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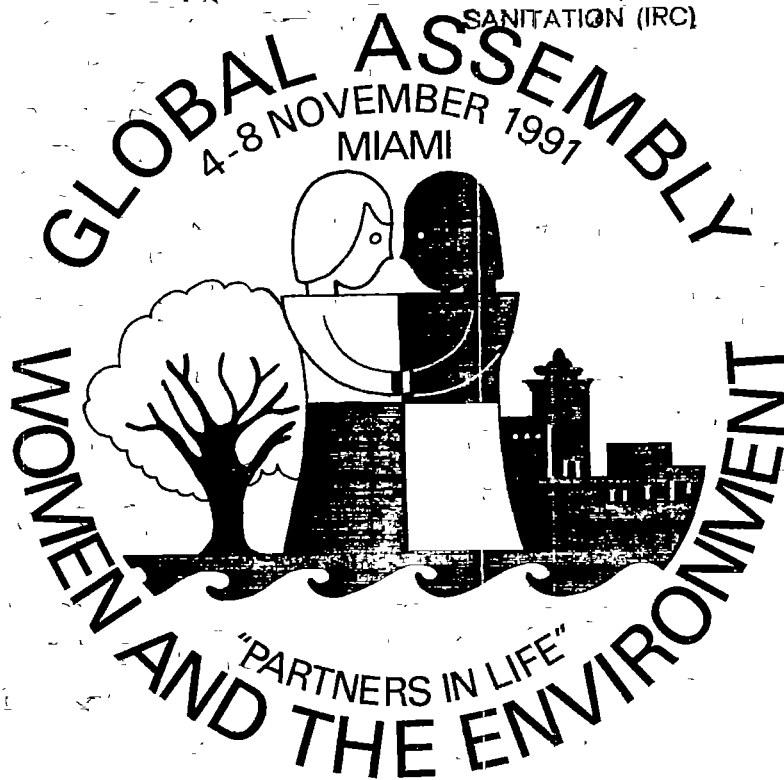
# PROCEEDINGS

OF THE

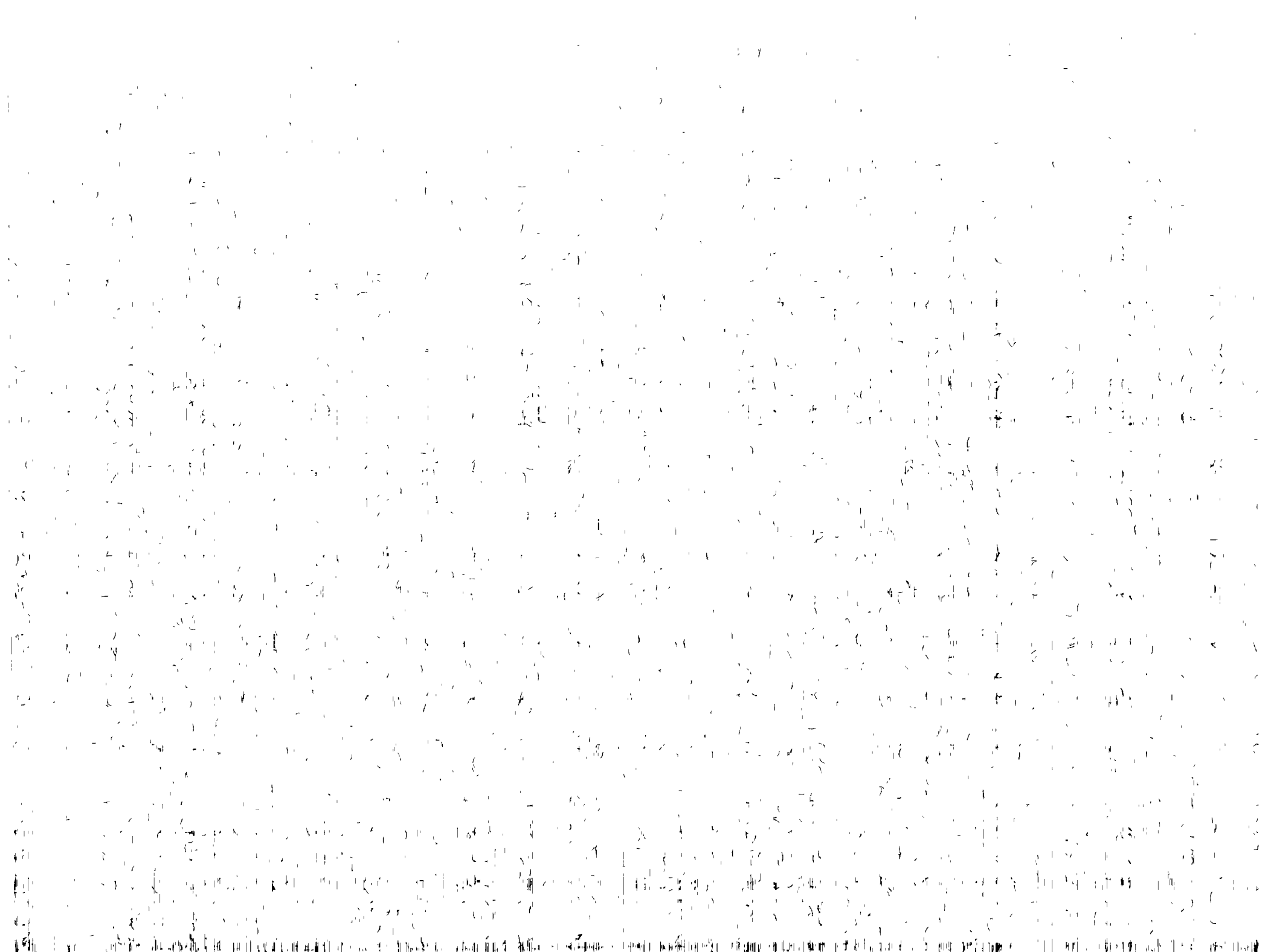
## GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT "PARTNERS IN LIFE"

Volume I

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SANITATION (IRC)



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**PROCEEDINGS**  
**OF THE**  
**GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT**  
**"PARTNERS IN LIFE"**

**November 4-8, 1991**

**Volume I**

Edited by:  
Joan Martin-Brown, UNEP  
Waafas Ofosu-Amaah, WorldWIDE Network

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With special assistance from Wendy Philleo, WorldWIDE Network

**April, 1992**

## ABOUT THIS BOOK

This book is the first of two volumes of proceedings of the Global Assembly of Women and the Environment. They are being published to support workable solutions in promoting women's involvement in environmental management. This Volume contains the keynote speeches, background papers and participants' findings, recommendations and action plans. Volume II will contain detailed write-ups of the 218 success stories that were presented at the Assembly, as well as a description of the success story identification, review and validation process. Other complementary publications include:

- A Global Assembly "Green Book"- a how-to manual to support the convening of National Assemblies of Women and the Environment;
- Four Special newsletters presenting Global Assembly, government, and UN decisions in support of UNCED and Global Assembly follow-up activities;
- An analytical review of gender issues in environmental management designed to provide guidelines to institutions to integrate women in environment programs.

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Washington, D.C.



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## Global Assembly of Women and the Environment "Partners in Life"

4-8 November 1991  
Miami, Florida, U.S.A.

### INTRODUCTION

**Senior Women's  
Advisory Group on  
Sustainable Development of  
the United Nations  
Environment Programme**

Hawa Aden  
Somalia  
Hedia Baccar, Ph.D. \*  
Tunisia  
V.F. Chitepo \*  
Zimbabwe  
Margarita Marino de Bolero \*  
Colombia  
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Hungary  
Simone Veil  
France  
Veronica Villavicencio  
Philippines

**Ex Officio**  
Joan Martin-Brown  
Global Assembly Coordinator  
UNEP

The Global Assembly of Women and the Environment: "Partners in Life" was convened under the sponsorship of the Senior Women's Advisory Group (SWAG) to the Executive Director of the United Nations Environment Programme (UNEP). This text is volume number I of a two-volume set of proceedings from this event.

The Global Assembly was the culmination of a series of four regional assemblies of women and environment which were held in Zimbabwe, Tunisia, Thailand and Ecuador, by the women of Africa, West Asia/Arab World, Asia/Pacific and Latin America/Caribbean between February 1989 and March 1991. The regional assemblies were convened as one of UNEP's programmatic responses to the 1985 World Conference to Review and Appraise the Achievements of the United Nations Decade for Women: Equality, Development and Peace, held in Nairobi, Kenya.

The common purposes of the **regional assemblies** were to engage women in an assessment of the environmental conditions in their respective regions, advance the development of a women's environmental network for future collaboration and cooperation in each region, and to review regional blueprints for environmental action devised by the ministries in the regions.

The **Global Assembly** had a different mandate. The Assembly's goal was to demonstrate women's capacities in environmental management as they relate to global ecological issues, focusing on water, waste, energy, and environmentally-friendly systems, products and technologies.

In anticipation of the 20th anniversary of the United Nations Environment Programme and the United Nations Conference on Environment and Development (UNCED), the Global Assembly organizers devised the Assembly to help institutions, men and women to work together to advance environmental management which is affordable, sustainable, visible and repeatable. Such alliances are essential to achieving sustainable development in specific ways and in specific ecosystems.

The 218 success stories presented at the Assembly were selected from all regions of the world and demonstrated that environmental degradation was averted or repaired. They illustrated the capacity of women's leadership and potential in environmental management at all levels of society.

**Project Director, Global Assembly**  
Waalas Olosu-Amaah  
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Each success story was nominated in response to the mailing of over 17,000 nomination forms. A one-page summary was prepared for each submission and forwarded to the nominee to confirm its accuracy in reflecting the scope of work and the challenges addressed. Three references were then contacted for further information and verification of the project. Finally, each project was validated by outside reviewers.

The success story nomination, validation and selection process was greatly assisted by SWAG/UNEP, the *ad-hoc* UN/Financial Institutions Working Group on the Global Assembly of Women and the Environment, the Board of Directors of WorldWIDE Network, Renew America, the U.S. Peace Corps and many others. All these efforts have contributed to the useful contents of this volume.

The presentation of the success stories provided the basis of the Assembly's process, which engaged 17 concurrent working groups, 4 drafting committees and institutions represented by Mentors from academia, corporations, foundations, international agencies, national governments and non-governmental organizations. Important goals were to assess the elements of leadership, the requirements for success, and the ways that institutions individually and collectively could replicate these and other successful projects, and advance women in environmental management. The success stories also provided the basis for the development of 5 regional action plans included in these proceedings to serve as the impetus for the replication and advancement of environmental management efforts.

Many governments, corporations, UN agencies, international organizations, non-governmental organizations and individuals provided critical financial and in-kind support. Mentors, representing institutions, underwrote their own expenses. Many New Generation Leaders had to raise funds for their participation. The assistance of the Miami Hosting Committee was invaluable in many respects.

It is our hope that these proceedings are helpful in supporting future efforts to achieve sustainable development; and that the successes shared in Miami will give additional inspiration to convene **National Assemblies of Women and the Environment**.

Waafas Ofosu-Amaah  
Project Director  
WorldWIDE Network  
Washington, D.C.

Joan Martin-Brown  
Coordinator, Global Assembly  
Special Advisor to the Executive  
Director  
Chief, Washington Office  
UNEP

March, 1992



*With the Compliments of the*

Global Assembly Project

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## ACKNOWLEDGEMENTS

The organizers of the Global Assembly wish to express their deep appreciation to Dr. Mostafa K. Tolba, Under-Secretary General of the United Nations and Executive Director of the United Nations Environment Programme (UNEP), whose continuing challenge to find workable solutions has led to this Assembly.

We would like to thank the following governments, UN agencies, corporations, institutions in the private sector and individuals, who have provided inspiration, resources and auxiliary services to support the Global Assembly and its Special Events: Governments - Canada (Canadian International Development Agency), Denmark (Danish International Development Agency), Finland (Ministry of Environment), Germany (Federal Ministry for Economic Cooperation), Netherlands (Ministry of Development Cooperation), Norway (Ministry of Foreign Affairs), Sweden (Swedish International Development Agency), Switzerland, United Kingdom (Overseas Development Administration), United States (Department of State, A.I.D. and E.P.A.); UN Agencies - International Research and Training Institute for the Advancement of Women (INSTRAW), United Nations Centre for Human Settlements (UNCHS), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Children's Fund (UNICEF), United Nations Development Fund for Women (UNIFEM), United Nations Sudano-Sahelian Office (UNSO), The World Bank; Private Sector - America's Clean Water Foundation, Asea Brown Boveri, Inc, Cargill Fertilizer, Inc, CIBA GEIGY Corporation, E.I. Dupont Nemours and Company, Esprit, Humane Society of the U.S., Institute of Scrap Recycling Industries, Jay Harris, Kmart Corporation, Metro Audio Visual, Inc., Miami Herald, National Geographic Society, Orient Express, Inc., Southwest Florida Water Management District, The Procter & Gamble Company, Waste Management, Inc., World Resources Institute; and Sponsors of Special Events - Ben and Jerry's Ice Cream, Coalition of Hispanic-American Women, Coca Cola Company, Donovan Leisure Rogovin Huce & Schiller, Florida Department of Citrus, Good Housekeeping Magazine, Greater Miami Host Committee, Hirni's Wayside Garden, James A. Brunton, Inc., Kajima International, Mars, Inc., Marriot Hotel, NIMBA, Vizcaya Museum and Gardens, and Westinghouse.

The contribution of the Senior Women's Advisory Group (SWAG) to UNEP, the *ad-hoc* UN/Financial Institutions Working Group on Women, Environment and Development, the Miami Hosting Committee and the Board of Directors of WorldWIDE Network is gratefully acknowledged.

In addition, we would like to especially acknowledge the following individuals who assisted us beyond the call of duty: A. T. Brough,\* James Brunton, Polly Cook, Elizabeth Guilbaud-Cox,\* Patricia Forkan, Joan Haahr, Angela Harkavy, Gloria Calhoun, Susan Kessell, Daniel Kinnear,\* Honorine Kiplagat,\* Robert Lamb, Deirdre O'Connell, Jose Lizarraga\*, Pam Pierce Chenowith, Jane Linke Morrisson, Sally Randel, Paul Ress,\* Carol Rist, Tiahoga Ruge, Dr. Anitra Thorhaug, Bruce White and Dr. Charles Ziegler.

