish by 2018; the eastern part could last indefinitely. The north Aral Sea is expected to be saved by the construction of an \$86 million concrete dam, which will allow the water in that part to rise while salinity decreases.

These steps are important, yet the consequences have already been enormous and tragic: the Aral Sea is considered one of the world's largest human, economic and environmental disasters. Deserts have surrounded former harbours, fish have disappeared, shipyards and fish-canning industries have closed, agriculture has been badly affected, trees have died and biodiversity has diminished. People have lost their jobs and many have either moved away or remain only because they are too poor to go. Health problems from pollution have been aggravated by the lack of healthy diets and the declining number of health facilities.





Within Uzbekistan, the incidence of health problems is actually several times higher in Karakalpakstan than in the rest of the country. There are alarming rates of kidney disease, anaemia, tuberculosis, liver cancer, miscarriages and birth defects.

Breast milk polluted with residues of organochlorine pesticides is common, and maternal and infant mortality are high. Women are commonly worst hit by this environmental crisis: they bear the burden of caring for ill family members, while their own health, particularly in terms of reproductive issues, falters as well. Many suffer the intense frustration of no longer being able to provide adequate food for their families.

In the north Aral Sea, some ongoing initiatives are trying to restore local livelihoods. The Kazakh NGO Aral Tinesee, established in 1998, encouraged people who fish to return to the sea, after it reintroduced salt-water fish as well as appropriate nets.

Zannath Makhambetova, a young and enterprising woman, served as the first president of the organization, elected by its 600 male members. Today, she is the director and co-founder of the NGO Centre in Astana (formerly Almaty).

At a presentation prior to the World Summit on Sustainable Development, she concluded: "You saw many men in my pictures. They have been doing the actual fishing work. But the initiators, the organizers, were us, the women. In post-Soviet countries, it is the women who are more adaptable to new things. Women are less easily corrupted and they are more flexible to work with. I would like to recommend that you put in your recommendations to the Governments meeting in Johannesburg that sustainable development projects should always work with women in key positions" (Makhambetova, 2002).

Case H Water-mining for profit-making



By **Biju Negi** (*Beej Bachao Andolan (Save Our Seeds), India*)

Since April 2003, indigenous people's organizations covering almost 50 villages in Kerala, India, have been protesting against "water mining" by a major multinational bottling plant. The giant factory has been sucking 1.5 million litres a day from the common groundwater resource, thereby denying local people water for their household and agricultural needs.

The bottling plant was set up barely five years ago on a 40-acre plot of what was once paddy land used for multiple crops. By the end of the first year, water shortages began. The lowering of the groundwater table within five kilometres of the facility has now become alarming. In fact, the factory itself has been hit by this scarcity, and lately it has been able to extract only a little over half of its water requirement from the company boreholes. To make up the shortfall, it extracts water from the boreholes in neighbouring villages.

Another impact has come from chemical and other wastes. Barely six months after the plant opened, the water in local wells turned brackish and milky white in colour. Scientific analysis showed it to be very hard and full of salts, with high concentrations of calcium and magnesium. This rendered it unfit for human consumption, domestic use and irrigation. Farmers now worry about decreasing yields in rice, coconut and peanuts, with cultivation stopped completely on over 600 acres of land. Local agricultural wage labourers find fewer employment opportunities and overall food security is at risk.

With the stakes so high, the people's growing protest, in which women actively participate, is demanding an immediate closure of the bottling plant. Despite death threats and evidence of local corruption, there are calls for criminal proceedings against the factory, which people believe is responsible for the destruction of their livelihood resources and of the environment. Requests for compensation for all those adversely affected have also been received.

The case could set a precedent because it is not an isolated one. Similar protests against the same company are ongoing in the States of Uttar Pradesh, Maharashtra and Tamil Nadu.





Case I. The women for water initiative: act locally, lobby internationally

By **Alice Bouman-Dentener** (*Women in Europe for a Common Future*)

Since the second World Water Forum, in 2000 in The Hague, Women in Europe for a Common Future (WECF), the Netherlands Council of Women (NVR) and a growing number of national and international partners – including Business and Professional Women International, WEDO, MAMA-86, and Medium & Sanitas – have come together to work on water, sustainable development and gender. In partnership, they have formed the Women for Water Initiative, which focuses on the full and equal participation of women as a “major group” in integrated water resources management.

The Hague forum acknowledged that the current water crisis relates more to governance than water shortage. Since then, integrated water resources management has grown in popularity as a framework for good water governance. An important aspect of this approach is public participation and the inclusion of relevant stakeholders at all levels in decision-making and implementation. The water sector in fact recognized participation early on as an important step towards more sustainable development. As early as the International Conference on Water and the Environment in January 1992 in Dublin, two out of four basic principles for sustainable water management dealt with public participation in general (Dublin Principle 2) and the crucial role of women in particular (Dublin Principle 3). The Dublin Principles have now become widely accepted, but implementation remains patchy. The Women for Water Initiative therefore backs efforts to transform Principles 2 and 3 into tangible progress.

The momentum behind the Women for Water Initiative first picked up steam in 1999, when the NVR, an umbrella organization for 54 national women's organizations that represent approximately 1.5 million women in the Netherlands, put together a consultation exercise on water and gender. A subsequent session at the second World Water Forum drew over 400 women and men from all over the world. Together, they defined priorities for bridging the gaps between policies and practices in integrated water resource management. There was a strong call for a new form of grass-roots globalization, and a transnational social movement focusing on water to achieve equitable and sustainable development.

During the 2002 World Summit on Sustainable Development, and the third World Water Forum, a strong “women for water” advocacy effort took shape. The

Women's Caucus at the Forum effectively pushed forward a gender agenda, helping obtain various commitments on gender-responsive budgeting. Through WECF, close cooperation began with the European Commission's Directorate-General for the Environment for future integrated water resources management and other sustainable development projects. Outreach to other sectors also grew. Business and Professional Women International agreed to set up a special task force, covering all its regions, to engage its members as water ambassadors.

The Women for Water Initiative has now emerged as a fully fledged partnership between women's groups, particularly local organizations, which use integrated water resource management as a tool for socio-economic development. The Initiative stimulates women to act locally while joining forces globally, irrespective of political affiliation, professional background or religious orientation. Guidelines for engaging with the private sector encourage joint development that is bottom-up, demand-driven, small-scale and gender-sensitive. The Aqua for All Foundation, established by Dutch water utilities, now provides financial and technical support to some of the projects, particularly those that aim towards poverty alleviation and sustainable development at the community level.

Recent activities have included the promotion of gender-responsive budgeting in the water and sanitation sector and the establishment of a resource centre in Amsterdam in collaboration with the International Information Centre and Archive for the Women's Movement in Amsterdam, Netherlands. A toolkit has been developed that includes best practices for partnerships between women's groups in the Netherlands and their overseas local partners.

For 2004, a working conference is planned which will include presentations on three cases of Dutch women's groups twinning with sister organizations in developing countries. In collaboration with local experts and all stakeholders, the cases should develop into projects that Aqua for All can consider supporting. In years to come, this approach may result in the replication of other local partnerships tailored around local needs related to sustainable development, water, gender and poverty.





VI Towards gender mainstreaming in environmental policies

“A gender sustainable development perspective should be infused with a commitment to change the cultural values and sexual division of labour, to attain, in the near future, a state where men and women share power and labour in the management and control of fragile ecosystems.”

Mariam Abramovay and Gail Lerner (Abramovay and Lerner, 1996, p.11)

The present publication has explored the differing roles, responsibilities, positions and perspectives that women and men have in relation to natural resource use and management, with an emphasis on biological diversity, dryland systems and water resources. Based on this analysis, the present chapter offers a strategic model for gender mainstreaming in institutions dealing with environment and sustainable development. Depending on the level of present involvement in gender issues, a mixed strategy can be defined to focus on specific areas.

The strategic approach outlined here primarily addresses institutional stakeholders: Governments, international agencies, non-governmental organizations, businesses and academia. As described in chapter II, gender mainstreaming in environmental policies is an issue for both women and men. Therefore, the strategy deliberately addresses men, and makes them – together with women – responsible for a gender approach in environmental work. Also, the focus on gender must exist not only on an abstract and global level, but must evolve within a specific local context, taking into account other elements of social differentiation such as class, caste, religion and age (Davids and Van Driel, 2002).

Embarking on a gender-mainstreaming strategy calls for simultaneous steps in several fundamental domains:

- Knowledge and understanding of the issue and validation of women's contributions to sustainable development
- At the institutional level, adequate political will combined with concrete actions
- Assurance of women's rights, and that they benefit from environmental goods and services
- Full participation of women at all levels, particularly in decision-making
- Improvement of the socio-economic position of women
- Women's empowerment
- Identifying the impact of the macrocontext on women and their environment

The following proposals, grouped under these seven basic categories, are designed to help gender mainstreaming move forward. They include profiles of relevant strategies tried by other organizations. Also, many instruments for implementation are already available, such as the 1998 OECD/DAC Guidelines for Gender Equality, but their use in environmental policies to date has been patchy.

A. Understanding the issue

Analysis

- Execute – at institutional, programme and project level – gender analysis, gender budget studies and gender impact analysis on natural resources conservation and management, and translate these into action. Research on gender can be easily integrated into a socio-economic analysis or baseline survey.
- Use and apply sex-disaggregated data, criteria and indicators in planning, monitoring and evaluation.





Box 23: Gender analysis implies:

- Assessment of the roles and needs of women and men, including gender-based labour division.
- Understanding gender-differentiated systems for access to resources, labour, uses, rights and the distribution of benefits and products.
- Focusing on gender relations, not just on women (looking at differences, inequalities, power imbalances, differential access to resources between women and men).
- Knowing that gender is a factor that influences how people respond both individually and collectively.
- Perceiving the gender dimensions of institutions at all levels in society.
- In each context, ideally using participatory methodologies.

Source: UNDP, 2002-c

Knowledge

- Ensure that women's knowledge is preserved. Prevent and avoid pirating and commercialization of local and traditional knowledge.
- Support the systematic documentation of traditional health and agrobiodiversity knowledge, and the bottom-up development of locally owned, traditional environmental knowledge.
- Document women's knowledge and survival strategies in dryland areas and their expertise in integrated water management.

Expertise

- Strengthen expertise on gender and environment and build a roster of specialists; seek to develop a network of research institutions and individuals that spans many disciplines.

B. Institutional

Policies

- Many international and national commitments and policies have been agreed in the area of women and the environment; a first step would be to implement these.

- Promote gender mainstreaming in the policies and operations of all natural resource management institutions, and ensure that women's and men's concerns and experiences are fully integrated.
- Ensure that all agenda items in policy dialogues incorporate gender equality and equity considerations.
- Devise accountability mechanisms on gender issues for heads of departments.
- Appoint gender specialists and gender focal points at managerial levels and in the various departments of environmental organizations.
- Establish a gender task force in the organization.
- Make monitoring and evaluation systems gender-specific, collect gender-specific data, and apply social accounting and gender auditing.



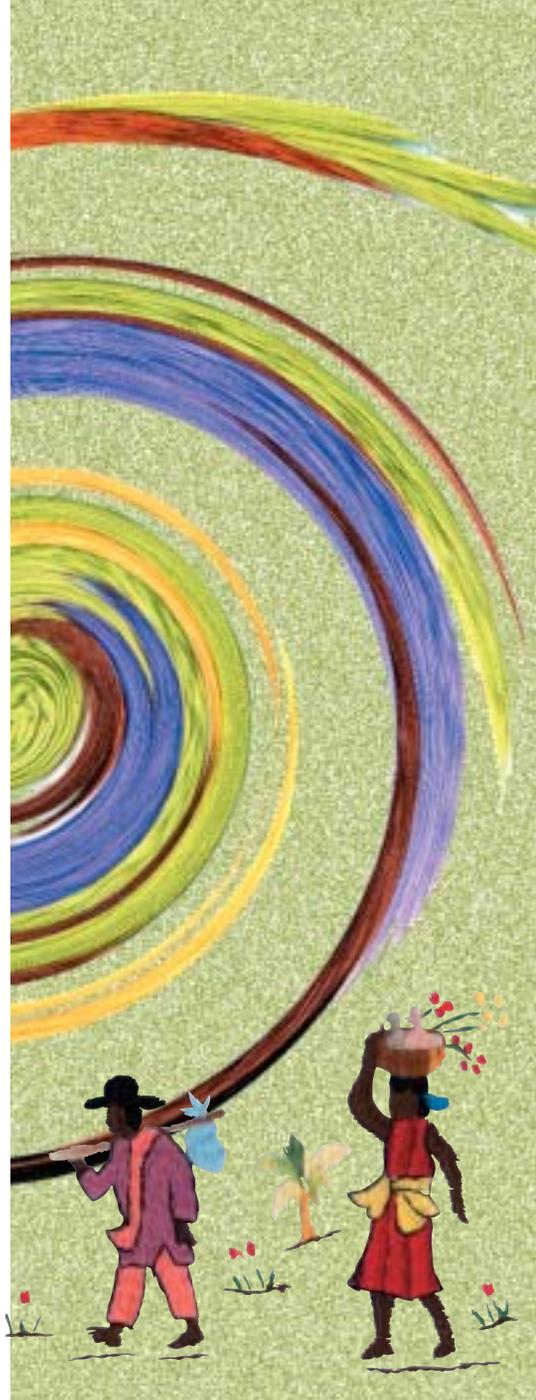
Box 24: Gender mainstreaming implies:

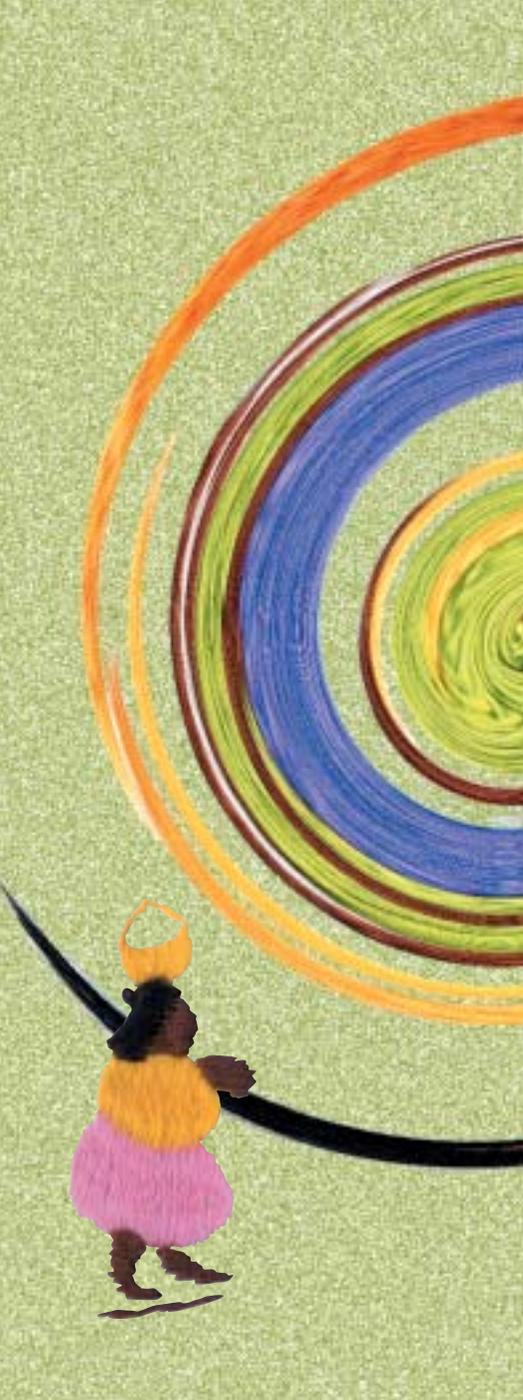
- Taking into account the attitudes, roles and responsibilities of women and men, recognizing that the sexes and different social classes do not have the same access to and control over resources, and that work, benefits and impacts may vary widely across social and gender groups.
- Considering the needs, roles, capacities, benefits and burdens of women and men, rich and poor, young and old.