Our core staff consisting of Rohit Khanna,\* Sheila Kinsella,\* Kim Nead, Wendy Philleo, Linda Shotwell and Sarah Yerkovich did a wonderful job of putting this monumental task together. The staff was very ably assisted by volunteers and interns Janet Abramovitz, Anna Awimbo, Rita Bannerjee, Ginny Cohn, Mark Delzenne, Cheryl Fox, Alison Hilton, Christina Hoegh-Guldberg, Andrea Kushner, Christopher Mansfield, Linda Michurski, Kara Page, Amy Smith, Martin Smith and Victoria Stanhope. We give Susan McElroy, our Logistics Coordinator, our deepest thanks and appreciation for her impressive professionalism and tireless efforts.

Joan Martin-Brown and Waafas Ofosu-Amaah

Washington, D.C.  
March, 1992

\*UNEP



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THE GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT**

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Germany (Federal Ministry for Economic Cooperation)  
Netherlands (Ministry of Development Cooperation)  
Norway (Ministry of Foreign Affairs)  
Sweden (Swedish International Development Agency)  
Switzerland  
United Kingdom (Overseas Development Administration)  
United States (Department of State, Agency for International  
Development and Environmental Protection Agency)

**U.N. Agencies**

International Research and Training Institute for  
the Advancement of Women (INSTRAW)  
United Nations Centre for Human Settlements (UNCHS)  
United Nations Development Programme (UNDP)  
United Nations Environment Programme (UNEP)\*  
United Nations Children's Fund (UNICEF)  
United Nations Development Fund for Women (UNIFEM)  
United Nations Sudano-Sahelian Office (UNSO)  
The World Bank

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\*Funded all preparatory and administrative support costs.

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Greater Miami Host Committee  
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Unicorn Village  
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Westinghouse

**GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT  
"PARTNERS IN LIFE"  
4 - 8 November 1991**

**PROGRAM**  
*(Implementing the Process)*

**Sunday, 3 November 1991**

- 9:00 a.m. - 4:00 p.m. Everglades and Island Ecology Field Trips  
Optional for early arrivals
- 10:30 a.m. - 1:30 p.m. Luncheon Meeting for the Senior Women's  
Advisory Group (SWAG) to UNEP
- 12:30 - 8:00 p.m. Registration  
Mentors  
NGLs  
Press  
Success Story Presenters  
All Others
- 2:00 - 5:30 p.m. Facilitator/Rapporteur Training Session
- 6:00 p.m. New Generation Leaders Briefing
- 8:00 p.m. Success Story Presenters Briefing

## ***Program***

### **Monday, 4 November 1991**

- 8:00 - 9:00 a.m. Continental Breakfast - Buffet
- 8:00 a.m. - 12:00 p.m. Registration Continues  
For Monday arrivals only
- 10:00 a.m.-12:00 p.m. Plenary Opening Session  
"A World of Beauty"  
Keynote Presentations:  
• Dr. Mostafa K. Tolba  
• Ms. Chafika Sellami-Meslem  
• H.R.H. Princess Chulabhorn  
Video Presentation: "Partners in Life"
- 12:30 - 2:00 p.m. Formal Luncheon  
Speaker: Prof. Wangari Maathai  
"Forging New Alliances"
- 2:15 - 4:30 p.m. Plenary Resumes  
Assembly Themes - A Global Overview  
• Energy - Maurizia Tovo  
• Environmentally Friendly Systems, Products  
and Technologies\* - Jacqueline Aloisi de Larderel  
• Waste - Beverly Miller  
• Water - Aminata Traore
- 4:45 - 6:30 p.m. Satellite Workshops:  
Green Belt Movement  
INSTRAW  
Miami Hosting Committee  
ODII  
Rodale  
Solar Cookers  
Women's World Banking  
WorldWIDE Network

\*EFS

***Program***  
***(4 November continued)***

- 4:45 - 6:30 p.m.      •Rapporteur Training Session  
                             •Television Trust for the Environment (TVE)  
                                     Video Presentation  
                             •UN Drafting Committee Meeting  
                             •New Generation Leaders Meeting  
                             •Assembly Recommendations Committee Meeting
- 4:45 - 5:45 p.m.      Mentor Briefing and Meeting  
                             Mentors select Drafting Committee
- 5:45 - 6:30 p.m.      Mentor Drafting Committee Meeting
- 7:00 p.m.              Dinner Buffet Reception  
                             Hosted by Miami Hosting Committee  
                             Sponsored by Good Housekeeping Magazine  
                             Earth Trustees Presentations

## ***Program***

**Tuesday, 5 November 1991**

- 8:00 - 9:00 a.m.      Continental Breakfast - Buffet
- 9:00 a.m.-12:00 p.m. Regional Panel Presentations  
"Assessing Success Story Themes and  
Ecosystemic Realities"  
Africa  
Asia and the Pacific  
Europe  
Latin America and the Caribbean  
North America  
(Break 10:15 - 10:30 a.m.)
- 12:30 - 2:00 p.m.    Mixed Groups - Working Lunch  
Informal boxed lunches with mixed workshop groups:  
  
    Group A. Energy and Environmentally  
    Friendly Systems Presenters with  
    Academia, Foundations and NGO Mentors  
  
    Group B. Water and Waste Presenters with  
    International Institutions, Government and  
    Corporate Mentors
- 12:30 - 2:00 p.m.    SWAG Luncheon
- 2:15 - 4:30 p.m.     Success Story Presentations to Working Groups  
Success story testimonies and roundtable discussions.  
Africa, Water  
Africa, Waste  
Africa, Energy  
Africa, EFS  
Asia/Pacific, Water  
Asia/Pacific, Waste  
Asia/Pacific, Energy  
Asia/Pacific, EFS  
Europe, Water and Waste  
Europe, Energy and EFS

**Program**  
**(5 November Continued)**

LAC, Water  
LAC, Waste  
LAC, Energy  
LAC, EFS  
North America, Water  
North America, Waste  
North America, Energy and EFS

- 4:45 - 6:30 p.m.      •Satellite Workshops:  
Green Belt Movement  
INSTRAW  
Miami Hosting Committee  
ODII  
Rodale  
Solar Cookers  
Women's World Banking  
WorldWIDE Network
- 4:45 - 6:30 p.m.      •Television Trust for the Environment (TVE)  
Video Presentations  
•NGL Statement Committee Meeting  
•UN Drafting Committee Meeting  
•Assembly Recommendations Committee Meeting
- 4:45 - 5:45 p.m.      Mentor Meetings by Categories  
Academia  
Corporations  
Government  
International Institutions  
NGOs and Foundations
- 5:45 - 6:45 p.m.      Full Mentor Drafting Committee
- 7:00 - 10:00 p.m.      Celebration of Biological and Cultural Diversity  
Dinner and live entertainment  
(National dress welcome)  
Vizcaya Museum and Gardens

## ***Program***

### **Wednesday, 6 November 1991**

- 8:00 - 9:00 a.m.      Continental Breakfast - Buffet
- 9:00 a.m. - 12:00 p.m. Success Story Working Groups Reconvene  
Africa, Water  
Africa, Waste  
Africa, Energy  
Africa, EFS  
Asia/Pacific, Water  
Asia/Pacific, Waste  
Asia/Pacific, Energy  
Asia/Pacific, EFS  
Europe, Water and Waste  
Europe, Energy and EFS  
LAC, Water  
LAC, Waste  
LAC, Energy  
LAC, EFS  
North America, Water  
North America, Waste  
North America, Energy and EFS  
(Break 10:15 - 10:30 a.m.)
- 12:30 - 2:00 p.m.      Mixed Groups - Working Lunch  
Informal boxed lunches of mixed workshop groups:
- Group A. Energy and Water Presenters with  
Academia, Government and NGO Mentors
- Group B. Waste and EFS Presenters with  
International Institutions, Foundations  
and Corporate Mentors
- 2:15 - 4:30 p.m.      Success Story Working Groups Reconvene  
Africa, Water  
Africa, Waste  
Africa, Energy  
Africa, EFS  
Asia/Pacific, Water  
Asia/Pacific, Waste  
Asia/Pacific, Energy  
Asia/Pacific, EFS  
Europe, Water and Waste  
Europe, Energy and EFS



**Program**  
**(6 November Continued)**

LAC, Water  
LAC, Waste  
LAC, Energy  
LAC, EFS  
North America, Water  
North America, Waste  
North America, Energy and EFS

4:45 - 6:30 p.m.

Satellite Workshops:  
Green Belt Movement  
INSTRAW  
Miami Hosting Committee  
ODII  
Rodale  
Solar Cookers  
Women's World Banking  
WorldWIDE Network

4:45 - 6:30 p.m.

•Television Trust for the Environment (TVE)  
Video Presentations  
•UN Drafting Committee Meeting  
•NGL Statement Committee Meeting  
•Assembly Recommendations Committee Meeting

4:45 - 5:45 p.m.

Mentor Meetings by Categories  
Academia  
Corporations  
Government  
International Institutions  
NGOs and Foundations

5:45 - 6:45 p.m.

Full Mentor Drafting Committee

7:00 - 8:00 p.m.

Asian Dinner

8:00 - 10:00 p.m.

Evening Program in honor of New Generation Leaders  
Special showing of CNN's "Captain Planet" Videos  
All participants, Homestay Hosts and  
Miami Hosting Committee invited.

8:00 - 10:00 p.m.

•UN Drafting Committee Meeting  
•Assembly Recommendations Committee Meeting

## ***Program***

**Thursday, 7 November 1991**

- 8:00 - 9:00 a.m.      Continental Breakfast - Buffet
- 9:00 a.m. - 12:00 p.m. Regional Strategy Sessions - Developing Action Plans  
Participants include Success Story Presenters,  
Mentors and New Generation Leaders  
Africa  
Asia and the Pacific  
Europe  
Latin America and the Caribbean  
North America  
(Break 10:00 - 10:15 a.m.)
- 12:30 - 1:30 p.m.    Lunch - Five Regional Working Groups
- 2:00 - 5:00 p.m.     Three Mentor Round-table Sessions  
Developing recommendations for future  
inter-institutional cooperation
- First Hour:
    - Corporations/International Institutions
    - Government Agencies/NGOs
    - Foundations/Academia
  - Second Hour
    - Foundations/Government Agencies
    - International Institutions/NGOs
    - Corporations/Academia
  - Third Hour
    - Academia/International Institutions
    - Foundations/NGOs
    - Corporations/Government Agencies

**Program**  
**(7 November Continued)**

- 2:00 - 7:00 p.m.      •NGL Working Cruise to prepare Statement
- \*•Field Trips for Success Story Presenters
- 1) Coastal Restoration
- 2) Waste
- 3) Seminole and Miksuki Tribal Lands
- 2:00 - 5:00 p.m.      •UN Drafting Committee Meeting
- Assembly Recommendations Committee Meeting
- 5:30 - 6:30 p.m.      Full Mentor Drafting Committee Meeting
- 7:30 p.m.              Latin American Dinner
- 8:30 - 10:30 p.m.     •Open Consultation for Success Story Presenters
- "Gender Issues in Management" - hosted by
- the Canadian International Development Agency
- 8:30 - 10:30 p.m.     FINAL Drafting Committee Meetings
- To adopt recommendations
- Final UN Drafting Committee Meeting
- Final Assembly Recommendations Committee Meeting
- Final Full Mentor Meeting
- Final NGL Statement Committee Meeting

\*Success Story Presenters are also invited to attend  
WorldWIDE Network's Consultation: Forging WorldWIDE's Future Mandate

## ***Program***

### **Friday, 8 November 1991**

- 8:00 - 9:00 a.m.      Continental Breakfast - Buffet
- 9:00 - 11:45 a.m.      Opening and Introductory Remarks  
Waafas Ofosu-Amaah  
Sharon Capeling-Alakija  
Fiona McConnell  
Helena Benitez, Rapporteur-General
- Mandate for the Future  
Presentations of Drafting Committee Reports  
                                 New Generation Leaders Drafting Committee  
                                 Mentors Drafting Committee  
                                 UN Drafting Committee  
                                 Assembly Recommendations Drafting Committee  
Action Plans  
Bella Abzug - "Blueprint for the World Women's Congress  
\_\_\_\_\_ for a Healthy Planet"
- Closing Remarks  
Joan Martin-Brown - "Sharing the Vision"
- 11:45 a.m.              Pick up box lunches at ballroom exits
- 12:30 - 1:45 p.m.      Load Super Shuttle Vans
- 2:00 p.m.               Opening of World Women's Congress  
for a Healthy Planet
- 7:00 - 8:00 p.m.      Load Super Shuttle Vans at Hyatt Regency  
entrance to return to the Omni International Hotel

## **OPENING SESSION KEYNOTE SPEAKERS**



**"PARTNERS IN LIFE"**

**BY**

**DR. MOSTAFA K. TOLBA  
UNDER-SECRETARY-GENERAL OF THE UNITED NATIONS,  
EXECUTIVE DIRECTOR  
UNITED NATIONS ENVIRONMENT PROGRAMME**

## "PARTNERS IN LIFE"

Your Royal Highness, Distinguished participants, Ladies and Gentlemen,

We have come together here in pursuit of a new partnership among men and women and the environment of which they form an integral part. We come here to recognize the contribution of women as managers in the management of our planet and its wealth of natural resources. It is time to better integrate both halves of the human race in the pursuit of integrating environmental criteria into development agenda. To fail in this mission is to fail in finding viable models and solutions that can ensure the sustainable use of the life support systems.

It is a real challenge - but an appropriate one - as we approach the 20th Anniversary of the creation of the United Nations Environment Programme, and the 1992 United Nations Conference on Environment and Development, and as we look forward to charting our path into the next decade, rather the next century, rather still the next millennium.

Since UNEP's inception in 1972, the world community has been continually urged to acknowledge its responsibility to future generations by respecting and protecting the systems and capacities of nature. But many have resisted. Perhaps in Rio, the world will come to recognize that the sovereignty of nature ultimately prevails in the affairs of humanity -- even over the sovereignty of nation states.