Source: UNDP, 2002-c

Recognition and sensitization

- Promote the recognition of gender-differentiated roles, skills and practices in the conservation and sustainable use of natural resources (biodiversity, drylands, water resources, etc.), keeping in mind that these roles vary from place to place and change over time.
- Recognize that women and men have different types of vulnerabilities, strategies and responsibilities in environmental change and impact mitigation; integrate gender issues in vulnerability and risk analysis.
- Sensitize the decision-makers working on biodiversity, water and land about gender issues.
- Enhance awareness-raising on women's roles in biodiversity use, desertification control and integrated water management through





development of case studies and other information materials.

- Foster gender sensitivity through training courses in the natural resources sector and beyond.

Programmes and projects

- Ensure gender-sensitive project planning, implementation, monitoring and reporting (see box 25).
- Apply the UNEP Gender Sensitivity Guidelines (http://www.unep.org/Project_Manual/5_1.asp) for project formulation, approval, monitoring and evaluation (see box 26).



Box 25: An initiative or project should:

- Incorporate the insights from a gender analysis into project design
- Give importance and recognition to women's responsibilities, roles and contributions.
- Identify concrete, gender-relevant objectives, and make links to key expected results and initiatives.
- Develop gender-sensitive indicators for monitoring and evaluation.

Source: UNDP, 2002-c



Box 26: The UNEP gender checklist:

- How can the project build on and strengthen the UNEP commitment to advancing the role of women in environmental decision-making?
- What specific ways can be proposed for encouraging and enabling women and men to participate and benefit equally from the project goals?
- Are there (categories of) women and/or men likely to be disadvantaged by the project? If so, what remedial measures can be taken?
- Are there opportunities under the project to increase women's ability to take charge of their own lives, and to take collective action to solve environmental problems?

Source: UNEP, 1997



Box 27: Indicators of gender sensitivity

- Men and women participate equally in planning and implementing the project.
- Women and men benefit equally from its interventions.
- If women have a subordinate role in the context of the issue being addressed, the project advances women's status and decision-making power.
- Men and women are sensitized to gender concerns.
- Where relevant, all data is collected and analysed on a sex-disaggregated basis.

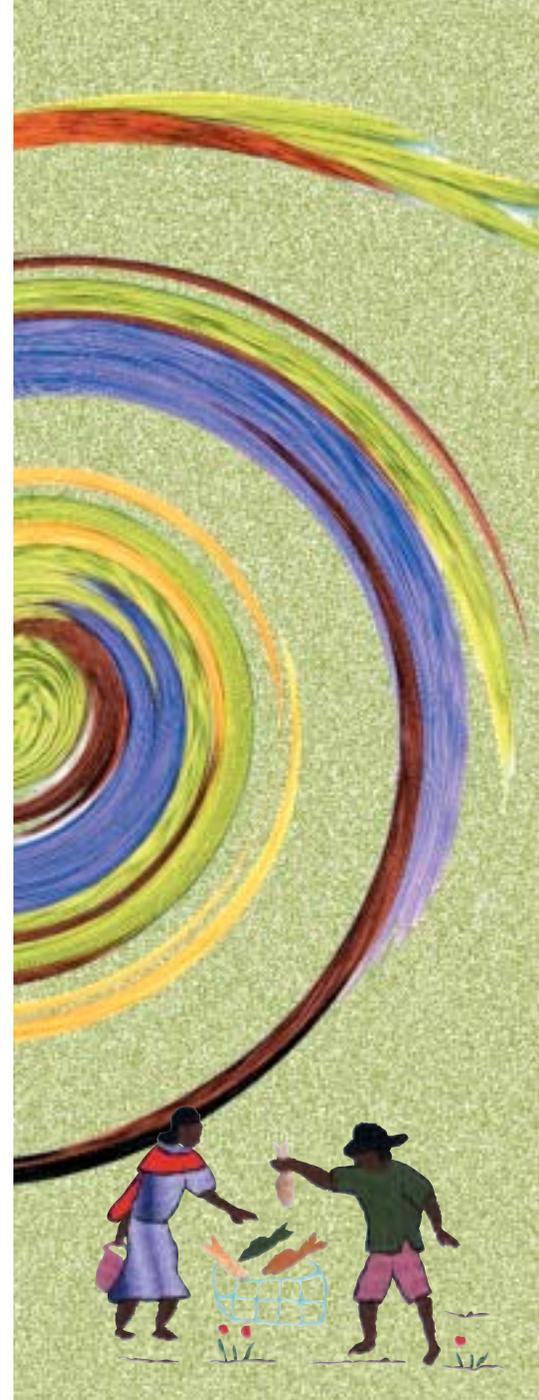
Source: UNEP, 1997

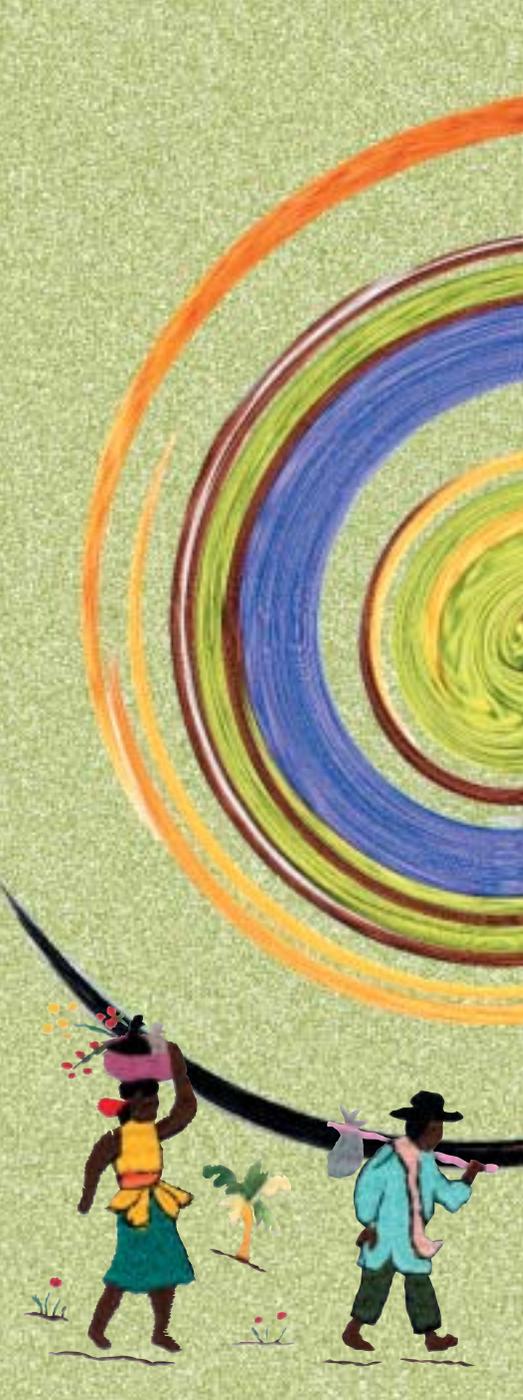
Gender balance and equality

- Rectify the gender bias in staffing in organizations and programmes dealing with conservation and sustainable development through an active recruitment policy.
- Increase the proportion of women in the secretariats and delegations of multilateral agreements on environmental issues.
- Ensure equality between women and men in carrying out those agreements and facilitate continuous attention to gender sensitive approaches in all aspects of implementation.
- Promote gender equality in natural resource management at national and regional levels, particularly in developing and implementing national and regional action plans.

C. Women's rights and benefits

- Guarantee women's rights, independent access and entitlements to biological resources.
- Ensure women's access to and control of resources, particularly land and water resources, through land reform and legislative measures.
- Ensure the fair and equitable sharing of benefits from natural resources, and the right to compensation for environmental goods and services, while protecting the interests of local women and men.



- 
- Apply the Convention on Elimination of All Forms of Discrimination against Women (CEDAW) to issues related to women's access to natural resources, including land.

D. Participation

- Ensure full and active participation of women together with gender equity in natural resource management, research, planning and decision-making at all levels. In this context also consider active participation of different social classes.
- Promote the use of participatory methodologies (Guijt, 1996).
- Address issues of power.
- Mobilize additional resources to support women's full involvement in natural resource planning and management.
- Ensure that benefits from interventions accrue to both women and men.



Box 28: Involving both women and men

With an emphasis on increasing women's participation at decision-making levels, participatory measures need to address:

- Power imbalances within communities
- Intra-household and intra-family relations
- The various constraints on participation
- Varying abilities to participate
- Perceived benefits of participation

Source: UNDP, 2002-c

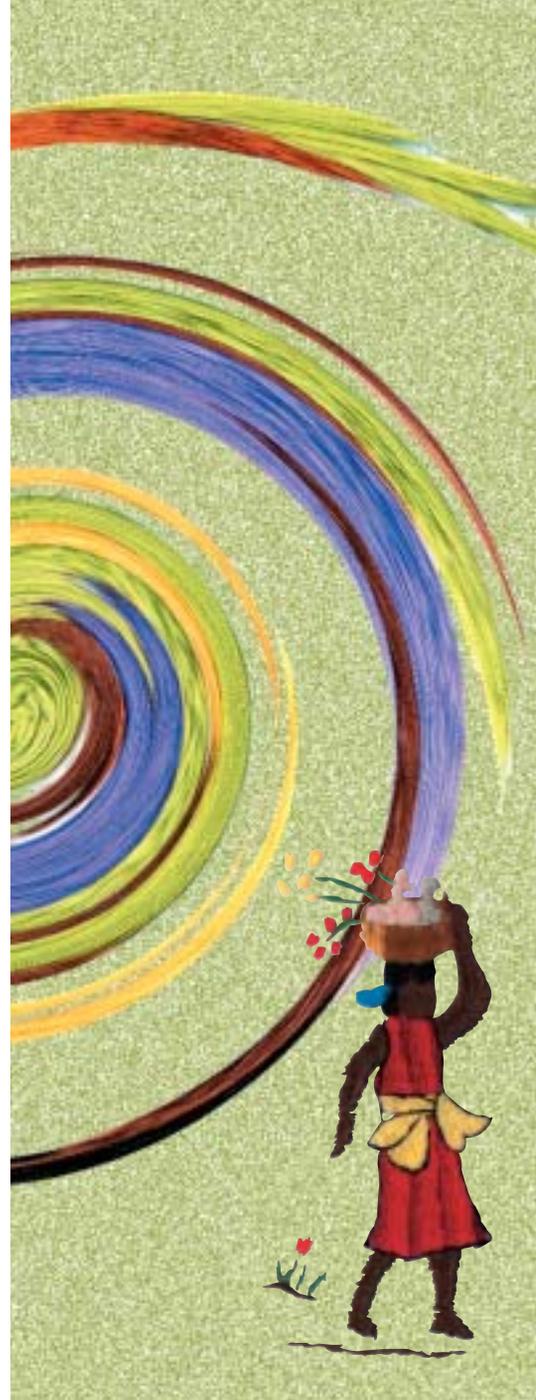
E. Technical and financial support

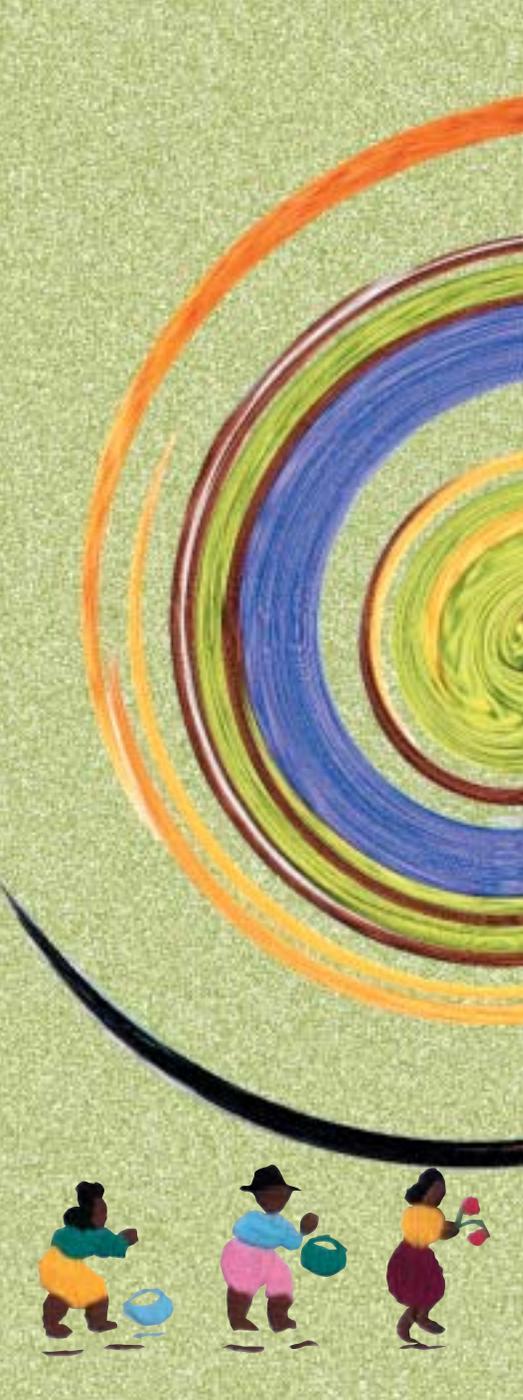
- Assist women in their role as local natural resource managers and identify strategies to help rural women achieve sustainable livelihoods.
- Allocate adequate technical and financial resources to support women directly in natural resource management and the control of environmental degradation, and ensure sustainability of finances.

- Enhance women's access to education, extension services, training, finances and appropriate technologies.
- Create more jobs for women but also account for their nature and terms, including whether they offer sustainable livelihoods.
- Link natural resource programmes and policies to economic initiatives and poverty eradication, and use a cross-cutting and internally consistent approach.

F. Empowerment

- Create environments that empower women and engage them as full partners in efforts to preserve land, water and natural resources.
- Empower women as resource managers through capacity-building of individuals and organizations, and increased access to educational opportunities.
- Improve women's access to information, management processes, training and legal systems.
- Support, strengthen and involve women's organizations and networks working on environmental issues. Facilitate a dialogue with these organizations and gender experts.
- Promote leadership and guarantee political participation of women in decision-making. Engage young women in leadership-building and leadership practices.
- Raise women's visibility in positions of authority and decision-making at all levels.





Box 29: A world of women's activism

Around the globe, the women's movement and many non-governmental organizations have mobilized around gender and livelihood issues. Many groups have identified environmental topics as a priority and have energetically sought to boost gender and environment issues to the top of the political agenda. In the process, they have acquired a wide range of expertise, including their experiences on the ground, and become important sources of information for policy-making and implementation. They are major agents of change.

At the international level, the Women's Environment and Development Organization (WEDO) continues to be a strong advocate for women in sustainable development, facilitating women as a major group in the United Nations Commission on Sustainable Development. WEDO was one of the initiators of the Women's Action Agenda 21 for the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 and of its updated version, Women's Action Agenda for a Healthy and Peaceful Planet 2015, for the World Summit on Sustainable Development in Johannesburg (see case J below). The Gender and Water Alliance looks specifically at water-related subjects; the International Network on Gender and Sustainable Energy (ENERGIA) advocates around energy; and Diverse Women for Diversity specializes in agro-biodiversity. GROOTS organizes grassroots women's organizations from around the world on livelihood issues, while the International Network of Indigenous Women is a strong voice on biodiversity and environment-related issues. In 2002, the international network Women Leaders for the Environment was launched, bringing together women Ministers of environment and other leaders.

Regionally, prominent groups include Women in Europe for a Common Future (WECF), the Platform on Land and Water Rights in Southern Africa and the Gender and Environment Network in Latin America and the Caribbean. Innumerable national and local organizations have flourished as well. Involvement of these civil society organizations is needed at all levels and in all phases of development.

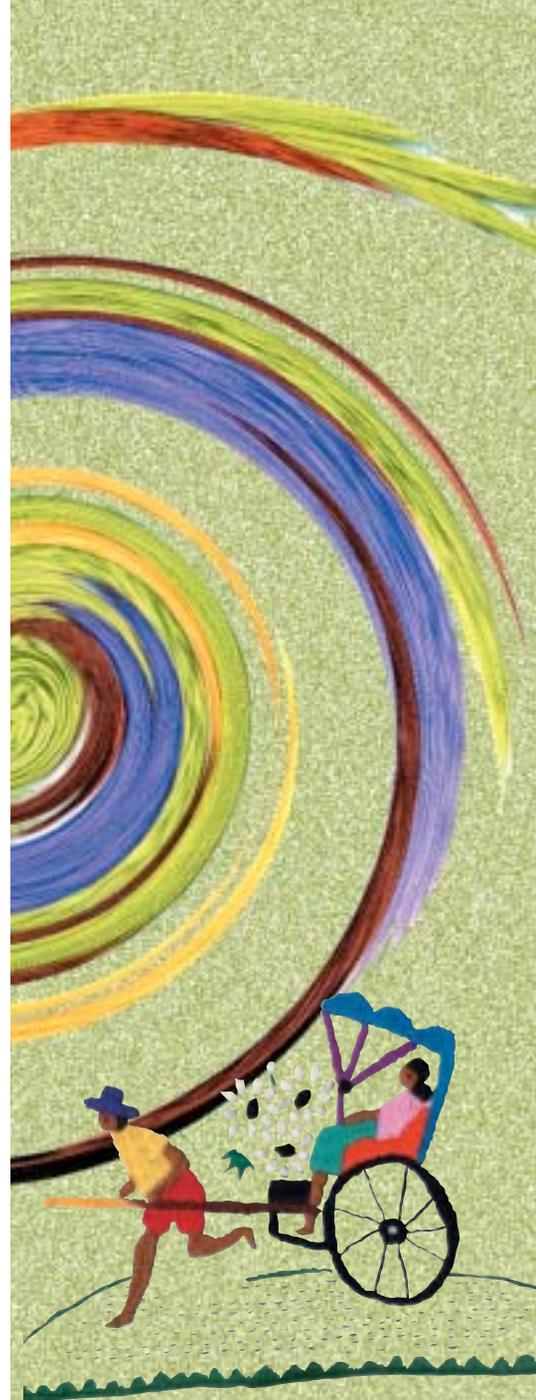


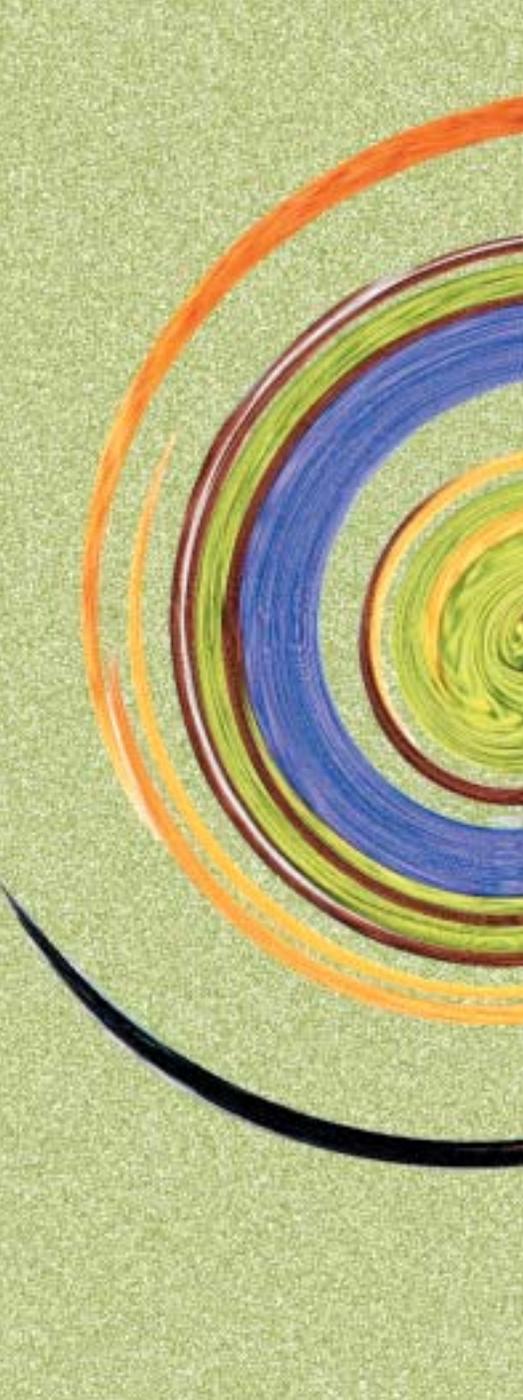
G. The macrocontext

- Analyse the impacts of macrolevel policies and institutions, including trade liberalization and privatization, on gender differentiation in environment and sustainable development.
- International agencies and organizations – including the World Trade Organization, the International Monetary Fund and the World Bank – should be held accountable if they fail to secure women's access to natural resources and environmental services, including land, water and biodiversity.
- Promote institutional changes that guarantee a pro-poor approach in terms of the results and impacts of international institutions.

Conclusion: taking up the challenge

The seven steps listed in the present chapter map out aspects of a strategy for instilling a gender perspective in environmental and sustainable development organizations, policies and management. In all those cases, a major requirement is full support at the managerial level and committed political will. Box 1 shows how UNEP itself has taken these up while case K below looks at the efforts of the World Conservation Union (IUCN). Case L below shows how the Heinrich Böll Foundation in East Africa links its gender, environment and peace programmes.





Case J: Women's action agenda for a healthy and peaceful planet 2015



By Minu Hemmati

Women from around the world took a comprehensive global platform to the 1992 United Nations Conference on Environment and Development in Rio de Janeiro, Brazil. The impact of their energy, spirit and ideas was clear: Activists used the platform to successfully lobby for an array of references to women throughout the official conference agreement (Agenda 21), as well as for an entire chapter devoted to gender – “Global Action for Women towards Sustainable and Equitable Development”.

Over 1,500 women from 83 countries formulated the platform, which was popularly known as Women's Action Agenda 21, after gathering at the First Women's World Congress for a Healthy Planet in November 1991, in Miami, Florida, United States of America. The document spelled out women's positions on governance, the environment, militarism, the global economy, poverty, land rights and food security, women's rights, reproductive health, science and technology, and education. Over the next decade, at the subsequent series of United Nations world conferences on development, Women's Action Agenda 21 continued to spark activism. It helped galvanize women worldwide to push for their priorities in international institutions, Governments, the private sector and civil society.

In the lead-up to the 2002 United Nations World Summit on Sustainable Development in Johannesburg, South Africa, the Agenda was updated and revitalized. The new Women's Action Agenda for a Healthy and Peaceful Planet 2015 articulates a vision for the future, building on the diverse experiences of thousands of women striving to bring the Rio agreements to life. For two years before the Johannesburg Summit, an international working group of activists reached out to women in all regions of the world to revise the platform.

Discussions took place at five regional meetings and electronic consultations tapped into women's networks and organizations with expertise on particular themes. Crossing issues, cultures and nations, the breadth of the consultation underscored the collaboration that has always been at the heart of the international women's movement. The drafting process was facilitated by the Women's Environment and Development Organization (WEDO) and the Network for Human Development (REDEH).

When the Women's Action Agenda for a Peaceful and Healthy Planet 2015

emerged at the end of this process, it included key recommendations to international institutions, Governments, and others in the following areas:

A. Peace and human rights

Sustainability presupposes human security, protection of all human rights and actions to address the ecological, social, economic and political causes of conflict, violence and terror. Women suffer disproportionately from conflicts and violence and can play a major role in conflict resolution and peace-building. Actions are needed at all levels – global, regional, national, local and within households.

B. Globalization for sustainability

Left unchecked, economic globalization driven by liberalized market forces widens gaps between rich and poor, spreads poverty, fosters waves of violence and crime and degrades the environment. The Agenda addresses the gender implications of economic, financial and trade policies, working conditions in the informal sector and wage inequities in the formal sector.

C. Access to and control of resources

Biological diversity is threatened by the irreversible destruction of natural habitats and the endangerment of species caused by unsustainable production and consumption patterns. The major contributions of women to biodiversity management should be acknowledged and their access and property rights guaranteed.

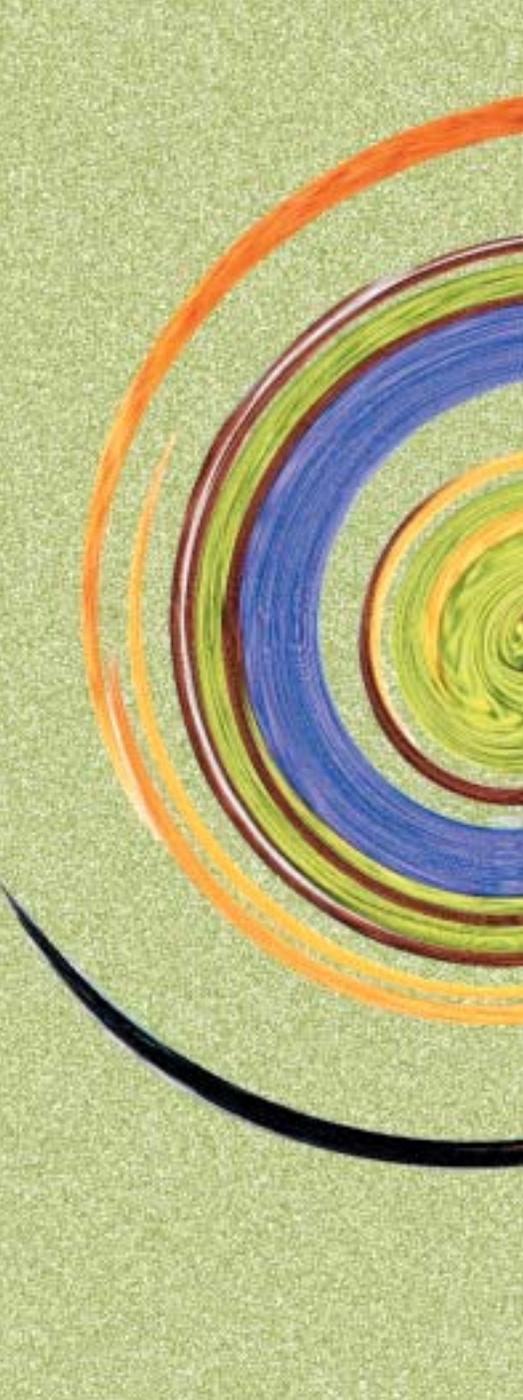
D. Environmental security and health

Worldwide, the environmental security of rural and urban communities is at risk. In many cases, women and men face differing susceptibilities to various environmental hazards, while access to basic health services, including reproductive health services, is unequal. Women's rights to (reproductive) health and security need to be secured.

E. Governance for sustainable development

The result of weak Governments and the unprecedented rise of transnational corporations has been the concentration of power in the hands of a few, mostly men in industrialized countries. And governance is not gender-neutral – women's participation remains woefully low. Achieving sustainable development, however, requires full and equitable participation of all stakeholders and citizens at all levels of decision-making, along with accountability, transparency, inclusiveness, the rule of law and equality.





Case K: Mainstreaming gender at IUCN



By Lorena Aguilar (*IUCN*)

The World Conservation Union, known popularly as IUCN, was founded in 1948 and brings together 78 States, 112 Government agencies, 735 NGOs, 35 affiliates and some 10,000 scientists and experts from 181 countries in a unique worldwide partnership. Its mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that use of natural resources is equitable and ecologically sustainable. IUCN has approximately 1,000 staff, most of whom are located in its 42 regional and country offices. About 100 work at its headquarters in Gland, Switzerland.

A timeline of actions

1984: The IUCN sixteenth General Assembly in Madrid makes recommendations concerning women and the environment; establishment of a working group promoting the involvement of women at all levels of the organization.

1986-1987: In 1986, the Conference on Conservation and Development: Implementing the World Conservation Strategy is held in Ottawa, at which IUCN is requested "to promote a supplement on women, environment and sustainable development" to the Strategy. The Working Group on Women and Environment is created, which leads to the launch of the Population and Sustainable Development Programme in 1987.

1988-1989: Following the recommendations of the 1988 General Assembly, in Costa Rica, the Programme on Women and Natural Resource Management is devised. It aims to develop more effective conservation programmes by drawing attention to the roles of women as well as men.

1993-1995: IUCN adopts an equal opportunity policy.

1998: The IUCN Council adopts the IUCN Gender Policy Statement and Action Plan.

The first efforts by IUCN to incorporate gender issues within its operations began in 1984. However, it did not define this process until 1996, when it became clear that for the Union to promote more equitable societies, it itself needed organizational change.

The first World Conservation Congress, held in Montreal, Canada that same year, requested the Director General "to integrate a gender perspective across the IUCN Programme" and "continue the work of the Policy Committee of the Council to formulate a gender programme and policy for the Union" (resolution 1.5). In 1998,

the IUCN Council adopted a Gender Policy Statement and Action Plan. It states that "IUCN's commitment to gender equality and equity is Union wide and is an integral part of all policies, programmes and projects".