For almost 20 years, UNEP has been engaged in seeking workable and lasting solutions for the major environmental problems we are facing. Today we are here celebrating the fact that there are workable solutions at all levels of society. The significance of the success stories which we will hear this week from women coming from every corner of the globe, is that -- in the aggregate -- they can contribute to slowing the disintegration of ecosystems which are being assaulted by the human race. The world now produces more solid waste every year than was produced in the hundred years before the industrial revolution. More species will be wiped out in our lifetimes than have disappeared in 60 million years. More carbon has been pumped into the air than at any time since before the last Ice Age. Of course, these are global issues. But what do we mean by global? It is the accumulation of mismanagement at the national level. And that is the significance of what we will learn this week: How to reduce mismanagement at the national and local levels through home-grown efforts and with limited resources. And we will learn about how to advance environmentally friendly systems, products and technologies.

In July of 1985, in my remarks before the World Conference to Review and Appraise the Achievements of the United Nations Decade for Women: Equality, Development, Peace, in Nairobi I called on "women, from all walks of life to join UNEP in defining and, most crucially, redirecting the course of development to prevent further environmental catastrophes." I noted that "the burden of environmental degradation and crises has always fallen and is still falling on women..."

In conjunction with that important event, I invited 20 high ranking women to join me in Nairobi for that Conference, and to address during the Conference my concern that women not be denied an environmental literacy, and/or that the women operating as effective



practitioners of environmental management not be denied access to forums which determine development schemes.

The delegations to the conference gave UNEP the mandate we sought -- to "provide information on how women can play an active role in combatting serious environmental problems, such as desertification, deforestation, depleting plant genetic resources, proliferation of hazardous chemicals, mismanagement of water resources, water pollution, urban noise, and air pollution, as well as in preventing the wasteful use of resources, at home, and in agriculture, commerce, and industry."

We heeded their call and established the UNEP Senior Women's Advisory Group on Sustainable Development to advise me on UNEP's activities. This Advisory Group, with extraordinary support from many governments, convened four regional assemblies, of, by, and for the women of Africa, Latin America and the Caribbean, the Arab states and Asia and the Pacific. You have their reports.

I have found the leadership, insights and practical guidance of the Senior Women's Advisory Group during this process very, very valuable. I highly commend to my United Nations' colleagues, the heads of other agencies, that they consider establishing similar Advisory Groups. You may also wish to consider this as one of your own recommendations.

Ladies and Gentlemen,

This Assembly is the culmination of the four Regional Assemblies which have engaged women in an assessment of the environment conditions in their regions; and forged networks among them for future collaboration and cooperation in environmental management. Thousands of copies of each Regional Assembly's findings have been sent by UNEP to international, national and regional institutions, so the perceptions of women be included in future environmental planning and policies.

We have been greatly honored and heartened by the extraordinary support and interest this endeavor has elicited. Governments have been very generous in providing support, as have other UN Agencies and corporations. Women from around the world have volunteered their time and talents, and will demonstrate both this week and next week, at the World Women's Congress for a Healthy Planet, what teamwork and partnership can achieve. The work leading to these events has often required sharing capacities, power and responsibilities in new ways, ways from which we all can learn and benefit. A United Nations Inter-Agency Working Group has been meeting for the past year and assisting with the preparation of this and the regional assemblies. It would be my hope that this useful mechanism will continue following the assembly to oversee the implementation of your strategies, recommendations and actions.

This Global Assembly has a different mandate from that which guided the regional ones. It is to establish benchmarks for how men and women can work together in specific ways -- in specific ecosystems, to help solve national, regional and global environmental problems. The work of this week is to result in five Regional Action Plans for the replication of specific projects in environmental management which focus on four issues of global concern: water, waste, energy, and environmentally friendly products, systems and technologies. Each successful project being presented has been deemed affordable and repeatable. Another mandate this week is to provide specific proposals to governments, international institutions, academia, foundations, corporations and non-governmental

organizations as to how they can individually and collectively, advance the implementation of those plans, and identify the specific role of women in that implementation and what they intend to do on their own.

This Assembly will be judged not only by what you define for government action, but much more by what it is that you yourselves are willing to commit to. The wider community is looking to see what can be done, with your own resources, human and financial to advance the implementation -- by communities and with government support -- of the plans and projects you develop.

Women must stand united and resolve to carry the day in Rio and beyond. Your positions should influence the decisions by governments in Rio. You can only do this by developing specific commitments and strategies to do specific things over specific periods of time. That is what the world is expecting from governments in Rio. What I expect from this Assembly is commitments that challenge governments to match them at a much bigger scale -- at their governments' scale.

Your success stories are testimony to an unwavering effort to save the planet, to cut down on the plundering of natural resources through poverty and over-consumption by the rich. What did you learn from that effort that you are now prepared to teach the world? What more have you learned that will give the poor a new lease on life? What have you learned that can help the rich to pare back their lifestyles? And what is your commitment to do more in this field with your own limited resources? What have you learned that you are able to teach the world? What concrete plans are you willing to formulate and work to implement to deal with the explosion of population in my part of the world -- developing countries? What are your concrete plans to ensure that the public, especially women, are consulted over national environmental legislation imposing economic incentives and disincentives in favor of the environment?

It is your responsibility as participants in this Assembly to convey these strong messages and to commit to substantive plans for action -- not just to talk and urge others to work. You must move the governments in Rio.

Let us not make any mistake. What you are doing here is not only for yourselves. You are planning for the future. And women must recruit the involvement of the next generation. Today's young women and men must be fairly consulted over tomorrow's promise of a sustainable future. If one is talking about successful development and sustainable futures, then "the true wealth of this Earth is in the promise and capacity of its youth." This is another major responsibility. You have to consider how you are going to achieve this.

This Assembly provides a unique and important opportunity not only to learn about practical projects and what has been achieved but also to address crucial questions: why did these particular projects succeed? What were the elements of leadership? How was the community engaged? What was the role of the United Nations, governments, foundations, and non-governmental organizations among others. What are the relationships among the policies and priorities of institutions, the replications of these projects, and the priorities and policies, planning and evaluations, to ensure that women and their environmental projects are supported? How can institutions make environmental education and training more available to women, and how do they educate and train their respective staffs to improve collaboration with women as environmental managers? These are hard issues that need answers. These

answers are an essential component in building our road to a more just, humane and sustainable twenty-first century.

Your Royal Highness, Ladies and Gentlemen,

I am fully aware that for every woman here, there are many, many more around the world, operating at all levels of society to attain clean water, to assure clean air, to protect productive healthy soils, and ecosystems which can support families and communities. The new generation of leaders, the young men and women, need your energy, your interest, your commitment to a shared vision of a healthier planet; so that human health, your health, and the health and well-being of your children and families, is tomorrow's promise.

Your presence here is inspiring testimony to the willingness of the human spirit to heal the Earth, and to advance humanity on a new course of action. I am very grateful to all of you for your labors on behalf of the Assembly, the environment and the urgently needed partnership between men and women of our planet to ensure an unchallenged continuation of life on this Earth.

Thank you.

## Biography

### **Dr. Mostafa Kamal Tolba** **Executive Director** **United Nations Environment Programme**

Dr. Mostafa Kamal Tolba, world renowned scientist and Executive Director of the United Nations Environment Programme (UNEP), has been an eloquent and tireless defender of the environment for most of his life.

He was born on 8 December 1922 to Mohamed Kamel Tolba and Mrs. Shafika Abu Samra in the Egyptian town of Zifta. His early experience, in a country whose economy depends on the waters of a river that flows through other states, has made him aware of the link between environment and politics. "I have always believed that common environmental interests should override political differences, even conflicts between nations", he explains.

In 1972, Dr. Tolba led his country's delegation to the Stockholm Conference on the Human Environment which led to the creation of UNEP. Soon after, in 1973, he was appointed UNEP's Deputy Executive Director, and in 1976, he became the organization's Executive Director, holding the rank of Under-Secretary General of the United Nations.

In his leadership of UNEP, Dr. Tolba has applied his belief that environmental decisions are inseparable from socio-political decisions in all his consultations with heads of state and political leaders. This approach has won him international recognition. He has received decorations from Argentina, Czechoslovakia, Jordan, Morocco, Poland, Spain and Yugoslavia. In the United States of America, he received a medal from the University of Houston for his services to humanity in preserving the global environment (1977) and the distinguished International Service Award Regents of the University of Minnesota (1986).

Dr. Tolba has also received his share of honors from the academic community for his outstanding services in preserving the global environment. He is the recipient of honorary degrees from Moscow University, U.S.S.R. (1978); the State Faculty of Agriculture in Gembloux, Belgium (1985); Hanyang University, Seoul Korea (1987); Beijing University, China (1987); and Kenyatta University, Kenya (1989). Dr. Tolba was also elected Fellow of the Imperial College, London, U.K. in 1988.

In his own country, he was awarded the State Prize of Egypt in Biology (1959), the Decoration of Science and Technology of the First Order (1959), and the Decoration of the Arab Republic of Egypt of the First Order (1981).

Dr. Tolba's career gave him the background required to negotiate in the international arena. He was Secretary-General of the National Science Council of Egypt (1961); Cultural Counsellor and Director of the Egyptian Education Bureau, Egyptian Embassy, Washington, D.C. (1963); Under-Secretary of State for Higher Education, Government of Egypt (1965);

Minister of Youth (1971); President of the Egyptian Academy of Scientific Research and Technology (1971); and alternate Executive Board Member of UNESCO (1966 - 1972).

An experienced diplomat, Dr. Tolba's negotiating skills and scientific knowledge contributed to UNEP's most widely acclaimed success -- the Montreal Protocol, the historic 1988 agreement to protect the ozone layer. The Protocol has been recognized as a precedent for preventive rather than corrective environmental action.

Dr. Tolba holds a special BSc degree in botany with first class honors from Cairo University (1943) and a Ph.D. in plant pathology from Imperial College in London (1949).

His experience as a lecturer and professor at Cairo University, from 1949 to 1971, has led to his advocacy for environmental education at every level .

Dr. Tolba is the author of some 95 papers (1950 - 1973) on plant diseases, anti-fungal substances and the physiology of microorganisms, and of more than 200 statements and numerous books and articles on the environment.



**"A VOICE FOR THE ENVIRONMENT"**

**STATEMENT BY**

**DR. CHAFIKA SELLAMI-MESLEM  
DIRECTOR  
DIVISION FOR THE ADVANCEMENT OF WOMEN  
UNITED NATIONS OFFICE AT VIENNA**

It is a great pleasure for me to have the opportunity to address this Opening Plenary session and to be witness to this impressive demonstration of will, success and concern for an extremely important issue. I wholeheartedly congratulate the organizers, WorldWIDE and UNEP, for their initiative to organize a global women's conference in preparation for the United Nations Conference on Environment and Development.

This Assembly is the first occasion that women have been given the opportunity to meet prior to a major United Nations conference on an issue other than the rights and status of women. I trust this sets the precedent. The views of women on all issues are vitally important and, I am pleased to say, are, finally, being recognized for their true worth.

As is very obvious by the attendance here, women are more than ready to make their views known on this issue - an issue that is, probably, the most important issue at present - the future of the planet Earth and Life on that Planet.

But to ensure that Future, we need to revise entirely our ways of life. In the developed countries, restraints must be placed on production and consumerism. In the developing countries, there must be a concerted and effective action to assist with solving the issue of poverty and underdevelopment. Carlos Salinas de Gortari, President of Mexico underlined the seriousness of the issue when he said " If we don't address the issue of global ecology, we won't have to worry about other issues".

So, what is the role of women in this process?

Governments will not change their national public policies unless and until people change their private priorities. National Policies are influenced by actions at the grass-roots level but those policies must also reflect the needs at that level.

Women are very active at the grass-root level. They face the issue of protecting the environment and developing solutions every day of their lives. Numerous realistic solutions are in front of us this week as the 'success stories'. But the representation of women at policy levels, both nationally and internationally, is low and many policies are still decided by men without consulting women.

In the past, women have been considered vulnerable and victims and even perpetrators, or at least part of the problem, of environmental degradation, pollution or consumerism. Research and unbiased analysis has shown that women should be considered very much as actors, and principal ones at that, with specific knowledge and abilities to protect and nurture environment.

Although the voices of people at the grass-root levels are small, they can be heard if they become organized in a common cause, into alliances and coalitions of the like minded and are given the floor to speak. This Assembly is an opportunity to take the floor and for all of us to stand together and to raise our voices for the protection of the environment.

Women have a very important role to play in the formulation of national and international agendas for sustainable development. Women are already very able to do so. But in many countries, because of their lower status, they need assistance and support to enable them to make their valuable contribution. Then the whole of Society will benefit.



So, what can be done at the national level?

Empowering women to deploy their skills and experience must become a major policy goal, everywhere. Women are playing an increasingly effective part in alerting governments, businesses and consumers to environmental problems, acting to reduce those problems and to restore and care for natural resources. Women and their networks are a powerful lobby for improved action.

It is the responsibility of women to be in decision-making at all levels. But it is also their right to be given the opportunity to participate and for education and training to participate fully. I do not need to tell this audience what support and in which areas women need assistance. It has been hypothesized that women have different points of view to men, react differently to situations, produce different solutions usually as a result of their different roles and experiences. This is important because different views and approaches are vital for the enrichment of all.

A real democracy exists only when women and men are equally represented at all levels. Everybody should have the right to express their own views and have a share in decisions. No-one should be made to accept a dominant view, whether dominant by the number or volume.

But simply filling ministerial posts with women is not the answer nor is it attainable in the immediate future. In many countries women do not have power to make decisions on their own lives, on their own fertility, let alone on political party policies. Women at the higher levels should realize and accept their responsibility to help others and raise the small voices in a united chorus. As my eminent colleague, Dr. Tolba said at the World Conference for Women in Nairobi in 1985, those women who are in positions of influence have a special duty to represent those at the sharp end of the environmental crisis.

The views and needs of women should be taken into consideration in national planning. To achieve that, equal representation should be enforced in environmental delegations, boards, panels and meetings. That would ensure the knowledge and experience of women is acknowledged and utilized for all.

The improvement of the status of women goes hand in hand with sustainable development. Women must be given equal rights in all matters of access to finances, credit and ownership of land. They must have an equal say in the use of the land.

Further, collaboration should be on an equal basis. On the issue of environment, as in all issues, there is a need to share knowledge, to teach and to learn. Forums, such as this one, are invaluable in that sense. And throughout history, women have always shown their willingness to learn and, more importantly, to share their knowledge - the age old adage is true for the issue of environment as all others, educate a man and you educate one person, educate a woman and you educate a family, and future generations.

And this education should be extended on a global basis. We can all learn from each other. The custody of the environment calls for a cooperative approach based on global interdependence. The evidence of the world-wide risks arising from damage to the environment remind us that we are all sharing one fragile planet.

The detrimental effects on the environment that have resulted from the economic overdevelopment in the North are only now being fully realized and assessed. The South is desperately chasing development by rapid industrial expansion and use of environmentally-unsound technologies.

Poverty is the root of environmental degradation in poor countries where the compulsion of survival leads to improvident use of the land and other natural resources. The elimination of poverty in developing countries should be a central objective. Poor people cannot be expected to choose between survival and environmental protection. Further, there must be an universal sharing of the costs, the responsibility, and of environmentally-sound technologies.

However, it must be made clear to national and international policy makers that they cannot depend on small groups, on women or local development as stop-gaps but overall strategic policies must be developed and, more importantly, implemented. In illustration, although there are 110 States parties to the Convention on the Elimination of All Forms of Discrimination against Women each having in essence equality under the law, very few have achieved de facto equality. Day-to-day discrimination still exists through out the world. We not only look forward to strong, practical recommendations and conventions from this Assembly and from UNCED, but also to clear guidelines for the implementation of and the power to enforce the provisions.

So, what action can be taken at the international level?

A first move would be the organization of Women's conferences, such as this Assembly, before major United Nations conferences. That is all conferences on all issues, not only those on women's issues. Also, it is essential to raise the awareness of men to the issues of importance to women. And, further to encourage them to participate actively in all events, conferences and programmes concerned with the advancement of women. Through concerted, coordinated action, our aims will be achieved with regard to the advancement of women, the conservation of the environment and ultimately all Society will benefit.

Also, the issues of the environment and of the advancement of women should form permanent items on agendas, particularly those of the respective inter-agency meetings within the United Nations.

Focal points should be established within the United Nations bodies with mandates for both equality and the environment.

Both issues should be cross-sectoral in all programmes without being lost or absorbed under other priorities.

The conditions for granting of resources from international funds should include women's needs and views. All newly established bodies, such as the watchdog organization on environment recently mooted, should begin as they intend to go on and have equal representation of women from Day One.

A central information network for women and the environment, similar to those already established in other areas, should be set up. Access must be universal. Due prominence and publicity should be given to women and the environment, including at the United Nations Conference on the Environment and Development next June in Brazil.

In conclusion,

Women alone cannot be expected to restore the environment - the commitment and action of everyone is vital. Everyone on this planet, man, woman and child, must be made aware, must make a contribution.

In this sense the action needed to protect the environment is very similar to that for attaining equality, everyone must be informed and play their part. In order to meet the challenges, cooperation, between nations, between the South and the North, between the East and the West, between men and women, and between the rich and the poor is necessary to win the battles for both the environment and for the advancement of women.

Everyone should be aware that without the participation of women, our world remains in great danger. The experience, the talents, the resource of women must be recognized and utilized. While women must work together for environmental solutions, those solutions must be complementary to and not detrimental to the advancement of women, a struggle that in itself has been long and hard fought.

Finally, I should like to make an observation - women constitute nearly half the population and yet their voices are often too soft and go unheard. On the issue of the environment and the future of the Planet, women must raise their voices so that they will be heard and more importantly the other half of the population must listen.

Thank you.

## Biography

### **Dr. Chafika Sellami-Meslem** **Director, Division for the Advancement of Women** **United Nations Office at Vienna**

Ms. Chafika Sellami-Meslem was born in Algiers on 2 October 1934, and is the mother of three girls. She attended primary and secondary school in Algiers. Her university studies in literature and the political sciences had to be interrupted due to the outbreak of the Algerian liberation war. As part of the revolutionary generation of 1954 (she was then 20 years old), she participated in the resistance movement for the liberation of her country. Arrested in early 1957 and later sentenced, she had to leave the country and could only return after Algeria declared its independence in July 1962.

From 1962 to 1981 Mrs. Sellami-Meslem served in the Algerian diplomatic corps in several capacities: as Attache, Secretary, Counsellor and Minister Plenipotentiary, and as a member or chief of Algerian delegations to several international conferences, such as those of UNESCO (1962), WHO (from 1964 to 1970), ECOSOC (1965, 1966 and 1973), UNDP (1969 and 1970), United Nations General Assembly (as representative to the 3rd Committee from 1971 to 1976) and the UNIDO Conference in Lima (1975).

In 1971 she was appointed by former President Soumédiène as a member of the Algerian National Committee on the revision of the Family Code. During this period, she also performed the following functions:

Chairwoman of the Group of 77 in Geneva (1978); Chief of the Algerian delegation to the 4th Ministerial Meeting of the Group of 77 in Arusha (February 1979); Deputy Chief of the Algerian delegation to the 5th UNCTAD Conference in Manila (May 1979); President of the working group on "Applicable Laws and Settlements of Disputes of the Conference on the Code of Conduct for the Transfer of Technology" (June 1980); Vice President and Rapporteur during the 21st session of the Committee on Trade and Development (September 1980); President of the First Committee at the 22nd Session of the United Nations Trade and Development Commission (March 1981); and Deputy Chief of the delegation to the United Nations Conference on Economic Cooperation with Developing Countries (September 1981).

Since December 1981, Mrs. Sellami-Meslem has been the Director of the Branch for the Advancement of Women of the Centre for Social Development and Humanitarian Affairs of the United Nations. In 1985 she was appointed Deputy Secretary-General to the World Conference held in Nairobi to review and appraise the results of the United Nations Decade for Women.

She has written numerous articles on economic cooperation between developing countries and regarding the status of women.

**ADDRESS BY**  
**PROFESSOR DR. HER ROYAL HIGHNESS**  
**PRINCESS CHULABHORN**  
**OF THAILAND**

Dr. Mostafa K. Tolba, Executive Director, UNEP,  
Distinguished Guests, Ladies and Gentleman:

The capacity of women to advance environmental management in support of sustainable development is being recognized and widely accepted. However, it is up to us, women, to prove that this belief is neither just an ideal nor just a theory, but a reality that has been implemented successfully throughout the four corners of the world.

The current pattern of development in many parts of the globe are having serious impact on the quality of the environment as well as on human health and welfare. For a number of critical life support systems, there are indications that critical and perhaps irreversible stages are beginning to be reached. Clearly, the present pattern of development and conversion of natural resources need to change so that not only standards of living but also the quality of life of the people for now and in the future, must be evolved.

Hence, development which can and will be sustained as well as environmentally-sound needs to be promoted and implemented. Although the concept is sound and necessary, putting it to practice is difficult because there is lack of experience and working examples which demonstrate the efficacy of the concept of environmentally sound and sustainable development.

Throughout this important assembly, various examples and experiences will be presented to exemplify women's initiatives and capacity in environmental management. Such presentations are inspiring, giving everyone of us confidence and hope for a better world to live in through our concerted effort in implementing the concept of sustainable development.

Research and development must be increased to assess existing methodologies and techniques to ascertain that they meet the criteria of sustainability.

The need for multidisciplinary approaches to conserving and managing the environment and natural resources to promote sustainability is well recognized. Hence, research should not be confined to the technical and scientific aspects. They must also include social, cultural, economic and political aspects as well:

In Thailand, as a result of more than three decades of work carried out by Their Majesties the King and Queen, we have identified a number of fundamental principles and concepts which contribute towards sustainability, namely:

1. An approach which is integrated transcends sectoral integration, and includes spatial and institutional integration.
2. The need for development activities to be area-specific, taking into account the particular factors and actors in the project's operational environment of each specific location.
3. The application of technology which is appropriate to the particular physical, social, cultural environment where the area-specific development will take place.

4. The necessity to address first the basic needs of the population before proceeding to income-generating activities.
5. The need for maximum participation of the people in the planning and implementation of projects.
6. The availability of a reliable data base, supplemented by site visits, consultations and discussions with the people affected by the development project.
7. The holding of field demonstration of likely solutions to rural problems to persuade farmers and villagers to use these solutions.

To illustrate how these major principles and concepts can be applied, perhaps I may be permitted to use some of the projects carried out at the Chulabhorn Research Institute to explain how research and development could be structured to protect the environment and promote sustainable development. The first example is the program:

### **ENVIRONMENTAL RESEARCH AND TRAINING TO SUPPORT INDUSTRIAL DEVELOPMENT**

It is well recognized that nowadays our society is highly dependent on chemicals which are used in almost every aspect of human activities. Consequently, people have been increasingly exposed to a variety of these chemicals, mainly as a result of increased industrial and agricultural developments and household uses. For decades, chemicals have been used and disposed of with little regard for the possible hazards and undesired consequences. Now the insidious effects of chemicals on both human health and the environment that previously went unnoticed, have emerged as a subject of growing concern worldwide, especially in developed and highly industrialized countries.

Chulabhorn Research Institute has launched an integrated program under the International Center for Environmental and Industrial Toxicology which has been designated "the UNEP Center of Excellence" by the United Nations Environment Programme. This integrated program consists of research, education and training as well as public awareness and information with specific objectives set for each component of the program as follows:

#### ***1. Research: the objectives of this component are:***

- a. To strengthen Thailand's research capabilities. Research laboratories have been established to carry out research programs.
- b. To establish a formal linkage and cooperation with other scientific institutions in developed countries through a scientific exchange program in order to promote exchange of information, technology transfer, and research collaboration.
- c. To provide scientifically based information, recommendations and guidelines for formulating policies and strategies, that will protect the environment from contamination by toxic chemicals. Such information and recommendations will be provided to both government agencies and industries.

## **2. *Education and Training*, two major objectives were set:**

- a. To establish a permanent education and training program to educate and train manpower, promote exchange of knowledge, disseminate relevant information and assist in identifying problems and the scope of research.
- b. To provide a forum for forging closer links amongst governmental agencies, industries and researchers.

## **3. *Awareness and Information*, the objectives of this component are:**

- a. To establish a link amongst governmental agencies, industries and academic institutions.
- b. To promote and facilitate awareness and involvement in the identification and mitigation of environmental problems resulting from industrial development activities by organizing discussions amongst government, academia, industry and non-governmental organizations.
- c. To provide scientifically-based recommendations and/or guidelines for policy formulation.

With all these objectives in mind, it is necessary to identify priority problems of the country and of the region. Although the adverse impact of chemical technology on human health and environment is recognized as a global issue, there are, however, problems encountered by developing countries which are sometimes unique to their own climate, lifestyle and cultural practices.

Toxicological problems in developing and newly industrialized countries are associated with mainly three groups of chemicals, the first group is: chemicals found in consumer products such as food additives, animal and plant toxins, tobacco products and chemotherapeutic agents. The second group of chemicals is the chemicals used in industry such as heavy metals and organic solvents. The third group of chemicals are the chemicals used in agriculture and infectious disease control, such as insecticides.

After the problems have been identified, it can be clearly seen that to overcome or be able to cope with the emerging environmental and toxicological problems, research is very much needed. In many developing countries, research in these areas is considered inadequate and thus should be encouraged and supported.

## **RESEARCH**

For research, CRI has considered the negative impacts of industry on environment and human well-being as problems of major concern. Research projects along this line have been initiated, namely:

I. The Isolation and Characterization of Microbes Capable of Detoxifying Pesticides and Adaptation of this New Technology for Local Uses.



II. The Second Research Project is The Use of Biotechnology for Detoxification of Hazardous Industrial Wastes.

III. The Third Research Project, Evaluation of Industrial Pollutants of By-products and Pesticides as Predisposing Factors or Modulators of Physiological and Pathological Status.

## **EDUCATION AND TRAINING**

It is believed that human resources and expertise are the key elements required in achieving any successful program. Human resource development should be conducted as an integrated system encompassing target groups which include both professionals and non-professionals. The professionals are those in academia, governmental agencies and industry, while the non-professional group is the general public. The training courses and programs should be designed and structured to fit each target group simultaneously.

Chulabhorn Research Institute established an education and training program namely the International Program on Environmental and Industrial Toxicology (IPEIT) in 1988.

During the past few years, we successfully organized a regional workshop on "Environmental Toxicology and Carcinogenesis" in 1986. A training course in "Environmental Toxicology" and a conference on "Risk of Toxic Substances in Developing Countries: Implications for Women and Children" both in 1988. With regard to this conference, CRI recognized that toxic chemicals and hazardous wastes pose a grave threat to women particularly during pregnancy and to the genetic structure of the fetus. The production, transportation and use of potentially toxic chemicals must be assessed, monitored and controlled and greater efforts made to promote research on environmentally-safe and sound alternatives. In organizing this Conference in Bangkok, CRI took an important step in its commitment on the promotion and support of education and exchange of knowledge and information in environmental toxicology as well as promoting the roles of women. In addition to the aforementioned activities CRI also organized the "International Training Workshop on Risk Assessment and Management of Toxic Chemicals: Principles and Applications" in 1989, the International Conference on Biotechnology and Environmental Sciences, in August 1990 and the International Conference on Environmental and Industrial Toxicology: Research and Applications in July 1991. All of these activities were attended by participants and representatives from many countries around the world. The forthcoming activity is the International Training Course on Environmental and Industrial Toxicology: Pollution Control and Assessment to be organized this month and in December.

The second example to illustrate the principles and concepts that can be applied is a different type of project which CRI classifies as "special project":

## **RESTORATION AND INTEGRATED DEVELOPMENT OF THE FLOOD AFFECTED AREA IN SOUTHERN THAILAND**

Recent floods in Southern Thailand constituted one of the worst disasters in the recent history of the country, they caused severe loss of human life and great damage to infrastructure, settlements, the environment, agriculture and fisheries.