This commitment resurfaced at the second World Conservation Congress, held in Amman in 2000: the Congress approved resolution 2.28, in which it called on the Director General to ensure that "gender equity is mainstreamed in all of the Secretariat's actions, projects and initiatives" and that "the Gender Equity Policy that was approved by the Council is applied in all Secretariat Component Programmes, projects or initiatives".

A series of concrete actions then followed to accelerate the pace of change. IUCN appointed a high-level gender adviser, assigned a budget for the topic, created gender networks of focal points in all its regions, defined responsibilities in relation to the gender policy for all personnel, elaborated criteria for the approval of new proposals and started the development of specific and practical methodologies for mainstreaming gender into conservation initiatives.

New methodologies for new challenges

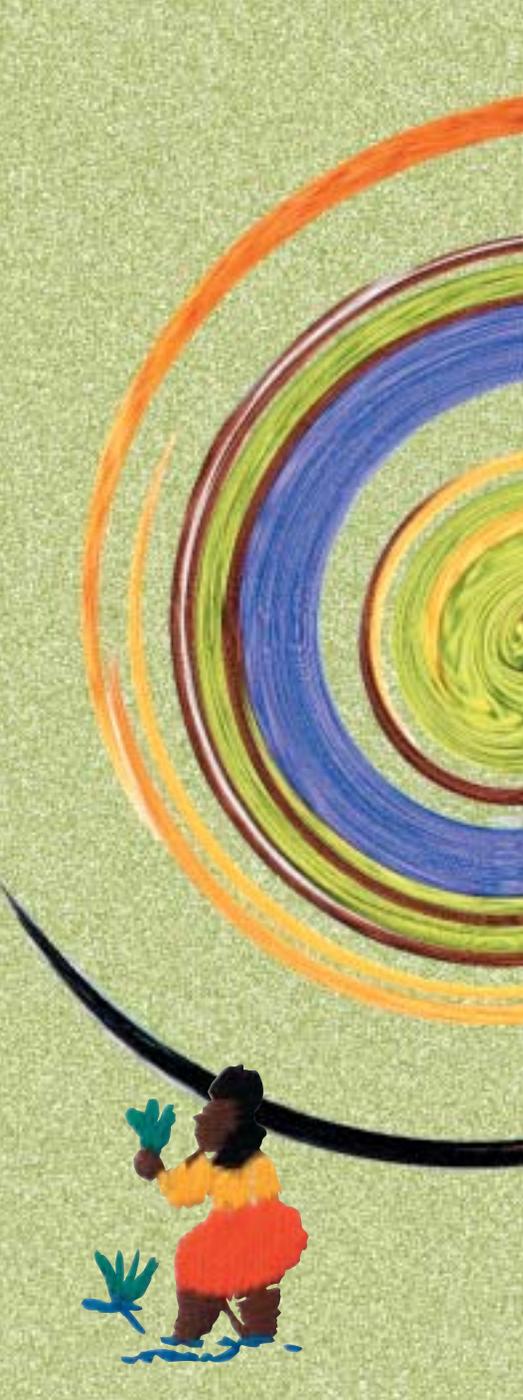
IUCN now understands that gender equality and equity are matters of fundamental human rights and social justice, and also a precondition for sustainable development. As a result, the organization has assumed the challenge of developing both theoretical and methodological approaches to gender across its activities. A series of publications has been issued and used to train more than 10,000 people around the world (www.genderandenvironment.org). They include:

The Towards Equity Series. Provides tools and instruments for integrating a gender equity perspective at every level of the project cycle. Nine modules deal with issues such as the elaboration of proposals, appraisals, planning, management of projects and creation of indicators from a gender perspective (Aguilar, 1999; Aguilar et al., 2000; Alfaro Quesada, 2002a and 2002b; Blanco and Rodriguez, 2000; Escalante, 2000; Rodriguez et al., 2000; Rodriguez Villalobos, 2000; Zaldaña, 2000).

The Unavoidable Current: Gender Policies for the Environmental Sector in Mesoamerica. Offers a theoretical and philosophical vision for a conceptual framework to establish gender equity policies in the Ministries of environment of Mesoamerica. It includes seven case studies with corresponding policies and action plans, along with methodologies and guidelines for developing gender equity policies in the environmental sector (Aguilar, 2002).

In Search of the Lost Gender: Equity in Protected Areas. A conceptual and





methodological proposal that provides instruments and recommendations to promote gender equity in protected areas. The document facilitates planning, management and administration, and is designed to assist in seeking greater social equity (Aguilar et al., 2002).

About Fishermen, Fisherwomen, Oceans and Tides: A Gender Perspective in Marine-Coastal Zones. Features tools and recommendations for tackling gender, conservation and sustainable use initiatives in marine coastal zones (Aguilar and Castañeda, 2000).

De Aciertos y Desiertos: Equidad de Género en Ecosistemas de Tierra Seca (On Right Moves and Deserts: Gender Equity in Dryland Ecosystems (in Spanish)). Contains a methodological proposal on training technical personnel in dryland development initiatives (Lobo and Gutiérrez, 2003).

La Fuerza de la Corriente: Gestión de cuencas hidrográficas con equidad de género (The Force of the Current: Management of River Basins with Gender Equity (in Spanish)). Draws together instruments and recommendations for the management and conservation of watersheds from a gender perspective (Siles and Soares, 2003).

While the development of different gender methodologies has been an important step for IUCN, one of the lessons learned is that mainstreaming gender, as an organizational strategy, depends on the skills, knowledge and commitment of the staff involved in management and implementation. “Evaporation” of policy commitments is widespread and policies do not always translate into practical strategies or follow-through. Cultivating appropriate understanding, commitment and capacity, as well as addressing issues of gender inequities and inequalities within an organization, is a process of long-term organizational change. Appropriate capacity-building activities need to be explicitly included in policies, programmes and project frameworks.

However, it is also evident that the steps which IUCN has taken are paying off. Following a period of intensive training, various offices throughout the world are now adopting gender methodologies and producing their plans of action for gender mainstreaming. A new generation of projects considers women an integral part of the management of natural resources. For the first time, technical assistance flows towards women's groups, and equity, are seen as a fundamental part of sustainable development.

The complete IUCN Gender Policy is available at <http://iucn.org/themes/spgeng/Policy/GenderPolicyE.html>.

Case L: East Africa: empowerment of women

By Aseghedech Ghirmazion (*Heinrich Böll Foundation Africa*)



The programme of the Heinrich Böll Foundation in East Africa and the Horn of Africa primarily strives for the civic and legal empowerment of women in the region, while the main emphasis of its North-South Dialogue Programme is discourse that advances peace.

Together, gender, the environment and peace present a very distinct interrelationship. Women are the major actors in the environment, and thus their role in environmental management cannot be overemphasized. Conflict causes major destruction of the natural world, hurting women the most and hindering their crucial roles as environmental managers.

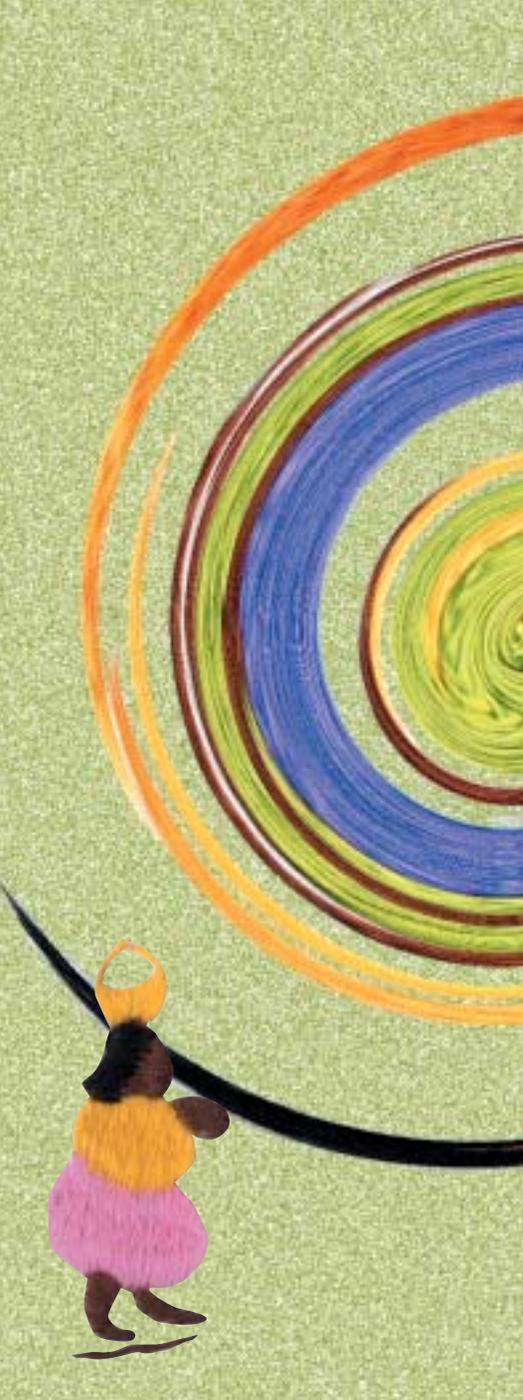
In the region covered, a particular concern is land rights. Women tend to enjoy use rights as wives and mothers, but lack transfer rights to varying degrees as a result of customs that reserve these for men. They therefore have no legal rights over the land that they work on and use for their daily supply of fuel, water and food. This has a great impact on economic progress because women, despite being the users and managers of natural resources, are unable to make decisions on expansion and development.

Logically, women should be targeted for any environmental management initiative. Yet entrenched discrimination hinders the impact of sensitization efforts; whereas the international scene has recognized women's essential contributions to economic development, on the ground their activities are still deemed informal and without measurable economic significance.

Conflict normally takes the form of a struggle over who will control resources. Given the environmental degradation that results, any environmental management programme should place conflict-resolution mechanisms at the fore. In the face of war, women and children suffer enormously, forced to adjust to a life of uncertainty that is characterized by harassment, social and cultural decay and lack of access to services such as water, food and shelter. They may also be cut off from their natural environment, which, especially in rural areas, is detrimental to their very survival and that of their households.

Making these and other links between gender, environmental management and peace, the Foundation's regional office, in Nairobi, now encourages initiatives



A stylized illustration of a woman with dark skin, wearing a pink skirt and an orange top, looking up at a large, colorful, swirling pattern on a green background. The pattern consists of concentric, overlapping bands of orange, red, blue, and green, resembling a stylized sun or a large eye. The woman is positioned in the bottom left corner, looking towards the center of the pattern.

that integrate the three issues. In Somaliland, for example, a network of 32 women's organizations is promoting women's empowerment and peace-building alongside environmental management training and practices. Women are involved in every stage of planning and implementation of projects, and the network also supports women political aspirants. In Uganda, Isis – Women's International Cross-Cultural Exchange offers women opportunities to build their skills and to network, while in Ethiopia the Foundation supports a monthly gender forum which raises development, environmental, political, social and legal issues with gender implications.

The Foundation also collaborates with Governments, especially on policy development and implementation. A special conference reviewed constitutions in Africa, for example, aiming to devise strategies to ensure equal rights for women under the law. In its work across the region, the foundation has analysed the New Partnership for Africa's Development (NEPAD) initiative, focusing on the gender, environmental and economic dimensions. It backs gender mainstreaming in regional political and economic groupings in general.

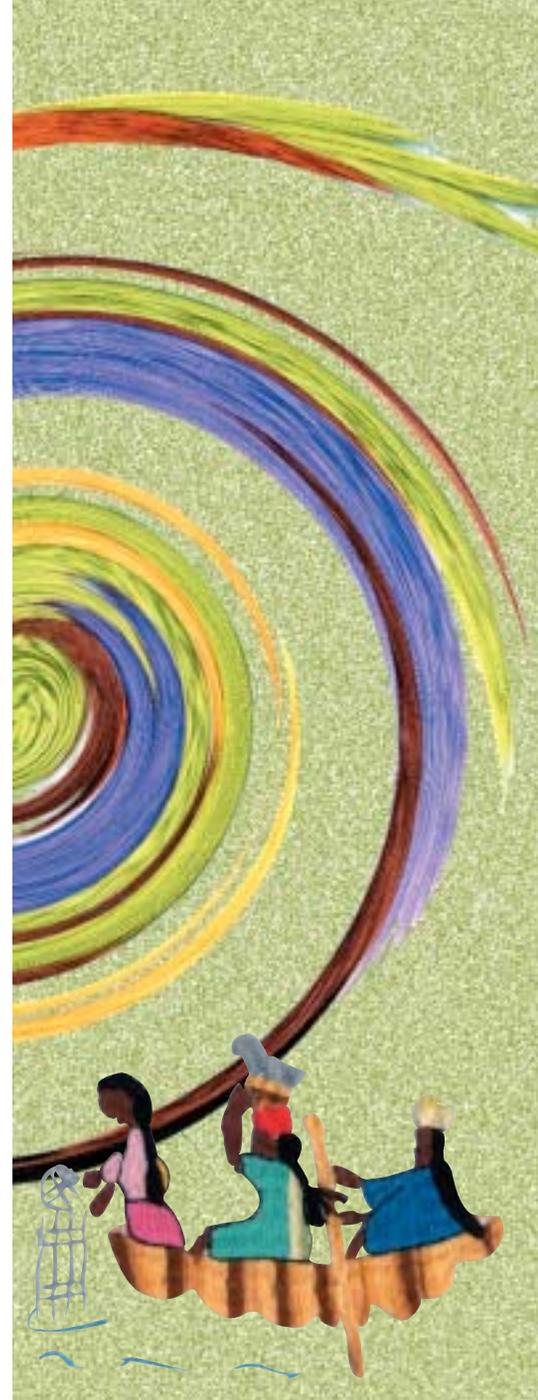
All these activities are guided by the understanding that thoroughly integrating gender into environmental management will lead to lasting environmental sustainability. Women need to be recognized as key players in environmental processes, and should be involved in every stage of decision-making.

VII A time to act

“There have been many advances in international governance for the environment and gender equity over the last decade. International environmental treaties such as those on biological diversity and desertification now recognize the central role of women as stewards of the natural world, as do the action plans adopted by a series of important international conferences, including the 1995 United Nations Fourth World Conference on Women in Beijing and the 2002 World Summit on Sustainable Development in Johannesburg.

“Despite these notable paper achievements, actual on-the-ground practices in most countries and communities around the world have not advanced nearly far enough, reflecting a widely-decried ‘implementation gap’. Bridging this divide will require greater efforts to translate international commitments into policy changes at all levels of governance, as well as better mechanisms for bringing wisdom gained through hard-won local experience to the international environmental negotiating table.”

Hilary French, Worldwatch Institute





Women all over the world are calling for a peaceful and healthy planet. They work, organize, debate, engage and sustain their vision of making this a reality, now and for the future. However, too often their voices fade in the clamour of crowded global, national and local arenas. **Women and the Environment** clearly documents why their perspectives must be heard, and why women's active participation and the application of a clear gender lens in all environment and sustainable development work is imperative.

The challenges facing the world community are enormous. An increasing number of people are struggling to meet their most basic needs. Globalization trends encourage consumption on one hand and deprivation on the other. For those losing out, the split is fostering a growing sense of alienation, despair and lack of control over their own destinies.

Compounding matters, the number of failed States is on the rise, leaving a wake of conflicts within and between States and civilizations, while the HIV/AIDS crisis is destroying the lives of millions of people and in some cases whole communities. Overt and hidden discrimination and violence plague millions of women around the world. And the foundation of life itself, the planet Earth, is suffering as its ecosystems and resources are overexploited, degraded and polluted.

As daunting as they may seem, these crises still offer opportunities to us all, both as institutions and as individuals. And women in particular, as creative and passionate advocates of change in every corner of the globe, have shown that they are more than ready to counter-act and make the world a better place for all.

Although reams of literature, official recognition and lip service exist, is given or is paid concerning women's contributions to environmental conservation and sustainable development, the many official commitments at conferences and in speeches, international agreements



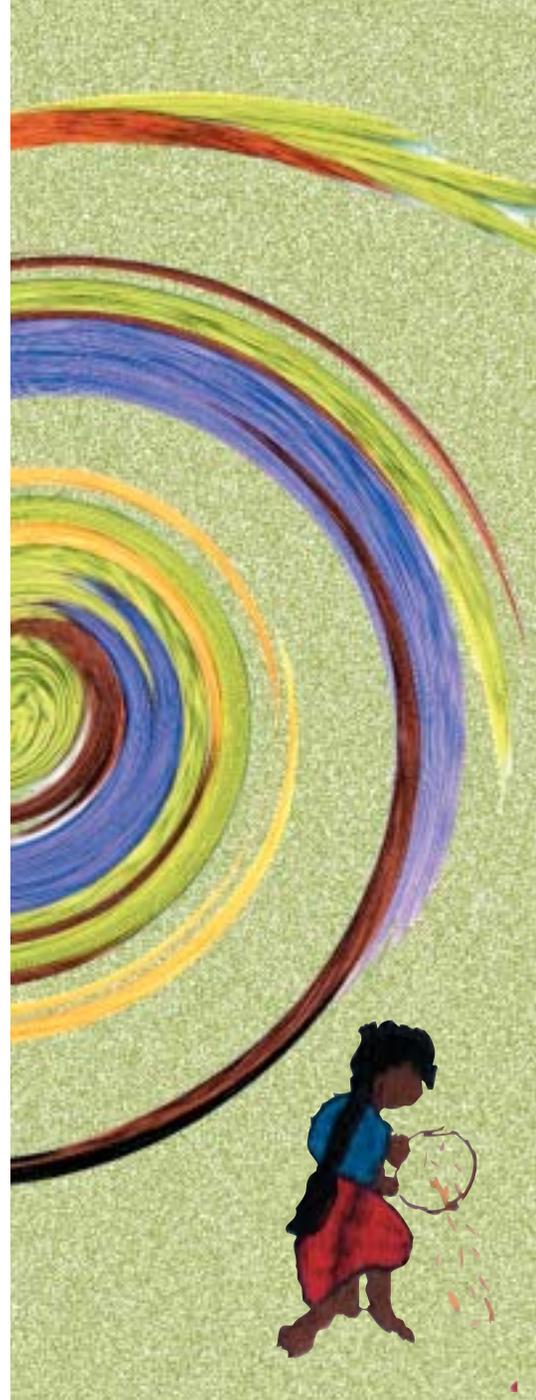
and policy documents have not resulted in structural improvements. Few practical steps have been taken to ground the concepts in reality. Therefore, above all, this publication is a call for action, for implementation, and for empowerment and encouragement of women's leadership.

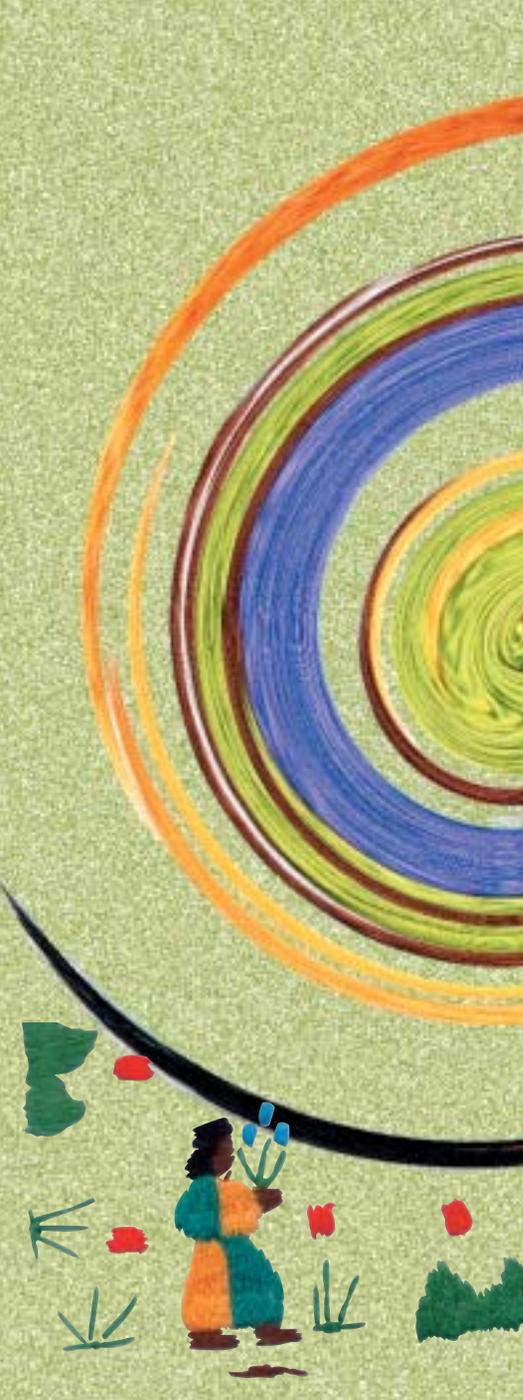
There are several reasons why many institutions have failed to integrate a gender perspective and include women in their work. These start with a lack of understanding of the links between gender and other issues, and the contributions women can make. Staunch resistance to the concepts of gender equality and equity exists, as these threaten prevailing structures of power. Other issues include the lack of involvement of civil society and alienation between the political (ruling) class and the people. A lack of institutional arrangements and policy coherence, and the low priority of environmental and social issues in institutions, policies and actions are also to blame.

Overcoming these obstacles requires honesty about the persistence of power dynamics and about the need to shift towards more equitable relationships, including between women and men. Political will and accountability at all levels is a first requirement. A coherent, gender-responsive institutional architecture should be guaranteed, including allocation of responsibilities and tasks and the participation of civil society in general and women in particular.

While many problems are global, solutions often must be local. Peoples have the right to self-determination, including over their resources. Indigenous and traditional knowledge systems must be kept intact, and formal education should build on these rather than on alien importations. Two-way communication and interaction between policy-makers and communities must take place, and information should be accessible to communities.

Also, funding for the large-scale implementation of efforts related to gender and the environment should be mobilized. There is already a need





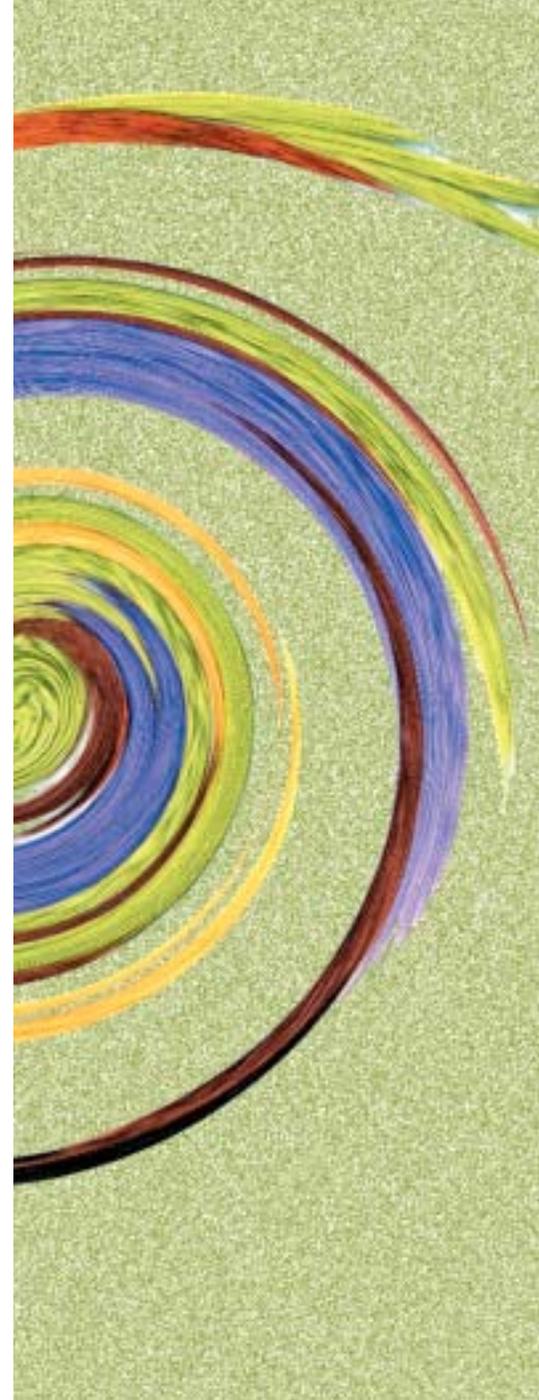
to develop best practices in mainstreaming gender in environmental work; gender-responsive monitoring and evaluation of policies and actions should help in learning which policies and projects work – and which do not. One critical overall consideration involves linking sustainable development to human rights and to the application of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).

This publication could not cover all existing experiences concerning women and the environment. The gender aspects of energy consumption, climate change, marine issues, urbanization, production and consumption still need further exploration. There is a pressing need too for further action and research on gender and environmental implications in the areas of globalization, trade and market liberalization; indigenous knowledge systems and their protection; environmental change; sustainable practices; health and the environment; and the position of the girl child with regard to the environment and sustainable development. A cross-cutting issue is the social differentiations between women, which need extra attention.

Ultimately it is not a question of pitting women against men or of placing an extra burden of environmental regeneration on the shoulders of women, but of combining efforts that lead to better, happier, more peaceful societies. In 2005, 10 years after the Beijing Women's Conference, we should all be ready for that.

References

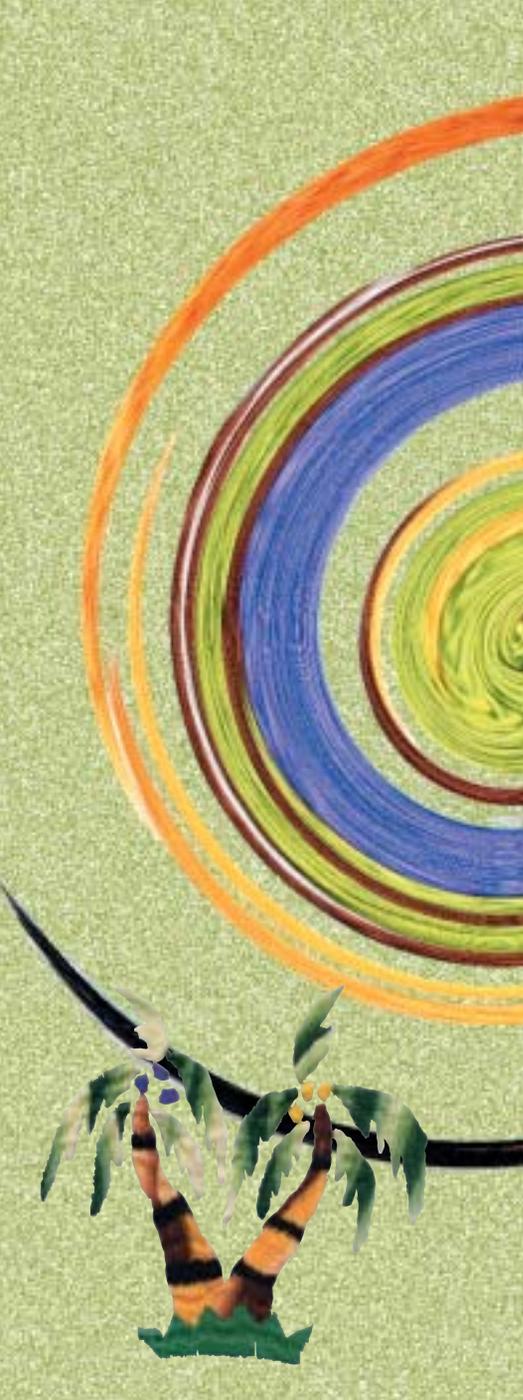
- Abramovay, Mariam and Gail Lerner. (1996) Introduction. In Ana Maria Brasileiro, Ed. *Gender and Sustainable Development: A New Paradigm – Reflecting on Experience in Latin America and the Caribbean*. UNIFEM, New York.
- Agarwal, Bina. (1994) *A Field of One's Own: Gender and Land Rights in South Asia*. Cambridge University Press, Cambridge.
- (1998) The Gender and Environment Debate. In Keil Roger et al., Eds. *Political Ecology: Global and Local*. Routledge, London/New York.
- Aguilar, Lorena. (1999) *A Good Start Makes a Better Ending: Writing proposals with a Gender Perspective*. Towards Equity Series, No.1. World Conservation Union and Arias Foundation, San José.
- (2002) *The Unavoidable Current. Gender Policies for the Environmental Sector in Mesoamerica*. Executive summary. Absoluto S.A., San José.
- Aguilar, Lorena, Gustavo Briceño and Ilesie Valenciano. (2000) *Seek and Ye Shall Find: Participatory Appraisals with a Gender Equity Perspective*. Towards Equity Series, No.2. World Conservation Union and Arias Foundation, San José.
- Aguilar, Lorena and Itzá Castañeda. (2000) *About Fishermen, Fisherwomen, Oceans and Tides: A Gender Perspective in Marine-Coastal Zones*. World Conservation Union, San José.
- Aguilar, Lorena, Itzá Castañeda and Hilda Salazer. (2002) *In Search of the Lost Gender: Equity in Protected Areas*. IUCN/Mesoamerican Office, San José.
- Alfaro Quesada, Cecilia. (2002a) *If We Organize It We Can Do It: Project Planning with a Gender Perspective*. Towards Equity Series, No.3. World Conservation Union and Arias Foundation, San José.
- (2002b) *Unveiling Gender: Basic Conceptual Elements for Understanding Gender*. Towards Equity Series, No. 9. World Conservation Union and Arias Foundation, San José.
- Anderson, S., A. Drucker and S. Gündel (1999) *Conservation of Animal Genetic Resources*. Long Distance Course. Wye College External Programme. University of London
- Banerjee, Nirmala. (2000) *Poverty and Social Development*. Paper presented at seminar on poverty and development. Centre for Studies in Social Sciences, Calcutta, India.
- Barrow, Edmund G. (IUCN Kenya). Email communication with Lorena Aguilar (IUCN) on the Global Biodiversity Forum, 22 July 2003.
- Bernal, V. (1988) *Losing ground: women and agriculture in Sudan's irrigated schemes: lessons from a Blue Nile village*. In Davidson, J., Ed. *Agriculture, Women and Land. The African Experience*: pp 131-156. Westview, Boulder.
- Berg, T. (1993) The science of plant breeding: support or alternative to traditional practices. In W.de Boef, K.Amanor and K. Wellard, Eds. *Cultivating Knowledge, Genetic Diversity, Farmer Experimentation and Crop Research*: pp. 72-77. Intermediate Technology Publications Ltd, London.