Chulabhorn Research Institute was requested by the Royal Thai Government to coordinate activities and carry out the implementation in resettlement and rehabilitation, and in

restoration and management of natural resources and the environment in two of the worst affected provinces.

The initial investigation included aerial surveys and collection of information such as those on soil and water, natural resources, public health, education, economic and social conditions.

Upon these surveys, CRI took two major actions:

*1. Immediate actions, which included*

- Resettlements at safer sites.
- Building holding basins at technically-appropriate sites.
- Clear river, stream blockades.
- Reseeding in selected damaged areas on mountain ranges.
- Geologic survey of soil erosion, landslide and flood prone areas.

*2. Long term actions, including*

- Prohibit agricultural and horticultural activities on steep mountain slopes.
- Education, training and public awareness programs for rational use and Management of natural resources.
- Reforestation and community development program.

## **RESETTLEMENT PROGRAM**

Resettlement of the flood-affected families in the newly-established communities were planned in three different cooperative styles according to the basic, social and cultural needs of the people as well as the availability of the land. The characteristics of each community are as follows:

*1. Chulabhorn Pattana I*

This community adopted the Moshav cooperative system with significant modifications. One hundred families were settled in 420 acres of land. Each family was given a house in 0.4 acre for living and another 4 acres for agricultural purposes. They can live in this community for generations but are not allowed to sell such landed properties. Marketing of the agricultural products is normally handled by their cooperative body and the profit is fairly distributed.

*2. Chulabhorn Pattana II*

The Kibbutz system was the prototype of this community in which 265 families were settled on 107.2 acres of land. The rationale behind CRI's decision to use the modified Israeli's Kibbutz system at this particular settlement was because a number of people insisted that they remained in the areas where they used to live even though there was only a small area of land left for cultivation. They even agreed to change their way of life and occupations from rubber plantations which require a large area of land into fishery, animal husbandry, fruit orchards and vegetable gardening which are all communal.

### *3. Chulabhorn Pattana III*

The third community adopted the "Pah-Rak-Nam" community system. "Pah-Rak-Nam", literally means Forest-Loves-Water, is a community project that Her majesty the Queen originally initiated combining reforestation and community development.

The modified Pah-Rak-Nam model has been implemented at Samed Juan, for the flood victims. Each family was given 0.4 acre for their living quarters, while another 6-acre plot was allotted for reforestation in which forest for conservation had been planted alternately with the economic forest. Members are allowed to earn their income from the economic forest in return for their care of the forest for conservation. CRI has settled 100 families in 1,200 acres of land, built a reservoir, set up reforestation demonstration lots. In addition, a fresh water fishery station is being built, and finally, a small research center for research on specific topics particularly applicable to the local problems and environment will be established.

To achieve the ultimate goal of this project, that is, to promote integrated development of the flood affected area, CRI initiated a number of income-supplementation projects, education and training programs as well as provided common facilities and amenities so that the standards of living and the quality of life of the villagers could be improved.

In conclusion, let me reiterate that civilization is at a critical crossroads. If it continues to overuse and misuse natural resources, pollute and contaminate the environment, endanger critical life-supporting systems, deplete the ozone layer and cause global warming, then it is obvious what will be the results of such concerted impacts. The integrity of ecosystems and indeed of our society will be gravely at stake.

On the other hand, it is also possible for countries to choose patterns of development and alternate lifestyles which are more conserving, caring, compassionate, tolerant, and which would have minimal consequences on the environment.

The principles and concepts of how development could be achieved without destroying the environment, are now understood. What is needed is intensified and wide-spread application of the principles and concepts of environmentally-sound sustainable development.

It is undeniable that women are vital links between natural resources and development. Whether such valuable links will be whole-heartedly accepted by the public and policy makers will largely depend on the demonstrative roles that the new generation leaders participating in this assembly will choose to assume. Experiences and information can be readily exchanged. Success, however, can only be achieved through individual initiation and determination. I wish you all success and courage in pursuit of your well-established goals.

Thank you.

## Biography

### **Her Royal Highness Princess Chulabhorn**

Her Royal Highness Princess Chulabhorn, youngest child of King Bhumibol and Queen Sirikit of Thailand, epitomizes the modern-day royal woman. She has a degree in organic chemistry with first class honors from Kasetsart University in Bangkok. Far from being content with her bachelor's degree, she finished her doctorate degree in the same field at Mahidol University in her country. Still wanting to advance her scientific knowledge and expertise, she attended the University of Ulm in Germany for her post-doctoral training.

A full-fledged scientist, she has the title of "professor doctor" and is on the faculty of Mahidol University. Following the example of her parents, who instilled in her the importance of serving one's people, she has given her imprimatur to foundations bearing her name. She is the President of the Chulabhorn Foundation and the Founder and President of the Chulabhorn Research Institute. A tireless campaigner for the environment, she chairs the Foundation for Promotion of Nature Conservation and Environmental Protection (PNEP). As such she has been appointed Special Advisor to the United Nations Environment Programme (UNEP), member of the Scientific and Technical Committee and member of the Special High Level Council of the International Decade for Natural Disaster Education.

Princess Chulabhorn's distinguished career has made her the recipient of honorary degrees from the Tokyo University of Agriculture, Japan (1987); Dongguk University, Korea (1987); the Universities of Ehime and Soka, Japan (1989); Northeastern University, USA (1989); Suez Canal University, Egypt (1990); the University of Wales, UK (1990); and Liège University, Belgium (1991). In 1986, she was awarded the Einstein Gold Medal of UNESCO and made Honorary Fellow of the Royal Society of Chemistry in London.

Acknowledged as an expert in her chosen field, she has been invited as a "visiting professor" at Ulm University, Germany (1987); Tokyo University of Agriculture, Japan (1987); the University of Illinois in Chicago, USA (1988-1989); and Ehime University, Japan (1989). She has likewise embarked on a busy schedule of lectures at institutions of learning all over the world. Her professional affiliations include memberships in the American Chemical Society, the Royal Society of Chemistry as a chartered Chemist and Gesellschaft Deutsche Chemiker in Germany.

Her Royal Highness has penned a number of scientific publications under the name "C. Mahidol". She has been influential in organizing a number of international conferences, among them: the Princess Chulabhorn Science Congress in 1987; Adapting New Technology

for Detoxification of Hazardous Waste and Waste Management; and a Congress on AIDS and its impact on developing countries.

Her Royal Highness has visited distant Thai provinces and has taken a keen interest in the plight of the people in rural areas. She has closely conducted the implementation of flood rehabilitation projects, and has launched immunization campaigns in southern Thailand.

Born on 4 July 1957, at the Ambara Villa of the Dusit Palace, Princess Chulabhorn could have chosen a way of life in the gilded surroundings of her exotic realm. Instead she has come to personify the dynamic image of a woman of the 20th century -- educated, concerned and committed.



## **GLOBAL OVERVIEW PRESENTATIONS**





**ENERGY: WHAT DO WOMEN HAVE TO DO WITH ENERGY?**

**Maurizia Tovo  
Sociologist  
ESMAP Operations Division  
The World Bank**

## WHAT DO WOMEN HAVE TO DO WITH ENERGY?

Energy, like environment, is something that concerns everybody. So, why make a special case for women? If a dam is built to provide electricity to several villages, all inhabitants will benefit. If deforestation reduces soil fertility and contributes to global warming, all will suffer. Does it really matter who does the planning or who executes the projects if the solutions to energy problems are technical? After all, finding ways to produce more energy at lower prices, to use it more efficiently, and to do all this in an environmentally-safe manner, is primarily the job of engineers and natural scientists.

I beg to differ, and I will show you why.

Let us start by comparing the life of people in industrialized countries with that of a typical person from a developing country -- statistically, a female farmer. A woman in a southern Indian village spends an average of almost one and a half hours a day fetching water (Reddy et al., 1980). Do you know how long I spend? Not a minute; I simply turn on the tap. In the hill area of Nepal women spend on average over an hour a day collecting fuel (Kumar and Hotchkiss, 1988). Do you know how long I spend? Not a minute; I simply turn a knob. What makes the difference is energy --and technology. The daily drudgery of fetching water, processing food, collecting wood, and tending fires disappears with the help of energy-activated technology such as water pumps, de-hullers, mills, refrigerators, blenders and modern stoves.

It is clear from this comparison that women can greatly benefit from energy projects, probably more than men. But energy projects often fail to benefit women as much as they could because they focus too narrowly on energy, that is, on the technical aspects of energy. Technical aspects are important, of course, but they are often just the last link in the chain. My thesis is that *adopting a holistic approach to energy problems could produce better results not only for women's lives but also for project success*. By holistic approach I mean that the use of energy has to be understood in its context, as it relates to people's daily life -- the way they spend their time, what they are able to produce. Physical environment, infrastructure, means of production, culture, and politics shape the energy needs of different social groups and determine their access to different sources of energy and their way to use it.

Before we go any further, it is best to state clearly the assumptions on which my thesis is based: (1) we are interested in what is known as people-centered development and (2) we want to use common sense. The reasoning behind these two assumptions is as follows. The key to technical solutions are the people who use them. The people, therefore, have to be at the very center of the process. Because women make up more than half of the people and because their skills, needs and preferences may be different from those of men, it is a matter of common sense to take women into account when planning and implementing energy projects<sup>1</sup>.

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<sup>1</sup>Women should not be considered in isolation from the social and economic groups of which they are part and with which they identify. My point is that gender is such an important variable in and of itself that failing to give it separate consideration is likely to produce less than optimal results.

The rest of this paper is meant to show how a holistic approach to energy issues may lead to more successful projects and greater benefits for women. I will do this by focusing mainly on the energy problems with which women are most likely to contend, that is, those involving biomass resources. Rather than attempting an exhaustive coverage of all energy sub-sectors as they relate to women, therefore, I will try to illustrate how a general framework can help us put specific projects into perspective. But before I would like to give an example of what taking a holistic approach may mean.

## **TYPES OF ENERGY**

The comparison between the lives of people in developing countries and in industrialized countries points to the fact that development is largely the substitution of more efficient energy for human energy. Unfortunately, more often than not, women's energy is the last to be replaced. Thus, the first technological innovations introduced in a village are likely to aim at increasing the productivity of men's cash crops, and the first people to have access to motorcycles and cars are generally men. A sad and common story is that women find their burden made heavier by the mechanization of cash crops, because weeding *by hand* is still solely their responsibility in spite of larger plots now under cultivation.

But not all human (or animal) energy can be replaced by mechanical energy. Some energy, such as that needed to provide heat and light, can not be substituted by animate energy. No human or animal effort can produce the energy needed to cook food (Tinker, 1980).

This distinction between types of energy can have far-reaching consequences for project design. To begin with, it may be useful to see how human energy and energy derived from fuels are used in a *total energy system* in order to see where there might be savings from the completed product. Overlooking the tradeoffs taking place within this system may produce projects resulting in a higher energy price paid by women, as their energy will take over where technology leaves off. Even projects meant to increase energy efficiency may end up saving fuel but requiring more women's energy, as it has been the case with allegedly fuel-efficient stoves needing constant tending. Hence the need to link energy concerns with issues of appropriate technology and time allocation.

Because women's time and energy are finite quantities, planners of energy projects should have a good understanding of how these quantities are used before embarking in detailed project design. If we accept, as it has been written, that "the real energy crisis is women's time" (Tinker, 1987), one of the main criteria to judge the merits of an energy project should be whether it will enable women to use their time in the best manner. More than one energy project has produced disappointing results because it failed to recognize women's priorities. The following discussion focuses on coping strategies for fuelwood shortages and is a good illustration how women work within a total energy system.

## **ENVIRONMENT, ENERGY AND WOMEN'S TIME**

Seventy-five percent of the world's population depend on biomass for their energy needs -- the so-called low-quality fuels: fuelwood, charcoal, agricultural residues and dung. Unfortunately, although the total amount of biomass available could be enough to meet everybody's needs, its distribution varies greatly by region and does not follow population density. As a result, FAO forecasted that by the year 2000, over two billion

people in developing countries will be suffering from fuelwood scarcity. Given this scenario, it should be hardly surprising that, although many types of energy use have important environmental implications, the use of biomass has received particular attention. On the one hand, deforestation reduces the availability of woodfuel and contributes to the buildup of greenhouse gases (primarily carbon dioxide), on the other, the use of some agricultural residues and dung for fuel contributes to soil degradation. In all cases, the effects can be disastrous, as agricultural productivity declines (or stops altogether), deserts spread and climatic changes affect century-old crop patterns.<sup>1</sup>

The shortage of fuelwood that goes hand in hand with deforestation (whatever its cause) generally means that more time has to be spent gathering needed fuelwood. In the already tight schedule of many rural women, chances are something else has to give way. What gives way will depend on individual circumstances and preferences. It may be childcare, rest and leisure time, or -- most probably -- work time. For example, a study on the consequences of deforestation in hill areas of Nepal (Kumar and Hotchkiss, 1988) found that women, although putting in a longer work day, had to shift time away from agricultural work. The result was that household income from agriculture declined.

Another way to deal with fuelwood shortages is to switch to less efficient and smokier fuels, such as agricultural residues and dung. This, in turn, is likely to have a negative effect on agricultural productivity, as soil is deprived of an important fertilizer, and on women's health, as they are exposed to more smoke. Needless to say, in these situations, heating and hot water for washing become luxuries, regardless of health consequences. Finally, the extreme response to biomass shortages is to cook less: daily hot meals may be reduced, or nutritious but long-cooking food such as beans may be replaced by less nutritious snacks.

Three basic strategies have been used to address biomass shortages: increase supplies, decrease consumption and change fuel. The first strategy (generally known as biomass supply management) consists mainly of forestry projects, the second (known as biomass demand management) focuses on the dissemination of improved cookstoves, the third (known as interfuel substitution) promotes switching to "superior" fuels. The three strategies will be discussed in turn to see how a broader view can contribute to more successful interventions.

## BIOMASS SUPPLY MANAGEMENT

Throughout the developing world, women (and children) are the primary collectors of fuel and fodder for home consumption and for sale to urban markets. In addition, they often rely on non-wood forest products to satisfy a variety of other needs, especially during agricultural crises (such as floods and droughts) and particularly if they are poor.