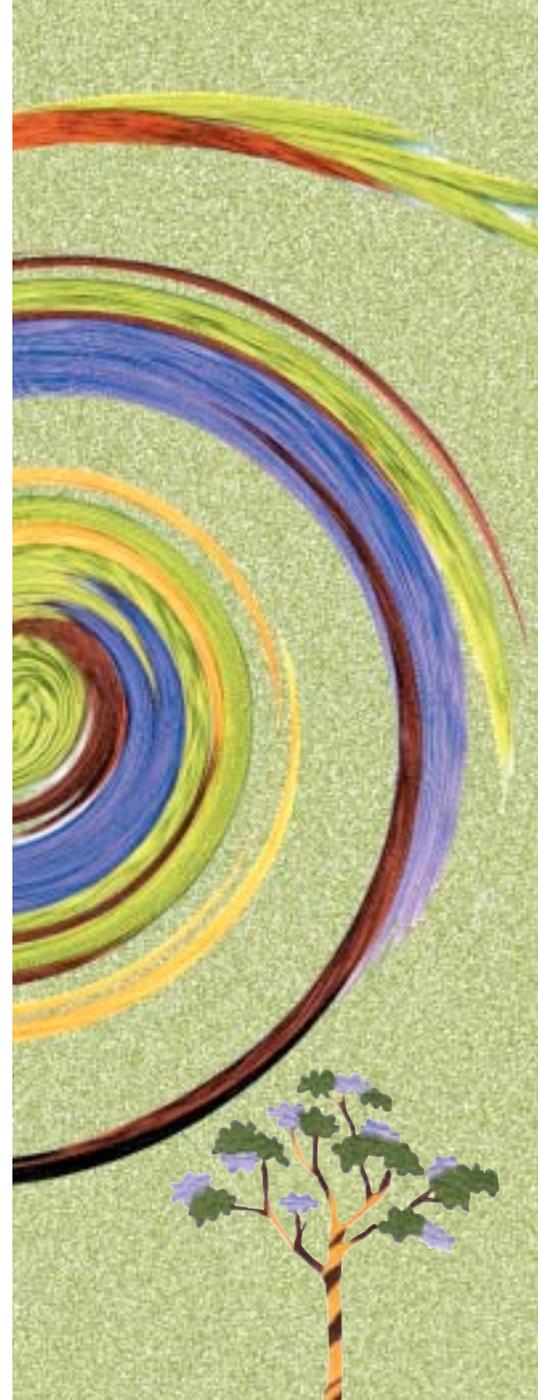
- 
- Blanco, Lara and Giselle Rodríguez. (2000) *Practising What We Preach: Management and Decision-Making Processes with Equity*. Towards Equity Series, No.7. World Conservation Union and Arias Foundation, San José.
- Bock, Sara. *Testimony* (www.unccd.int/publicinfo).
- Braidotti, Rosi, Ewa Charkiewics, Sabine Häusler and Saskia Wierenga. (1994) *Women the Environment and Sustainable Development: Towards a Theoretical Synthesis*. Zed Books, London.
- Blanco Lobo, Monserrat and Margarita Velásquez Gutiérrez. (2003) *De Aciertos y Desiertos: Equidad de Género en Ecosistemas de Tierra Seca* (On Right Moves and Deserts: Gender Equity in Dryland Ecosystems). World Conservation Union, San José (in Spanish).
- Branco, Adelia de Melo. (1999) *Women as Natural Resource Managers*. Message to women-enviro listserve (www.sdn.org/www/women-enviro/msg00168.html).
- Carlsson, Helene and Cecilia Valdivieso. (2003) *Gender Equality and the Millennium Development Goals*. Gender and Development Group, World Bank, Washington D.C.
- Carty, Bob. (February 2003) *Whose hand on the tap? Water privatization in South Africa*. CBC News – InDepth: Water Privatization (www.cbc.ca)
- Commonwealth Science Council on integrated water resources management (www.comsci.org/WMRPsite/IWRM.htm).
- Corral, Thais. (2001) *Women and Sustainable Development: A Local Agenda*. WEDO Primer, March 2001. WEDO, New York.
- Cuomo, Kerry Kennedy. (2001) *Speaking Truth to Power: Human rights defenders who are changing our world*. Corn Publishers/Random House, New York.
- Dankelman, Irene. (2003) *Gender, Environment and Sustainable Development: Theoretical Trends, Emerging Issues and Challenges*. Review paper. INSTRAW, Santo Domingo.
- Dankelman, Irene and Joan Davidson. (1988) *Women and the Environment: Alliance for the Future*. Earthscan, London.
- Development Assistance Committee (DAC). (1998) *DAC Guidelines for Gender Equality and Women's Empowerment in Development Co-operation*. OECD, Paris.
- Davids, Tine and Francien van Driel. (2002) *Van Vrouwen en Ontwikkeling naar Gender en Globalisering* (From Women and Development to Gender and Globalization). In Arts, Bas, Paul Hebink en Ton van Naerssen, Eds. *Voorheen de Derde Wereld; Ontwikkeling anders gedacht* (Whither the Third World: Development Considered Differently), pp. 60-85. Mets & Schilt, Amsterdam (in Dutch).
- Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) (German Technical Cooperation). (2001) *Gender Relations in Biodiversity*. Issue papers BIODIV. GTZ, Eschborn.
- Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) and Konventionsprojekt Desertifikations-bekämpfung (CCD). *Women and Desertification Control*. GTZ, Eschborn.

- Division for the Advancement of Women (DAW) (2003) *Gender Perspectives on Sustainable Development*. Briefing notes. DAW/United Nations, New York.
- Domoto, Akiko, Women and the Convention on Biological Diversity. (1994) In Krattiger, Anatole et al., Eds. *Widening Perspectives on Biodiversity*: pp. 219-224. IUCN and the International Academy of the Environment, Burlington Press, Cambridge.
- EarthAction. (2001). *Empowering women to protect the land*. Background information and action alert. EarthAction, Amherst (USA).
- Easton, Peter, and Margaret Ronald. (2000) Seeds of Life: Women and Agricultural Biodiversity in Africa. In *IK Notes* (World Bank), 23 (August).
- Environment Liaison Centre International (ELCI). (1985) *Women and the Environmental Crisis*. Forum '85. A report of the proceedings of the workshops on Women, Environment and Development, 10-20 July, Nairobi.
- Escalante, Ana Cecilia. (2000) *Eyes That See...Hearts That Feel: Gender Indicators*. Towards Equity Series. No.6. World Conservation Union and Arias Foundation, San José.
- Est, Diny van. (1997) *The changing use and management of the floodplain environment by Mousgoum Women in North Cameroon*. In De Bruijn, Mirjam, Ineke Halsema and Heleen van den Hombergh, Eds. *Gender and Land Use: Diversity in Environmental Practices*: pp. 9-26. Thesis publishers, Amsterdam.
- Francis, Jennifer. (2003) *Gender and Water*. Paper prepared for this publication. Gender and Water Alliance, Delft (Netherlands).
- Food and Agricultural Organization (FAO). (1993) *Desertification and gender. A policy note*. FAO, Rome.
- (1996) *Women: users, preservers and managers of agro-biodiversity* (www.fao.org/FOCUS/E/Biodiv-e.htm).
- (1997) *Brahui Women's Indigenous Knowledge of Medicinal Plants*. Interregional project for participatory upland conservation and development. GCP/INT/542/ITA, Working Paper 5. Quetta, Pakistan.
- (2002a) *Rural Women: crucial partners in the fight against hunger and poverty*. Message from Rome to Johannesburg. World Food Summit: Five Years Later. Side event. FAO, Rome.
- (2002b) *Women's Right to Land: A Human Right*. Brochure. 8 March. FAO, Rome.
- Gender and Water Alliance (GWA). (2003) *The Gender and Water Development Report, 2003: Gender Perspectives on Policies in the Water Sector*. GWA, Delft.
- Gender, Energy and Water Network. *GEW Net News*, 1(1), June 2003. Kathmandu, Nepal.
- Gregorie, Helene and Ashley Lebner. (2002). *Re-evaluating Relevance: Intellectual Property Rights and Women's Traditional Environmental Knowledge*. Position paper for the CSD NGO Women's Caucus.
- Grown, Caren, Geeta Rao Gupta and Zahia Kahn. (2003) *Promises to Keep: Achieving Gender Equality and the Empowerment of Women*. A background paper for the Task



- 
- Force on Education and Gender Equality of the Millennium Project. International Center for Research on Women, Washington, D.C.
- Guijt, Irene. (1996) *Questions of Difference: PRA, Gender and Environment – A Training Guide*. IIED, London.
- Hemmati, Minu. (2000) *Gender-Specific Patterns of Poverty and (Over-)Consumption in Developing and Developed Countries*. In: E. Jochem, J. Sathaye and Daniel Biulle (Eds.). *Society, Behaviour, and Climate Change Mitigation*. Proceedings of IPCC Expert Group Meeting on Social Scientific Approaches to Climate Change Mitigation. Kluwer Publications, Alphen aan de Rijn, Netherlands.
- Hemmati, Minu and Kerstin Seliger (eds.). (2001) *The Stakeholder Toolkit. A Resource for Women and NGOs*. UNED Forum, London.
- Howard, Patricia. (2003) *Women and Plants: Gender Relations in Biodiversity Management and Conservation*. Zed Books, London.
- International Fund for Agricultural Development (IFAD). (2003) *Women as Agents of Change*. Roundtable Discussion paper for the twenty-fifth anniversary session of the IFAD Governing Council. Rome, February.
- Ishani, Zarina and Davinder Lamba. (2001) *Emerging African Perspectives on Gender in Urbanization. African research on gender, urbanization and environment*. Mazingira Institute, Nairobi.
- IUCN (World Conservation Union). (2003) Brochures: case studies on Brazil and Guatemala. Gender and Environment Programme, IUCN, San José.
- (2003) *Maximizing conservation in protected areas: guidelines for gender consideration*. Brochure. IUCN, San José and Population Reference Bureau, Washington, D.C.
- Kabirova, Miliya. (2002) *Grassroots fight for right and survival in nuclear contaminated areas*. In *WECF, Why Women are Essential for Sustainable Development*. Results of the European Women's Conference for a Sustainable Future, Célakovica (Prague), 14-17 March: pp. 97-100. WECF, Bunnik.
- Koohafkan, A.P. (1996) *Desertification, drought and their consequences*. SD Dimensions, May. Article. FAO, Rome.
- Lee-Smith, Diana. (1994) *Gender, Urbanisation and Environment. A research and policy agenda*. Mazingira Institute, Nairobi.
- Lee-Smith, Diana (eds). (1999) *Women Managing Resources. African Research on Gender, Urbanisation and Environment*. Mazingira Institute, Nairobi.
- Lewis, N. (1994) *Safe womanhood*. A discussion paper. International Federation of Institutes for Advanced Study, Toronto.
- Maathai, Wangari. (2003) *The Green Belt Movement: Sharing the approach and the experience*. Lantern Press, New York.
- MacDonald, Mia and Danielle Nierenberg. (2003) Linking Population, Women and Biodiversity. In Worldwatch Institute, *The State of the World 2003. A Worldwatch Institute Report on Progress Toward a Sustainable Society*. W.W.Norton, New York, pp.38-61

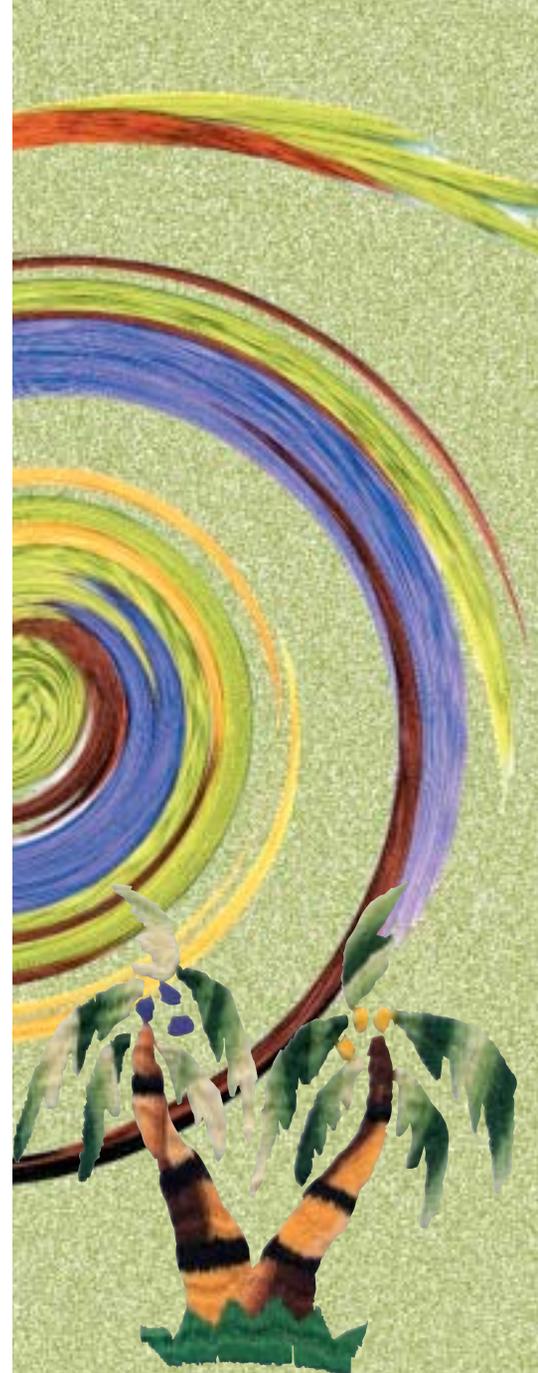
- Maddison, Angus. (2001) *The World Economy: A millennial perspective*. OECD, Paris
- Makhambetova, Zhannat. (2002) Building up a sustainable community on the edge of the dying Aral Sea. In WECF *Why Women are Essential for Sustainable Development*. Results of the European Women's Conference for a Sustainable Future, Čelákovice (Prague), 14-17 March 2002, pp.83-98. WECF, Munich/Prague.
- Mehrotra, Satosh, and Richard Jolly, Eds. (2000) *Development with a Human Face: Experiences in Social Achievement and Economic Growth*. Clarendon Press, Oxford.
- Mehta, M. (1996) *Our lives are not different from that of our buffaloes*. In D. Rocheleau, Diana, Barbara Thomas-Slayter and Esther Wangari, Eds. *Feminist Political Ecology, Global Issues and Local Experiences*: pp. 180-210. Routledge, London and New York.
- Melo de Branco, Adelia. (1999) Contribution to women-enviro listserv on women as natural resource managers, 21 September.
- Menon, Gita. (1991) *Ecological transitions and the changing context of women's work in tribal India*. In *Purasartham*, pp. 291-314.
- Milanovic, Branko. (2002) *True world income distribution, 1988 and 1993: first calculations based on household surveys alone*. In *Economic Journal* 112 (476): 51-92.
- Moser, Caroline O. N. (1993) *Gender Planning and Development :theory, practice and training*. Routledge, New York.
- Natarajan, Bhanumathi. (1999) *Traditional knowledge, culture and resource rights: the case of Tulasi*. In Posey, Darrell Addison Ed. *Cultural and Spiritual Values of Biodiversity. A Complementary Contribution to the Global Biodiversity Assessment*, pp. 268-269. UNEP/Intermediate Technology Publications, London.
- Netherlands Development Assistance (NEDA). (1997) Rights of women to the natural resources land and water. Working Paper on Women and Development No.2. Ministry of Foreign Affairs, The Hague.
- Neeffjes, Koos. (2000) *Environments and Livelihoods: Strategies for Sustainability*. Oxfam, Oxford.
- Nierenberg, Danielle. (2002) *Correcting Gender Myopia: Gender equity, women's welfare and the environment*. Worldwatch Paper 161. Worldwatch Institute, Washington D.C.
- Njoroge, Janet. (1999) Contribution to women-enviro listserv on women as natural resource managers, 20 September.
- OECD/DAC. (1998) *DAC Guidelines for Gender Equality and Women's Empowerment in Development Co-operation*. OECD, Paris.
- Oliveira, Thierry de, Anantha Kumar Duraiappah and Gemma Shepherd. (2003) *The Global Drylands Imperative. Increasing Capabilities through an Ecosystem Approach for the Drylands*. UNEP, Nairobi.
- Office to Combat Desertification and Drought (UNSO) and the United Nations Development Programme (UNDP). (1997) Strategy document: strengthening the role

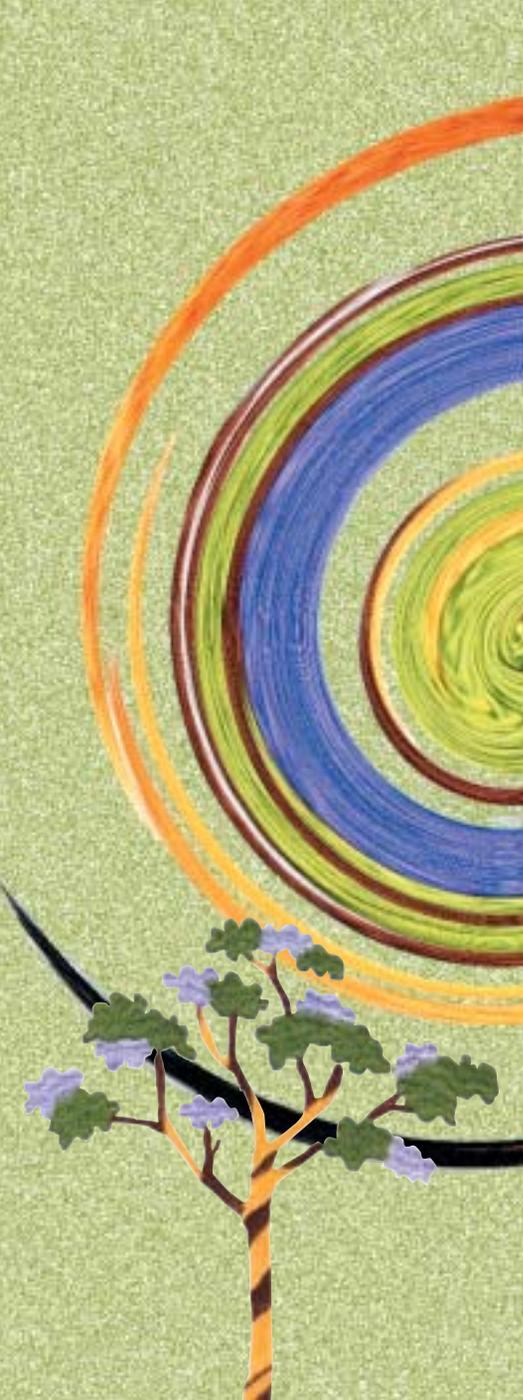




- of women in the implementation of the Convention to Combat Desertification and Drought. UNSO/UNDP, New York.
- Owen, Linda R. (1998) *Frauen in der Altsteinzeit: Mütter, Sammlerinnen, Jägerinnen, Fischerinnen, Köchinnen, Herstellerinnen, Künstlerinnen, Heilerinnen (Women in the Old Stone Age: Mothers, Gatherers, Huntresses, Fisherwomen, Cooks, Manufacturers, Artists, Healers)*. In Auffermann, Bärbel and Gerd-Christian Weniger (eds.) *Frauen – Zeiten – Spuren*: pp. 161-182. Neanderthal-Museum, Mettmann (in German).
- Parker, A. Rani. (1993) *Another Point of View: A manual on gender analysis training for grassroots workers*. UNIFEM, New York.
- Pietilä, Hilikka. (2002) *Engendering the Global Agenda*. Development Dossier. United Nations Non-Governmental Liaison Service, Geneva.
- Possey, Darrell Addison. (1999) *Culture and nature – the inextricable link*. In *Cultural and Spiritual Values of Biodiversity*: pp. 3-16. UNEP/Intermediate Technology Publications, London.
- Prince of Orange. (2002) *No Water no Future: a water focus for JoBurg*. Contribution of HRH the Prince of Orange to the panel of the United Nations Secretary-General in preparation for the Johannesburg Summit, May.
- Ramprasad, Vanaja. (1999) *Women and biodiversity conservation*. In *COMPAS Newsletter*, October: 24-25.
- Rathgeber, Eva. (1996) *Women, men and water resource management in Africa*. In Eglal Rached, Eva Rathgeber and David B. Brooks, Eds. *Water Management in Africa and the Middle East*. IDRC, Ottawa.
- Reichel, Elizabeth. (1999) *Gender-based knowledge systems (GBKS) in the eco-politic of the Yukuna and Tanimuka of Northwest Amazon*. In Posey, Darrell Addison Ed. *Cultural and Spiritual Values of Biodiversity. A Complementary Contribution to the Global Biodiversity Assessment*, pp. 82-86. UNEP/Intermediate Technology Publications, London.
- Reynolds, J.F., D.M. Stafford Smith and E. Lambin. (2003) *ARIDnet: seeking novel approaches to desertification and land degradation*. In *Global Change Newsletter 54* (June): 5-9.
- Rocheleau, Diane. (1995) *Gender and biodiversity: a feminist political ecology perspective*. In *IDS Bulletin 26* (1): 9-16.
- Rocheleau, Diana, Barbara Thomas-Slayer and Esther Wangari, Eds. (1996) *Feminist Political Ecology, Global Issues and Local Experiences*. Routledge, London and New York.
- Rodríguez, Giselle et al. (2000) *Taking the Pulse of Gender: Gender-Sensitive Systems for Monitoring and Evaluation*. Towards Equity Series. No. 8. World Conservation Union and Arias Foundation, San José.
- Rodríguez Villalobos, Rocío. (2000) *Sharing Secrets: Systematization from a Gender Perspective*. Towards Equity Series, No. 8. World Conservation Union and Arias Foundation, San José.

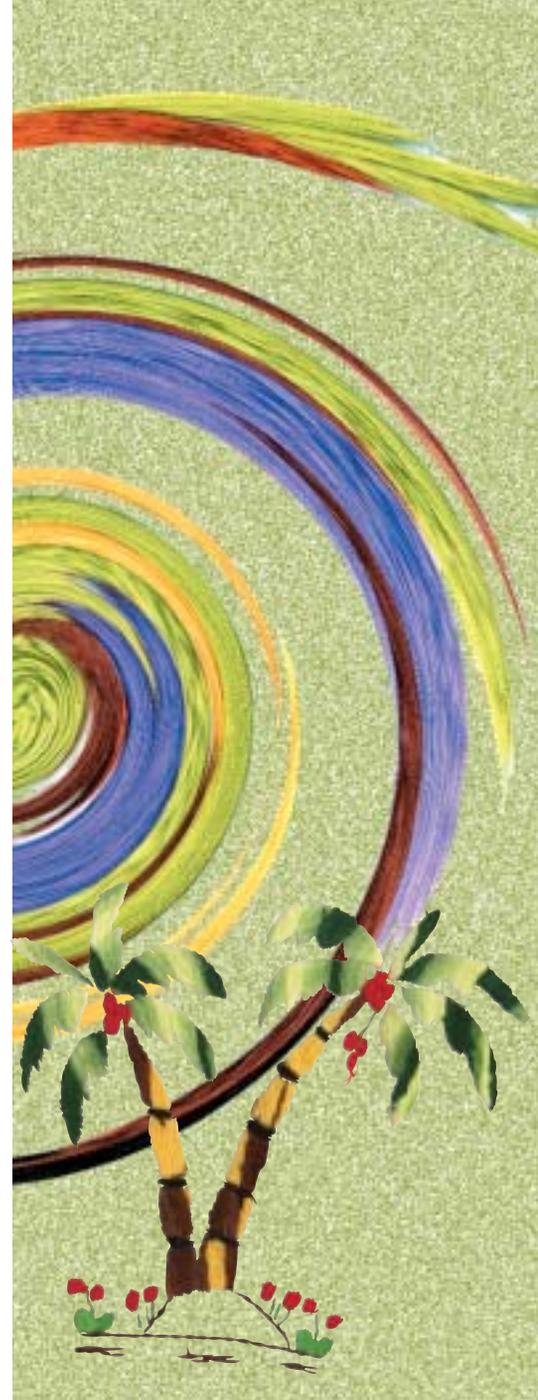
- Ruiz Abril, Maria Elena. (2003) *Challenges and Opportunities for Gender Equality in Latin America and the Caribbean*. World Bank, Washington D.C.
- Saito, K., D. Spurling and H. Mekonnen. (1994) *Raising Productivity of Women Farmers in Sub-Saharan Africa*. World Bank Discussion Paper, no.230. World Bank, Washington, D.C.
- Shiva, Vandana. (1988) *Staying Alive: Women, Ecology and Development*. Zed Books, London.
- (1995) *Monocultures of the Mind. Perspectives on Biodiversity and Biotechnology*. Zed Books Ltd, London, and Third World Network, Penang.
- Shiva, Vandana and Irene Dankelman. (1992) Women and biological diversity: lessons from the Indian Himalaya. In Cooper, David, Renée Vellvé and Henk Hobbelink, Eds. *Growing Diversity: Genetic Resources and Local Food Security*: pp 44-52. Intermediate Technology Publications, London.
- Sen, Amartya. (1999) *Development as Freedom*. Oxford University Press, Oxford.
- (2001) The many faces of gender inequality. A lecture at the Radcliffe Institute. In *Radcliffe Quarterly* 87(1).
- Siles, J and D. de Soares. (2003). *La Fuerza de la Corriente: Gestión de cuencas hidrográficas con equidad de género* (The Force of the Current: Management of River Basins with Gender Equity). IUCN, San José (in Spanish).
- Steady, Filomina Chioma, Ed. (1993) *Women and Children First. Environment, Poverty, and Sustainable Development*. Schenkman Books, Rochester, Vermont.
- Syndicat National de l'Enseignement Primaire Public de Côte d'Ivoire (SNEPPCI) and UNEP. (2003) *Le Rôle Primordial des Femmes dans la Gestion de la Biodiversité comme Moyen de Lutte contre la Pauvreté* (The Fundamental Role of Women in the Management of Biodiversity as a Means of Combating Poverty). Document synthèse de l'atelier sous-régional d'Abidjan (Summary Document from the Abidjan Subregional Workshop), Côte d'Ivoire, June.
- United Nations. (1995) 1994 *(Third) World Survey on the Role of Women in Development*. United Nations, New York. ST/ESA/241; Sales No. E.95.IV.1.
- (1996) Platform for Action and Beijing Declaration. United Nations, New York.
- (2001) *Beijing and Beyond*. United Nations Division for the Advancement of Women, New York.
- UNAIDS. (2002) *Report on the Global HIV/AIDS Epidemic*. UNAIDS, Geneva.
- United Nations Development Programme (UNDP). (1995) *Human Development Report 1995*. Oxford University Press, New York.
- (1998) *Human Development Report 1998*. Oxford University Press, New York.
- (2002a) *Human Development Report 2002: Deepening Democracy in a Fragmented World*. Oxford University Press, New York.
- (2002b) *Biodiversity and Poverty: Biodiversity under Development*, 2002. UNDP Bureau for Development Policy, New York.
- (2002c) *Mainstreaming Gender in Water Management. A Practical Journey to*