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<sup>1</sup>It is important to dispell a myth still held by many. The main cause of deforestation, and therefore the main threat to global warming and related environmental nightmares, is land clearing for agricultural expansion, timber and human settlement. This, in turn, is mostly the result of population pressure. Only in extreme cases, such as large cities in developing countries, is the need for fuelwood the main reason for chopping down trees without allowing them time to resprout. Thus, *if the main concern is to reduce deforestation, one of the most effective strategies would be to reduce fertility* --which would have many other benefits both for women in particular and for society in general. Avoiding the massive concentration of population brought by urbanization and refugee movements would also be an effective, albeit difficult to implement, preventive measure.

Fruits and nuts, seeds, medicinal plants and herbs, berries, and plant fibers can provide precious inputs for immediate use or for cash income. It is because of their dependence on forest products that women are likely to have a much more intimate knowledge of forestry than men. Not only will they know the burning qualities of various species, but also the different forest products provided by trees and plants, their seasonality and their use.

Seldom, however, are women's opinions sought when selecting species for forestry projects. If an effort is made to involve the local population in project design, it is generally the men who have their say. The consequences are illustrated by the case of a project in Senegal. In some villages only men were consulted, and they chose income-generating species; in other villages, both men and women were consulted, and as a result forage and shade species were mixed with income-generating species. Guess in which villages tree survival was higher? In the villages with the mixed species, of course, because women, who were traditionally responsible for watering trees, were much more interested in project success (Kumar, 1988).

Note how one might have been able to predict the different outcomes in this Senegal project if a total energy system approach had been used -- or for that matter, just sound common sense. Women's energy (and time) was needed to water trees, so it is hardly surprising that they were more willing to provide it in the villages where they were going to save energy (and time) in fodder collection.

There may be cases, however, in which it may not be possible to ensure that everybody's preferences and needs (including women's) will be satisfied. Long-term environmental considerations, for example, may require that access to forested land (or rather, once forested land) be severely restricted regardless of who loses in the short run. It is unfortunate that generally those who have most to lose are poor women who will have no land of their own to provide fuelwood and no money to purchase it. But because they are poor and women, efforts to identify what their losses might be and to compensate them may be less than adequate. A project to reforest the now barren hills around Addis Ababa provides a good example. While the need to stop the ravaging is undeniable, little consideration was given to the fact that some 30,000 poor women make their living as fuelwood carriers, selling fuelwood in the city. Thus, in spite of an increased number of guards to keep them away, women are continuing to collect wood in the project area. In the end, everybody loses: the women have to pay bribes to guards or risk fines and beatings, and project success is jeopardized.

## **BIOMASS DEMAND MANAGEMENT<sup>1</sup>**

Given present trends in population growth and energy consumption, increasing the supply of fuelwood alone can not solve the energy problem. Institutionally, financially and physically, it will simply be impossible to accelerate planting levels worldwide to meet demand. Reducing demand to sustainable levels, therefore, is not a choice but a necessity.

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<sup>1</sup>Improved cookstoves projects are the fuel conservation strategy favored by donors and NGOs. But it would be unfair not to mention that women have been using wood-saving practices for decades without encouragement from outsiders. Protecting the cooking fire from the wind, slightly wetting overly dry firewood, carefully tending the fire and putting it out as soon as cooking is finished, are all techniques that can greatly increase the efficiency of three-stone fires. As a matter of fact, some have argued that, if properly managed, three-stone fires can be as efficient as many improved stoves.

Because improved cookstoves projects have been the main approach to reducing demand, we will take a closer look at them.

Even skeptics on the importance of gender concerns in the energy sector agree that when it comes to improved cookstoves, women should be consulted. The problem is that still too often women are called in almost as an afterthought, when the new cookstove is basically all ready to go. Many unsuccessful stove projects, especially those in the "first generation" of the late 1970's and early 1980's, owe their failure to the insufficient involvement of women in project design and implementation. This failure should not be inputed to lack of concern for women's wellbeing but to lack of common sense.

Disseminating a new stove means launching a new product on the market. The foundation of a successful marketing strategy is a thorough market research including an assessment of the needs, preferences and aspirations of potential consumers. The same strategy should apply for the marketing of improved cookstoves. The fact that potential consumers are women, in this sense, is coincidental. But it is alarming that women were basically invisible to many development practitioners, who relied on their own interpretation of consumer needs and often ignored the fact that women could also have preferences<sup>1</sup>.

Because women play such a key role in cookstoves projects, allow me to take a closer look at them. What follows is summary of the conditions that seem to be necessary for success. It shows that a holistic approach can mean the difference between failure and success.

- First of all, there must be a felt need for a fuel-efficient stove. In parts of Zimbabwe, for example, women have started using a simple metal grid that allows them to cook with three pots at the same time. Nobody told the women to be more fuel efficient: they felt the need, and they found the solution. This is more likely to happen where fuelwood scarcity is acute and fuelwood has to be purchased. For this reason, improved stoves projects tend to be more successful in urban areas.
- Traditional stoves may serve other purposes besides cooking, such as heating, curing food, lighting, and keeping away insects. To be attractive, therefore, new stoves will have to perform the same functions as the traditional stoves. If new functions (such as providing hot water at the same time as cooking) can be performed, so much the better.
- Cooking habits are part of tradition and are difficult to change. A stove will have better chances of being accepted if it requires minimal changes from the way things are usually done. The optimal balance between a stove close enough to the traditional one to be acceptable but different enough to make the project worth it, can only be achieved by involving users every step of the way, testing and re-testing new designs in real life conditions with potential consumers. Better still, users could be the designers of improved models, with the assistance of technicians (rather than vice versa).

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<sup>1</sup> Although involving women is often the key to project success, there are instances in which men as well may have an important role to play. In a project in Niger, for example, the marketing campaign was targeted exclusively to women. A year after the beginning of the dissemination stage, project monitoring revealed that 35 percent of the stoves had been bought by men. Thus the marketing campaign had to be modified to target both men and women (World Bank/UNDP, 1987).

- Much more goes into the preparation of a meal than just the cookstove. For this reason, some have suggested thinking in terms of cooking systems as a whole, instead of focusing exclusively on cookstoves. A good illustration of the need to take a broader look is provided by cases where would-be fuel efficient stoves turned out to be inefficient because women used the “wrong” size pot. Fuel savings can be achieved through locating the stove in a different position, soaking food before cooking it, covering pots with lids, or using different pots. For example, it has been estimated that using metal pots instead of traditional clay pots can reduce cooking time by fifty percent.
- As we all know, women’s time is precious. The time saved in collecting fuel, therefore, should not be offset by extra time needed to light the new stove, to cut fuelwood in smaller pieces or to tend the fire carefully. This is even more so because, by and large, collecting fuel may be an easier activity than chopping wood or tending a fire while trying to keep small children away. Similarly, ease of handling plays an important role. If stoves are used both inside and outside, they should be easy to move. If different types of food requiring different levels of heat are cooked, heat output should be easy to check and to control. In the end, women will choose whatever makes their life easier.
- Regardless of the appropriateness of a new stove’s design or the skill with which it is marketed, the wrong price structure may doom a project to failure. A recent review of stove programs estimated that project success is most likely when the payback period is from one to three months. Even so, credit schemes may be necessary and, of course, they should be accessible to women. Note, however, that it is generally a bad idea to subsidize stove production, as this makes projects unsustainable in the long run.

## INTERFUEL SUBSTITUTION

In the hierarchy of fuels, biomass occupies the lowest position. Switching to more efficient and cleaner fuels, therefore, is seen both as a sign of improved economic performance and as a way to improve economic performance. Alternatives to biomass fuels include coal, kerosene, LPG, natural gas, electricity, and renewable energy technologies such as biogas plants, photovoltaics and wind energy. Needless to say, these fuels differ greatly in terms of their environmental impacts, what is needed to make them viable options for a given country, and the purposes for which they can be used. The reason I will deal with all these fuels globally is that women do not seem to have a special relationship with them as in the case of biomass, and therefore they represent a similar challenge to gender-minded practitioners.

One way to ensure that women are given special consideration, *if this makes sense*, is to adopt the holistic approach I advocate and use it to analyze how the proposed new fuel would affect the daily lives of people. Some recent work in Malawi provides a good illustration of how considerations other than technical may help project planning. As part of a study to increase the efficiency of power utilities, people in recently electrified centers were interviewed. A number of non-technical factors affecting the use of electricity were identified. For example, a strong belief in witchcraft may deter prospective users for fear of attracting evil spells from envious neighbors. Thus, it would appear that the electric utility could increase connections by offering special packages for groups of neighboring users. Also, in matrilinear ethnic groups, men may be unwilling to pay for electric connections because the house belongs to their wives. So the electric utility would be well advised to use women's willingness to pay as a basis for forecasting connections.

In the cases where fuel switching is promoted at the household level, chances are women will be more affected than men, since they are the main users and beneficiaries of household energy. Thus, regardless of the particular fuel considered, women can play an important role not only as end-users but also as active promoters. Yet, as we go up the fuel hierarchy, women's involvement in project design and implementation becomes increasingly rare. This is why, although it is the logical thing to do, the idea of focusing on women for the distribution of LPG in a World Bank project in Bangladesh was welcomed with surprise if not suspicion.

## CONCLUSION

If I have been successful, by now we should all agree on the following points:

1. Technical solutions have to be planned, implemented and used by people, therefore failure to consider people has a cost in terms of sub-optimal project performance and missed benefits.
2. Because women make up more than half of the people and have different interests and needs from men, they should be considered separately --but also as part of other groups with which they may identify.
3. A promising way to ensure that people (and women in particular) are considered in energy projects is to analyze how human energy and fuel energy are used in a total energy system, and assess overall energy savings.
4. Trade offs between types of energy (including time) expended by women should be carefully considered in project planning, as they may well mean the difference between failure and success. Hence appropriate technology and other time-saving interventions should be addressed when planning energy projects.

During the next few days we will hear about success stories from all over the world. Our task will be to understand what made success possible. My guess is that we will find that technical aspects were only part of the solution, and what really made the difference was everything else. The challenge is to identify how "everything else" can be brought into projects without dispersing our energy, and in ways that are politically acceptable and practically feasible.

So, what is the moral of the story? Think broadly, use common sense, and listen to the people.



**CLEANER PRODUCTION:  
A GLOBAL CHALLENGE AND PARTNERSHIP FOR  
"ENVIRONMENTALLY-FRIENDLY" PRODUCTS AND PROCESSES**

**Dr. Jacqueline Aloisi de Larderel  
Director  
UNEP/IEO**

**CLEANER PRODUCTION:  
A GLOBAL CHALLENGE AND PARTNERSHIP FOR  
"ENVIRONMENTALLY FRIENDLY" PRODUCTS AND PROCESSES**

*"We have no choice but to lower pollution, increase soil and forestry conservation, and instigate strong measures to protect our planet's biological diversity. We have no choice but to minimize hazardous measures to protect the ozone layer, and pave the way to address the ecological threat of climate change and global warming. We have no choice but to curb the wasteful consumption by the rich and lift the status of the poor. And, above all, we have no choice but to quicken the pace of population control. Low- and non-waste technologies are our single most important hope to conserve the environment and our ailing earth."*

Dr. M.K. Tolba, Executive Director, UNEP, at Globe '90: Global Opportunities for Business in the Environment, Vancouver, 21 March 1990.

## **INTRODUCTION**

You all know about the environmental issues and the planetary threats: global warming, freshwater pollution, land degradation, contaminated seas and coasts. I do not need either to point out the urgency of these problems. Since 1900, the world's population has multiplied more than three times. The economy has expanded 20 times. The consumption of fossil fuel has grown by a factor of 30 and industrial production has increased by a factor of 50. An estimated 2,000 new chemicals, for example, annually join the already existing 70,000. Most of this growth has taken place since 1950. The demands for the very resources which we are wasting or polluting continue to increase. New technologies and new products are being introduced without any systematic evaluation of their impact on the environment.

Many of us, particularly in the developed world, have profited from advancements in technology and the accompanying improvements in food supply, health care and general standard of living. However, we know now that the impact on the environment of these developments, has not been and is not being adequately taken into account.

In developing countries, which have not benefited from this economic growth, poverty has been a major cause of environmental degradation. As Dr. Tolba, the Executive Director of UNEP writes, practices that overexploit or mismanage the environment and natural resources undermine long term development. So UNEP actively promotes environmentally sound development - development which maintains and improves economic progress. Without damaging the environment natural resources which future development depends upon.

## **MOVING AWAY FROM TREATING AND CURING ENVIRONMENTAL PROBLEMS TO PREVENTING THEM WITH A CLEANER PRODUCTION APPROACH**

Fortunately, there has been some progress made in accepting the need to manage and protect our environmental resources. Our approaches are also becoming more advanced. But there is still a long way to go.

In the fifties and sixties, the first laws to control environmental pollution brought an approach of dilution. Taller smokestacks, for example, would release pollutants higher into the atmosphere where there they would be diluted, it was believed, to harmless levels.

In the seventies, when it became clear that dilution only carried harmful wastes and emissions away, legislation was passed to see that they were treated before being released into the environment. End-of-pipe processes - filters, physical, chemical or biological treatments for example - were widely used by companies to comply with the new laws. But such end-of-pipe treatments are costly and usually simply transfer the problem from one media to another. Filters on smokestacks, for example, have to be cleaned from time to time so that they don't become clogged. This results in often highly concentrated toxic ashes which then has to be dealt with. Similarly, waste water treatment leads to the production of sludges, which have to be disposed of adequately.

A recovery and recycling approach then became popular in the eighties, so that less emissions and waste had to be treated. Then the prevention of waste and pollution was recognized as being a first priority option, even before recovery and recycling options are considered.

Now we need to change our consumption and production patterns themselves. Preventing pollution, so that it doesn't become transferred from water to air to land and back again is more environmentally-and-cost effective than end-of-pipe treatments. What we really need is processes and products which are designed to save on energy and raw material resources while at the same time prevent waste and pollution, from the moment they are conceived and designed, through their production, and up until their components are returned to their environment. In short, we need "Cleaner Production".

The need for the Cleaner Production approach is now increasingly being recognized worldwide. The 16th Governing Council session in Nairobi in May called upon "Governments, non-governmental organizations, industry associations and academics to develop and initiate cleaner production activities and to participate in their implementation" (GC Decision 16/33) and appealed to "Governments and international and intergovernmental organizations that have not yet done so to develop national and regional environmental policies based on the preventive approach implemented through, inter alia, the application of an accelerated rate of cleaner production methods, taking into account the work of the Industry and Environment Office of the United Nations Environment Programme as well as the work within the framework of relevant international agreements in order to achieve minimization of wastes" (GC Decision 16/30).

What does Cleaner Production mean? At the Industry and Environment Office of the United Nations Environment Programme (UNEP/IEO), it means a new, global approach to production: all phases of the life cycle of a product or of a process should be addressed with the objective of prevention or minimization of short- and long-term risks to humans and the

environment. This includes a "cradle to grave" approach, minimizing emissions into air, water and soil, as well as minimizing energy consumption and the use of all raw materials. It means not only developing new technologies but also good operating practices. Cleaner production, then, means to reduce as much as possible the quantities of inputs and outputs. It means the total commitment of all parts of our society to change our overall consumption and the use of all raw materials. It means not only developing new technologies but also good operating practices. Cleaner production, then, means to reduce as much as possible the quantities of inputs and outputs. It means the total commitment of all parts of our society to change our overall consumption and production systems.

Five main kinds of change are involved in a cleaner production approach:

- changes in the production processes
- changes in the plant equipment
- changes in product design
- substitution of raw or toxic materials
- changes in operating and housekeeping practices

Many of these changes are low-cost or cost-effective. Only the first option usually involves substantial research, development and capitalization costs. And even then, the payback period of investment is proving to be relatively short, one to two years, and certainly is a better investment than end-of-pipe technologies, which offer no economic savings except reduced penalties or liability suits.

In a study involving ten Dutch firms, results of research pointed to 200 cleaner production options. Thirty percent of these fell into category of good housekeeping; another 30% were material and raw material changes; a further 30% were technological modifications and the remaining 10% were production modifications.

Cleaner production is above all a matter of good management. Top management commitment, continuous environmental auditing and assessment, targets and goals, and real employee participation in environmental programmes is necessary if cleaner production is to be effectively implemented.

## **THE CLEANER PRODUCTION CHALLENGE AND THE ROLE OF WOMEN**

Cleaner production is a procedural and visionary concept. It means not only developing new technologies, but also good operating practices. It means the total commitment of all parts of our global society.

Women play a key role in seeing that cleaner production is implemented globally. Women in their roles as business leaders and managers, government decision makers, employees, consumers and family and community members, citizens of an increasingly interdependent global society, and, perhaps most importantly, as educators and teachers, can make a tremendous impact on the effective implementation of cleaner production. Cleaner production offers a window of opportunity to women to catalyze the new partnerships necessary in making the transition to a more environmentally sound global economy, to the new consumption and production patterns I was referring to earlier.

Successful companies of tomorrow will be the ones which are already improving their environmental performance with cleaner production programmes today. The benefits of cleaner production include improved industrial competitiveness, better productivity and product quality, enhanced environmental quality, reduced worker risks, decreased societal costs, a positive public image and consumer acceptance of products, and an ability to attract bright, dynamic employees.

### **Women as business leaders**

The challenge for women business leaders and managers is to start now. To foster a corporate culture of cleaner production and environmental care. To find out how the company negatively impacts on the environment and what can be done to limit it. To start investing in at least the no or low-cost and cost-effective cleaner production opportunities, so called "no-regrets" opportunities, and to factor into the budget those which will require more up-front investment. To find the right blend of performance markers and incentives that will motivate employees to take part in putting the cleaner production approach into action. To develop an evaluation system and enable employees to suggest ways to make it work better. To work with governments in setting industry-wide standards, supporting instead of opposing environment protection legislation, understanding that it reflects legitimate public concerns. To start constructive dialogue with environmentalists and other concerned stakeholders. And since bad practices of one company affects the image of the entire industry, to learn how to cooperate while competing and to assist, perhaps through industry associations, small and medium companies to implement cleaner production programmes.

### **Women as employees**

A couple of weeks ago I received a letter about a bright young woman working in a textile factory in Cambridge, Canada. She creatively used scraps of material that would otherwise have been discarded to make colorful and fashionable ties, which she and her husband then sold. Eventually the textile mill itself realized the value of what it was throwing away, and began using the its wastes itself. The environment benefitted as demand for landfill space and textile production was lessened as the scraps were somehow put to use, and the leaching of dyes to groundwater was also reduced.

This is a very simple but very creative illustration of how women as employees can reduce the impact their companies have on the environment. A company's environmental policy with full top management commitment will go nowhere unless its employees, women and men, see that it is implemented. After all, it is the employees who know what is really going on in a company. They are best placed to identify and correct leaks or waste, and to suggest better environmental options. Women designers play a particularly important role in integrating environmental considerations into product and plant design.

### **Women as government decision makers**

Women in governments, whether elected or part of the civil service, also play an essential role in seeing that cleaner production programmes are implemented by industry. Women in governments can explore the use of a mixture of regulatory and economic incentives and disincentives to shift the reliance away from end-of-pipe technologies to cleaner

production methods. Wherever possible, industry should be encouraged to voluntarily establish their own environmental management systems and cleaner production programmes since governments' resources are limited and it can't be everywhere. But when checking companies' voluntary compliance with government regulations, an integrated, cleaner production approach should always be fostered.

Women in ministries other than those concerned directly with the environment face the challenge of incorporating environmental considerations into their policies and programmes. Women in the ministries of economics and finance, trade, aid, agriculture, science and technology, for example, can look for ways to ensure that the cleaner production approach is integrated and promoted, and not providing contradictory, disincentives for implementing cleaner production.

Women are often very involved at the local government level where, as elected or non-elected public servants, they can have a direct, positive influence on steering the community to develop cleaner consumption and production patterns. And in implementing community "Awareness and Preparedness of Emergencies at the Local Level" (APELL) programmes after training by UNEP/IEO, women in local governments around the world have demonstrated the catalytic role they play in building partnerships and avoiding tragedies such as Bhopal. Women can also play a catalytic role in seeing that new municipal services are provided to help citizens to develop new environmental habits such as separating garbage, composting organics and recycling plastics, glass and paper. Municipal information and technical assistance centres can help small and medium enterprises to implement cleaner production methods. While it is often difficult at first to get a share of limited government budgets to provide such services, the resultant savings in, for example, sewage treatment and landfill costs, soon show their worth on the financial balance sheet, not to mention the environmental one.

### **Women as consumers, family and community members**

As consumers, women unconsciously buy products which threaten the air we breathe, dirty the water we drink or contaminate the soil we grow our food in. Women thus have a role to buy products which are a better environmental choice than its competitors, products which are designed to require a minimum use of energy and raw materials in all stages of their life, and which do not pollute when they are made, used or disposed of. In this way, they stimulate companies to provide products which cause less harm to the environment.

This is an area filled with challenges for women. Because a product which is clean during its use can not be considered to be environmentally-sound if it causes a lot of pollution to make it. Of course, assessing environmental quality of a product is still in its infancy and mistakes will be made in labelling them as such. But this is not reason enough not to start exercising choice and encouraging progress in environmental assessment and certified environmental labelling schemes. But since there are no products which are absolutely "environmentally friendly" women also need to be aware of mere advertising claims. Environmental labels should therefore stipulate why the product is seen as a better environmental choice. Energy consumption, chemical content, recyclability and recycled content, biodegradability, and ways of use and disposal, are just some of the environmental considerations which need to be taken into account on environmental labels.

As community members, the challenge for women is to encourage and help local companies and industry facilities to reduce their impact on the environment. Find out whether they have a cleaner production programme, or an environmental management system. Public opinion and pressure has been shown to spur companies into reducing their emissions and improving their environmental performance. An Amoco refinery in Texas, for example, when listed as one of the 500 most hazardous sources of emissions because of its estimated emissions of chromium compounds used in cooling water treatment, stopped treating cooling water at all of its refineries saying "Amoco does not want any of its facilities to be on future lists of the most hazardous 500"<sup>1</sup>

As family members, women can influence their families by example, conserving energy, choosing consumer products which are good environmental choices, and ensuring that local companies are implementing cleaner production methods.

### **Women as citizens of an interdependent global society**

As citizens of an increasingly interdependent global society, women have an important role in seeing the effective implementation of cleaner production as they do in their roles as consumers, community and family members, educators and teachers, business leaders, employees and government decision makers.

But women in developing countries, while having the advantage of being able to prevent the environmental mistakes made by those already industrialized, are less able to mobilize the necessary resources to prevent them. Developing countries need financial and institutional-building assistance to enable them to make the investment in cleaner production methods now which will help them avoid the costs later.

The transfer of cleaner production technologies is critical if we are to satisfy the global needs of the present generation without compromising the ability of future generations to meet their needs. We need the worldwide network of women to contribute to this transfer of technologies and to start the exchange of information.

### **Women as educators and teachers**

Many women are educators and teachers. It is they who play one of the most important roles in the transition to a global society based on the cleaner production approach. It is they who educate the future global citizens, consumers, family and community members, government and business employees and decision-makers.

An awareness of environmental issues and how to deal with them needs to be integrated into the education of everybody, current and future generations, starting at elementary and even nursery school. Just as the ability to read and write is an essential survival skill in today's world, so too is "environmental literacy". At Tufts University, for example, professors of drama, of sociology, of law and diplomacy, of economics, and of

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1 Quanstrom, Walter R., "Our performance will set the standards", in Span, Special Environment Issue, Amoco Corporation, 1990 Number 3 Chicago.

engineering design recently joined others in an innovative program to revise their curriculums to teach environmental literacy in their disciplines. To help high-school students understand environmental issues on a worldwide scale and to promote global cooperation and environmental protection, Caretakers of the Environment, an international NGO, has created an international network of high school students and their teachers who share environmental problems in their local communities.

Environment concerns should become an integrated part of our concerns.

## UNEP/IEO ASSISTANCE

The first step for women in seeing that cleaner production is successfully implemented and transferred is being able to access information on alternatives available. Much information in fact already exists in different institutions, networks and databases in different countries. But knowledge of and access to these diverse sources of information is limited.

This is why UNEP's Governing Council called for the development of a network for the exchange and dissemination of information on cleaner production. It requested the IEO in Paris to establish a broad information sharing scheme. Now two and a half years old, UNEP/IEO's Cleaner Production Programme is developing quickly and is in a position to help women with their information needs on cleaner production methods.

The International Cleaner Production Information Clearinghouse (ICPIC) is the computerized database of the Cleaner Production Programme, based on a system designed by US/EPA. It has over 500 cleaner production case studies, a bibliography with hundreds of entries, a contact list of experts, a calendar of events, and a message center where anyone can ask us or anyone else on the system a question about cleaner production or a particular problem they have. Right now we are creating a bulletin section for ICPIC that will be regularly updated with cleaner production news from around the world. ICPIC is there to help. All one needs to use ICPIC is a computer and a telephone modem. There is no charge for using ICPIC except the cost of the call. With the linking of ICPIC with Telenet, an international packet-switching network, most countries can access ICPIC without paying long distance charges.

We view ICPIC as a "pointer" system, not as a definitive source of all available information on cleaner production. There are several reasons. First and foremost, there is so much happening today in the cleaner production arena that we cannot possibly keep up with everything. Second, the best ideas about how to apply cleaner production in any specific situation come from people - especially workers familiar with their production processes - on the plant floor. As has been said, cleaner production is a visionary concept rather than a set of specific technologies. This means that women and men, in developing and developed countries, once they understand the concept, are able to formulate their own solutions.

A second activity of the programme is the Cleaner Production newsletter which we publish twice a year. It is distributed by a number of institutions in different countries, free of charge, as well as a supplement to our own quarterly Industry and Environment review.

A third and central activity of the Cleaner Production Programme, is our decentralized working groups of international experts in different specific industry sectors - such as tanning, metal finishing, textiles, solvents, pulp and paper, biotechnologies, petroleum - or



cross-sector issues - such as information networking, policies, strategies and instruments to promote cleaner production, and education.

Finally, we also hold training seminars and participate in conferences around the world to promote cleaner production and help others to initiate their own programmes. In September, we held a cleaner production workshop to give people from developing countries an opportunity to meet and discuss their cleaner production plans with a group of participants from countries that already have their own, and with international organizations that were interested in supporting such activities.

## CONCLUSION

Cleaner production is a visionary concept which holds great challenges for women in their roles as consumers, family and community members, business leaders and managers, government decision makers, citizens of an increasingly interdependent global society, and as educators and teachers.

Women recognize the urgency which environmental problems command today and the importance of immediate action. Women are superb catalysts. With a cleaner production approach, women in partnership with each other can not only play a critical role in solving these environmental problems now, but also in preventing them tomorrow.

To quote Dr. Tolba, the Executive Director once more, "Ecological degradation and resource depletion diminish the wealth of nations... progress must be made to remove barriers to the transfer of expertise and cleaner production processes to developing and Eastern and Central European countries."<sup>2</sup>

Thank you.

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<sup>2</sup> Tolba, M.K. Dr. Hope and Accomplishment. Introductory statement of the Executive Director on the issues before the Council at the plenary meetings of its sixteenth session, 20-31 May 1991, Nairobi, Kenya.



**WASTES:  
OPTIONS FOR SUSTAINABLE MANAGEMENT**

**Beverly A. Miller  
Officer in Charge  
Caribbean Environment Programme  
UNEP**

I have been requested to speak to you today on the subject of Waste. On a lighter note, being a mother of four, I thought that once the children had gotten out of diapers the waste problem was solved, but in reality, that was only the beginning.

First, I would like to give you a definition of wastes: Wastes are substances or objects which are disposed of or are intended to be disposed of by the provisions of national law.<sup>1</sup>

Within the past decade, the problem of waste and its safe disposal has been gaining increasing attention at all levels, local and global. The immediate and long-term environmental and health problems caused by the improper management of all wastes are generally recognized.