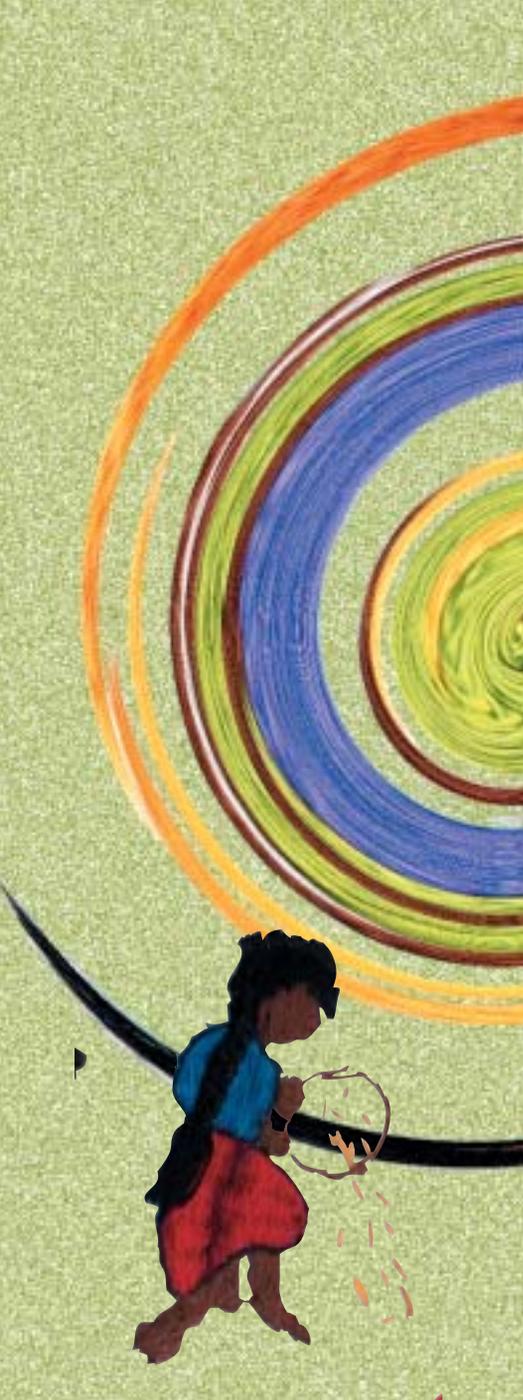




- Sustainability: A Resource Guide*. UNDP, New York.
- (2003) *Human Development Report 2003: Millennium Development Goals: a Compact Among Nations to End Human Poverty*. Oxford University Press, New York.
- United Nations Development Fund for Women (UNIFEM) (1997) *ACC Task Force on Basic Social Services for All: Guidelines on Women's Empowerment*. UNIFEM, New York.
- (1999) *UNIFEM and the United Nations Convention to Combat Desertification: activities in 1998-1999*. Paper. UNIFEM, New York.
- (2002) *Progress of the World's Women 2002: Gender Equality and the Millennium Development Goals*. UNIFEM, New York.
- United Nations Environment Programme (UNEP) (1997) *UNEP Project Manual: Formulation, Approval, Monitoring and Evaluation*. UNEP, Nairobi.
- (1999) *Cultural and Spiritual Values of Biodiversity. A Complementary Contribution to the Global Biodiversity Assessment*. Intermediate Technology Publications, London.
- (2000) *Success Stories: Gender and the Environment*. UNEP, Nairobi.
- (2002) *Global Environment Outlook 3*. Earthscan, London.
- United Nations Environment Programme (UNEP) and WorldWIDE. (1991) *Success stories of women and the environment*. A preliminary presentation in anticipation of the Global Assembly Women and the environment, 4-8 November 1991, Miami. WorldWIDE, Washington, D.C.
- United Nations Population Fund (UNFPA). (2003) *State of the World Population 2003*. UNFPA, New York.
- Uganda Women Tree Planting Movement. (2003) Concept paper on World Desertification Day Celebrations, 17 June.
- Vainio-Mattila, Arja. (2001) *Navigating Gender: A framework and tool for participatory development*. Ministry of Foreign Affairs of Finland, Helsinki.
- Walker, Marilyn. (1999) *Basketry and biodiversity in the Pacific Northwest*. In Posey, Darrell Addison Ed. *Cultural and Spiritual Values of Biodiversity. A Complementary Contribution to the Global Biodiversity Assessment*, pp. 86-88. UNEP/Intermediate Technology Publications, London.
- WEHAB Working Group. (2002a) *A framework for action on water and sanitation*. Paper presented at the World Summit on Sustainable Development, 26 August-4 September 2002, Johannesburg, South Africa.
- (2002b) *A framework for action on biodiversity and ecosystem management*. Paper presented at the World Summit on Sustainable Development, 26 August-4 September 2002, Johannesburg, South Africa. (www.agora21.org/Johannesburg/wehab_biodiversity.pdf).
- Williams, Adela. (2002) *Incorporating a Gender Perspective in Rural Water And Sanitation Projects. Experience of MUDE (Women in Development, Dominican Republic)*. A case study prepared for the Forum "Water for the Americas in the 21st

- Century", Mexico City, 8-11 October 2002. (with the support of the Gender and Water Alliance).
- Wichterich, Christa. (2000) *The Globalized Women: Reports from a Future of Inequality*. Zed Books, London.
- Women in Europe for a Common Future. (2002) *Why Women are Essential for Sustainable Development*. Results of the European Conference for a Sustainable Future, Čelákovice (Prague), 14-17 March 2002. WECF, Munich/Bunnik.
- Women's Environment and Development Organization (WEDO). (1991) *Women's Action Agenda 21*. WEDO, New York.
- (1995) *News and Views* 8: 3-4.
- (2002) Gender analysis of Johannesburg Plan of Implementation (www.wedo.org).
- (2003) *Untapped Connections: Gender, Water and Poverty*.
- World Bank. (2001) *Engendering Development: Through Gender Equality in Rights, Resources and Voice*. World Bank, Washington, D.C.
- World Resources Institute, UNEP and UNDP. (1994) *World Resources 1994-1995*. Oxford University Press, Oxford, United Kingdom.
- Woroniuk, B. and J. Schalkwijk. (1998) *Biodiversity and Equality between Women and Men*. SIDA Equality Prompt # 8. SIDA, Stockholm.
- Women's World Summit Foundation (WWSF). (2003) Empowering women and children. *WWSF Global Newsletter* 12 (July).
- www.undp.org/seed/unso/women and www.undp.org/seed/unso/women/film.htm.
- Yoon, Soon-Young. (1993) Water for life. In Filomina Chioma Steady, Ed. *Women and Children First: Environment, Poverty and Sustainable Development*: pp. 199-220. Schenkman Books, Rochester, Vermont.
- Zaldaña, Claudia. (2000) *In Unity There is Power: Processes of Participation and Empowerment*. Towards Equity Series No. 5. World Conservation Union and Arias Foundation, San José.
- Zweifel, Helen. (1997) Biodiversity and the appropriation of women's knowledge. In *IK Monitor* 5(1) (www.nuffic.nl/ciran/ikdm/5-1/articles/zweifel.htm).





Annex I

Acronyms and abbreviations

| | |
|--------|--|
| CEDAW | Convention on the Elimination of all Forms of Discrimination against Women |
| ELCI | Environment Liaison Centre International (ELCI) |
| FAFS | Fédération des Associations Féminines du Sénégal |
| FAO | Food and Agriculture Organization of the United Nations |
| GALAC | Gender and Environment Network in Latin America and the Caribbean |
| GBM | Green Belt Movement (Kenya) |
| GNP | Gross national product |
| GROOTS | Grassroots Organisations Operating Together in Sisterhood |
| GTZ | Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation) |
| GWA | Gender and Water Alliance |
| HBF | Heinrich Böll Foundation |
| IPGRI | International Plant Genetic Resources Institute |
| IUCN | World Conservation Union |
| IWRM | Integrated Water Resources Management |
| MUDE | Mujeres en Desarrollo Dominica (Dominican Republic) |
| NEDA | Netherlands Environment and Development Assistance |
| NEPAD | New Partnership for Africa's Development |
| NGO | Non-governmental organization |
| NVR | Netherlands Council of Women |
| OECD | Organisation for Economic Co-operation and Development |
| PAN | Pesticides Action Network |
| REDEH | Network for Human Development (Brazil) |
| SADC | Southern Africa Development Community |
| TRIPS | Trade-Related Intellectual Property Rights |
| UNCED | United Nations Conference on Environment and Development |
| UNDP | United Nations Development Fund |
| UNEP | United Nations Environment Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| UNIFEM | United Nations Development Fund for Women |
| UNSO | United Nations Office to Combat Desertification and Drought |
| UWTPM | Uganda Women Tree Planting Movement |
| WECF | Women in Europe for a Common Future |
| WEDO | Women's Environment and Development Organization |

Annex II

Some definitions

Gender

Identifies the social relations between men and women; gender is socially constructed, gender relations are contextually specific and often change in response to altering circumstances (Moser, 1993:230).

Gender analysis

Systematic way of looking at the different impacts of development on women and men (Parker, 1993:74).

Gender equality

Equal visibility, empowerment and participation of men and women in all spheres of public and private life; often guided by a vision of human rights, which incorporates acceptance of equal and inalienable rights of all women and men.

Gender equity

Set of actions, attitudes and assumptions that provide opportunities for both women and men; recognizes differences and accommodates it in order to prevent the continuation of inequitable status quo; emphasizes fairness in process and outcome.

Gender disaggregated information

Information differentiated on the basis of what pertains to women and their roles, and to men and their roles.

Gender mainstreaming

By bringing women's issues into mainstream policies, programmes and projects, to overcome problems of marginalization; in order to carry out this mandate organizations have attempted to integrate gender concerns into the institutional structures and procedures.

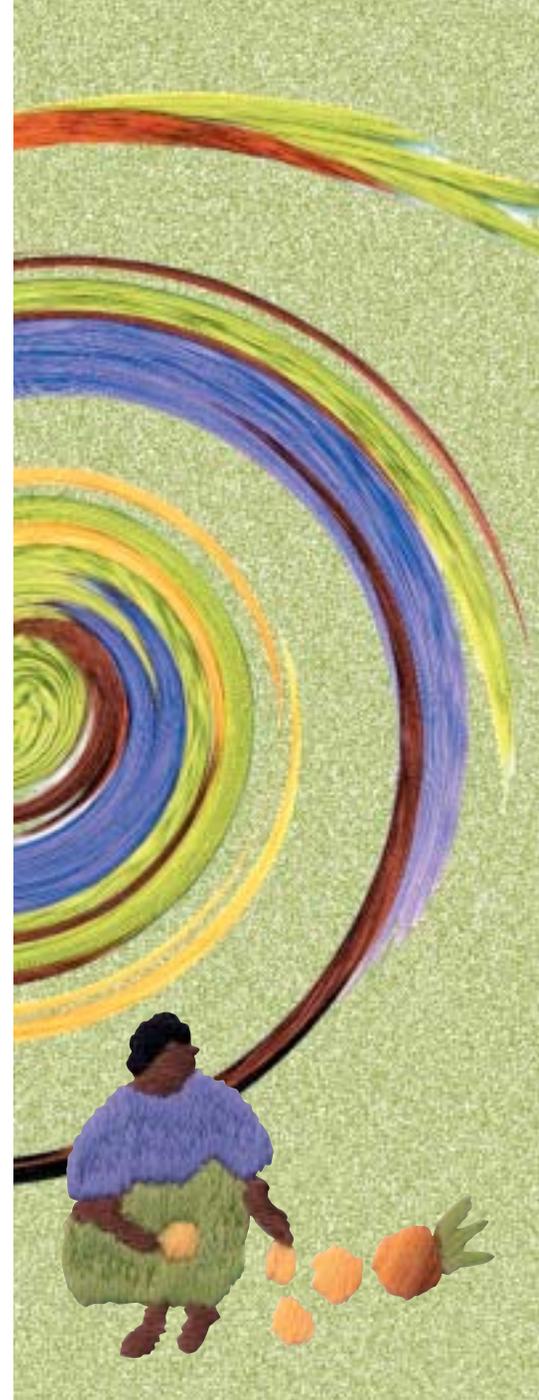
Gender-specific

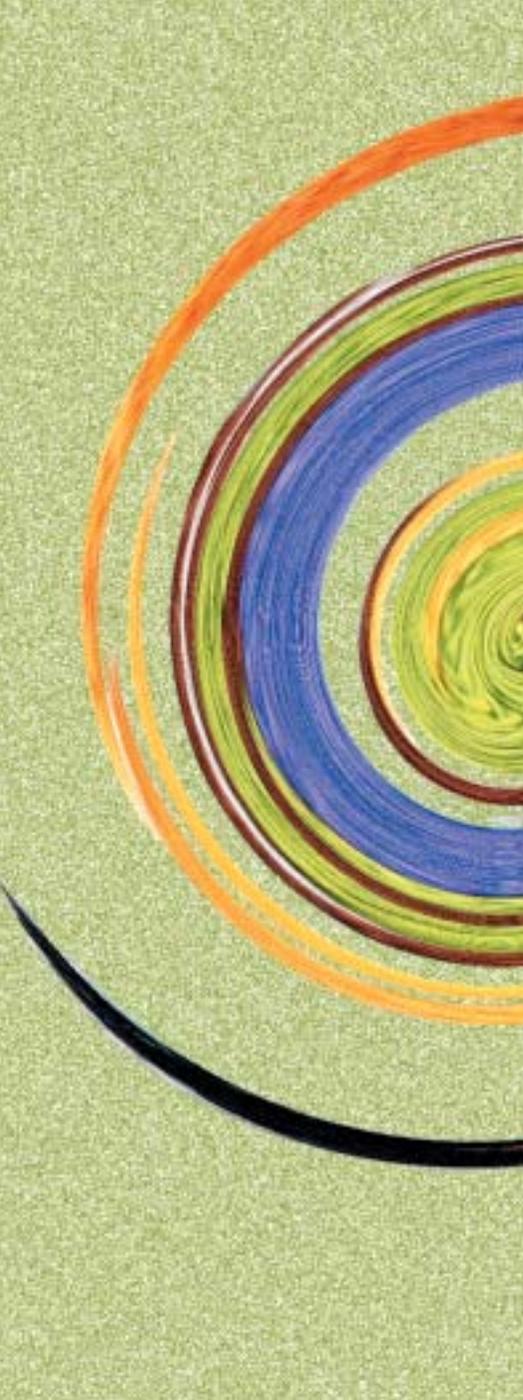
Refers to activities and information that are predicated on the existence of division of labour based on gender.

Sex

Identifies the biological differences between women and men.

Source: Vainio-Mattila, 2001





Annex III

Contacts

Authors of main text, case studies and boxes:

- Irene Dankelman: author
- Edward Freeman: United Nations editor
- Gretchen Sidhu: editor
- Lorena Aguilar (IUCN)
- Kitty Bentvelsen (WECF)
- Alice Bouman-Dentener (WWI)
- Thais Corral (REDEH)
- Hilary French (Worldwatch Institute)
- Sascha Gabizon (WECF)
- Barbara Gemmil-Herren (ELCI)
- Aseghedech Ghirmazion (HBF)
- Betsy Hartmann (Population and Development Programme, CLPP)
- Minu Hemmati: expert
- Iona Iacob (Medium & Sanitas)
- Mia MacDonald (Worldwatch Institute)
- Davinder Lamba (Mazingira Institute)
- Abby Taka Mgugu (The Platform)
- Lucy Mulenkei (Indigenous Information Network)
- Biju Negi (Beej Bachao Andolan (Save Our Seeds))
- Danielle Nierenberg (Worldwatch Institute)
- Margriet Samwel (WECF)
- Anna Tsvetkova (MAMA-86)
- Leonor Zalabata Torres (Arhuaco people, Sierra Nevada, Colombia)

Some organizational web sites:

- Diverse Women for Diversity: www.diversewomen.org
- ENERGIA: www.energia.org
- Gender and Water Alliance: www.genderandwateralliance.org
- GROOTS: www.groots.org
- UN-HABITAT: www.unhabitat.org/genderpolicy
- Huairo Commission: www.huairou.org
- IUCN – gender: www.generoyambiente.org
- UNEP: www.unep.org
- UN-gender: www.un.org/womenwatch
- UNIFEM: www.unifem.org
- WECF: www.wecf.org
- WEDO: www.wedo.org

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For further information, please contact:

Bakary Kante

Director

UNEP, Division of Policy Development and Law

P.O. Box 30552, Nairobi, KENYA

Phone: + 254 20 62 3835

Fax: + 254 20 62 4324

bakary.kante@unep.org

Meryem Amar-Samnotra

Programme Officer

Project Coordinator

UNEP, Division of Policy Development and Law

P.O. Box 30552, Nairobi, KENYA

Phone: + 254 20 62 3680

Fax: + 254 20 62 3679

meryem.amar@unep.org

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