Consequently, most countries, in particular the industrialized ones, have adopted laws on waste management. However, environmentally-sound waste management must go beyond disposal and must seek to address the root cause of the problem by attempting to change unsustainable patterns of production and consumption.

## **WASTE MANAGEMENT PRINCIPLES**

It is important that we consider the following waste management principles, as we begin our discussion of this subject:

- Production of easily recyclable materials;**
- Minimizing waste production;**
- Recycling and reusing waste products;**
- Treating of waste that cannot be recycled or reused must be treated at the source to the extent possible;**
- Environmentally safe disposal of waste.**

## **OPTIONS FOR WASTE DISPOSAL**

Several methods have been used for the disposal of hazardous and non-hazardous wastes. These include:

- Landfilling**
- Sea/ocean dumping**
- Deep well and underground disposal**
- Incineration**

Additionally, a number of treatment methods based on physical, chemical, biological and thermal principles are also used. These are summarized in Table I. Wastes are normally treated, using one or more of these technologies before final disposal.

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<sup>1</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Final Act, UNEP).

**TABLE I**  
**Waste Treatment Methods**

**A. Physical Treatment**

- filtration to remove suspended solids
- evaporation of water from liquid wastes
- reverse osmosis
- separation of liquids from solids by centrifuges
- encapsulation of untreatable wastes in glass or silicate shell

**B. Chemical Treatment**

- neutralization by blending acidic and caustic solutions
- oxidation-reduction
- precipitation of solids
- ion exchange
- solidification

**C. Biological Treatment**

- degradation by fungi and bacteria

**D. Thermal Treatment**

- incineration of man-made chemicals such as PCBs, DDT, plastic materials and rubbish in general

The disposal and treatment techniques referred to in Table I have certain technical and/or economic advantages and disadvantages depending on the type and quantity of waste. The choice of treatment and disposal technique requires careful assessment in order to obtain the most cost-effective results (both environmental as well as economic costs).

The following is a quick review of the major disposal methods:

**Landfilling**

Landfilling is the major disposal method used, in many countries. A variety of wastes can be safely disposed of at a properly selected and managed site with minimal impact on the environment. Landfilling must not be regarded as suitable for all wastes.

Wastes with a high water content, slurries and mobile sludges should be treated and be de-watered prior to landfill disposal; highly flammable water such as low-flash-point organic solvents should not be accepted for landfill disposal as well as highly corrosive wastes such as mineral acids or strong alkalis which are very difficult to handle, and also these introduce a solvent effect on previously deposited wastes such as metal hydroxide sludges. In general, some wastes are chemically incompatible

with other materials, for example sulfides with acids, and arsenic wastes with acids and certain metals. In principle, reactive or explosive wastes such as peroxides, acids and perchlorates should not be landfilled.<sup>2</sup>

### **Dumping at Sea**

Sea disposal of waste is done on the basis that the sea has a high capacity to accommodate wastes and that as long as this capacity is not exceeded for any contaminant, this practice will not produce unacceptable effect on the marine environment or its numerous uses. In addition, the London Dumping Convention also requires that before considering disposal at sea every effort should be made to determine the practical availability of alternative land-based methods of treatment, disposal or elimination or of treatment to render the matter less harmful for dumping at sea.

The most common materials or wastes dumped at sea include dredged material, various industrial wastes and sewage sludge. It has been estimated that approximately 80-90% of the materials dumped at sea results from dredging. Reports provided to the IMO by the industrialized countries show an average of 215 million tonnes of dredged material dumped at sea annually.<sup>3</sup> The industrial wastes that are dumped at sea include desulfurization sludges, acids and alkaline waste, scrap metal waste, fish processing waste and coal ash.

The key environmental problems associated with disposal at sea are:

- **human health risks from pathogens;**
- **eutrophication due to nutrients and organics;**
- **toxic effects on marine organisms (and humans) caused by various chemicals; and**
- **resource-use conflicts with other uses of the sea (fishing, tourism).**

Physical impact of disposal at sea (which can include increased suspended solids, habitat alteration, etc.) can be minimized through proper management (location, timing of the discharges). However, the chemical and biological impacts are more difficult to manage. Specific attention to dumping site selection, practical availability of land-based methods of treatment, disposal or elimination, or of treatment to render the matter less harmful for dumping at sea are all crucial issues.

### **Deep-well and Underground Disposal**

The deep-well injection method of waste disposal is regarded as both economically and environmentally favorable for certain types of wastes. These include natural

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<sup>2</sup> Waste Treatment and Disposal Options, Prepared by J.H. Karau, Senior Technical Officer, Marine Science Section, Marine Environment Division, International Maritime Organization (IMO, Jamaica Seminar on Waste Management and Waste Disposal at Sea, Kingston, 27 February - 3 March 1989).

<sup>3</sup> Waste Treatment and Disposal Options, Prepared by J.H. Karau, Senior Technical Officer, Marine Science Section, Marine Environment Division, International Maritime Organization (IMO, Jamaica Seminar on Waste Management and Waste Disposal at Sea, Kingston, 27 February - 3 March 1989).

brines from oil deposits, salt-bearing solutions, processed brines and in some cases spent acids, provided that they can be quickly neutralized.

A number of the hazardous wastes being produced are excessively costly to dispose of in an environmentally acceptable manner (landfill sites, chemical or thermal treatment plants). In such cases, underground disposal may provide an environmentally and economically acceptable disposal option. It must be emphasized, however, that the underground disposal of solid hazardous wastes is acceptable only in inactive (or partially active) mines that meet specific geological and technical criteria.

### **Incineration**

The incineration process is for the high temperature oxidation of gaseous, liquid or solid wastes, converting them into gases and an incombustible solid residue. The flue gases produced are released to the atmosphere (with or without recovery of heat and with or without filtering cleaning). The slag or ash produced is deposited in a landfill because of the need for disposal of the ash. Incineration is sometimes not considered a final disposal method.

The wastes being considered for incineration at sea are predominantly liquid chlorinated hydrocarbons as well as halogenated compounds. Incineration at sea is practiced in an attempt to isolate the flue gases from population centres. These wastes occur in both the production and further processing of chlorinated hydrocarbons. The physical requirement for a suitable waste is that the waste is pumpable. In the case of marine incineration systems, the combustion products escape directly into the atmosphere. It is worthy to note the decision by the Oslo Commission to phase out incineration at sea by 31 December 1994 which is based on the assumption that preferable land-based alternatives will soon be available in Western Europe; and the London Dumping Convention resolution of October 1988 to phase out incineration at sea at the global level by 1994 if it can be demonstrated that environmentally preferable land-based alternatives are available worldwide.

Despite the foregoing technical discussion on the principles of waste management, the options for waste disposal and waste disposal methods, it must be remembered that hazardous wastes will be disposed of along the path of least resistance and, of course, least economic investment.

The waste trade is the most explosive international waste management issue. The most important global legislation dealing with waste trade is the Basel Convention developed by UNEP and signed on 22 March 1989 on the transboundary movements of hazardous wastes and their disposal. Recognizing its limitations, more stringent requirements are however being put in place at the regional and national levels.

In January 1991, the Bamako Convention was adopted, which is significant as it is the first regional response to the global Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The Bamako Convention:

- **bans the import into Africa of hazardous waste, including radioactive waste;**
- **bans the import of hazardous substances which have been banned, canceled or refused registration, or voluntarily**

**withdrawn in the country of manufacture for human health or environmental reasons;**

- **bans the dumping and ocean incineration of waste;**
- **requires hazardous waste generation audits;**
- **imposes strict, unlimited, joint and several liability on hazardous waste generators;**
- **calls for the issue of transfer to Africa of polluting technologies to be under systematic review; and**
- **commits Parties to strive to adopt and implement preventative, precautionary approaches to pollution problems, including preventing the release of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm.**

The Latin America and Caribbean region at the intergovernmental level have discussed the need for a legal instrument concerning the issue of transboundary movement of hazardous and nuclear wastes. This discussion for the Wider Caribbean sub-region is undertaken within the framework of the Cartagena Convention. A report on the subject was recently produced by Greenpeace International and published in the Technical Report Series of the Caribbean Environment Programme.

Consequent on the above, the major issues affecting waste management are the environmentally-sound management of toxic chemicals, hazardous and solid wastes and sewage. Presently, the substantial increase in the use of chemicals in the industrial sector is essential to meet the social and economic goals of the world community. Human health and environmental quality are continually at risk of being degraded by the increasing amount of waste being produced. The above-mentioned issues are currently receiving priority attention and have been proposed as options for Agenda 21 of the UNCED to be held in Brazil in 1991.<sup>4</sup>

The following major programme areas have been proposed as options by the Preparatory Committee:

### **Toxic Chemicals**

The overall objectives of the proposed programmes are:

1. **Beneficial use of chemicals for sustainable development with minimum risks to health and environment;**
2. **Adoption of strategies for environmentally sound management of chemicals in each country not later than the year 2000 with implementation as soon as possible thereafter.**

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<sup>4</sup> Preparatory Committee for the United Nations Conference on Environment and Development (Third Session, Geneva, 12 August - 4 September 1991).



The following major programme areas are being proposed as options for consideration by the Preparatory Committee:

- I. Expanding and accelerating the international assessment of chemical risk.** Within the framework of that programme about 500 priority chemicals or group of chemicals, including major pollutants and contaminants of global significance, could be assessed by the year 2000 using current selection and assessment criteria.
- II. Harmonization of classification and labeling of chemicals.** A globally harmonized classification and labeling system including easily understandable symbols should be in place by the year 2000.
- III. Information exchange on toxic chemicals.** The objectives of that programme are intensified exchange of information on chemical safety between all involved parties and full implementation of the Prior Informed Consent procedure contained in the amended London Guidelines and in the FAO International Code of Conduct by the year 2000.
- IV. Establishment of risk education programmes.** The objective of that programme is to reduce risks posed by chemicals by using alternative chemicals and methods and taking precautionary measures.
- V. Strengthening of national capabilities and capacities for management of chemicals.** This programme area includes establishment of national systems for environmentally sound management of chemicals including legislation and provisions for implementation and enforcement by the year 2000.

### **Hazardous Wastes**

The overall objective of the programme areas is to minimize the generation of hazardous waste and close the hazardous waste cycle within the "cradle to grave" framework. The overall targets are:

- **minimization of the generation of hazardous wastes by reduction of transboundary movements of hazardous wastes to a minimum consistent with the environmentally sound management of these wastes;**
- **ratification of the Basel Convention and the elaboration of related protocols, mechanisms and guidelines to facilitate the implementation of the Convention.**

The following major programmes are being proposed as options to the Preparatory Committee:

- I. Promote waste prevention and minimization through "cleaner production" methods, through resource recovery, recycling, reclamation, direct reuse or alternative uses of wastes.**

- II. Enhance knowledge and information on economics of hazardous waste management.
- III. Increase knowledge about environmental and health impacts of hazardous wastes.
- IV. Promote institutional capacities in hazardous waste management.
- V. Strengthen international cooperation in monitoring transboundary movements of hazardous waste - in particular, the prevention of illegal traffic, and assessing environmental and health impacts of those movements.

### Solid Wastes and Sewage

In defining the principal programme areas, it is recognized that environmentally sound waste management must go beyond simply safely disposing of the wastes that are generated and seek to address the root cause of the problem by attempting to change unsustainable patterns of production and consumption.

The overall objectives of the programme areas are:

- i. Stabilize waste production.
- ii. Ensure that the living and working environment of all people is isolated from all forms of waste.
- iii. Ensure that waste-related surface and ground water pollution is eliminated.
- iv. Ensure that all wastes are safely reutilized.

The following major waste-related programme areas are proposed as options for consideration by the Preparatory Committee:

- I. Minimizing Waste Production
- II. Maximizing Waste Reuse
- III. Promoting Safe Waste Disposal

Well, ladies and gentlemen, let us look at the issues from my perspective. Firstly, I am in total agreement with the statement that we must develop an ecocentric perspective as we proceed on the road to sustainable development. As Pat Costner, Research Director, National Source Reduction Campaign, Greenpeace U.S.A. puts it, **"The waste crisis will be with us as long as we continue to rely on toxic technologies that are fueled by or that create ecocides, materials that are ecologically destructive."** We urgently need to advance the industrial revolution by moving towards "clean technologies." The inability of the manufacturing processes to detoxify their products has created the waste crisis. The other action that is urgently required is for the environmentalists to work in close collaboration with the industrial/manufacturing sector to determine the long term ecological impact of a particular product or process prior to their mass production.

Secondly, at the community level, we need to institutionalize the concept of recycling and reuse. In Jamaica, the county from which I come, there are a number of individuals who sort the waste dumped at the municipal dump sites. The individuals have divided themselves into groups based on the re-usable components of our solid wastes - we have the paper collectors, the scrap metal collectors, the glass, plastic, rubber and electrical items collectors, etc. This group has no formal recognition within the society and if one asks most members of the society if we are presently re-using or recycling wastes, the answer would be a resounding **NO**. This obviously is not the case. Consequently, these actions at the community level must be formalized and the appropriate support structure put in place in order to give dignity to this very economically viable, ecologically sound approach to dealing with society's solid waste.

One must remember that the solutions to these issues are people driven. The actions mentioned previously (Basel Convention, London Dumping Convention and the Bamako Convention) are between governments and countries, and are necessary to protect the countries from a regulatory perspective from the transboundary waste trade. However, at the local level, it is the attitude of the citizenry that determines how wastes will be managed. Remember, **individuals make or break sustainable waste management.**

Communities in most of the developing world are disempowered: both the decision-makers and the community leaders have not established working relationships with respect to waste management. Consequently, arbitrary decisions are being taken.

Thirdly, with respect to the transboundary movement of hazardous and toxic wastes, receiving countries and communities must bear ultimate responsibility for their own cost/benefit decisions. We must not create a system that makes others responsible for what rightfully is a sovereign decision by others. One must ensure that the importing government has the information needed to make a decision as to whether environmentally sound disposal is possible and desirable in every case.

Finally, I would like to end this talk by considering that our present perspectives with respect to waste management will change and that we do not want to foreclose future options which at present might appear to be politically justifiable or economically profitable.

Ladies and gentlemen, there is economic value in sustainable waste management. The East German example is illustrative in this regard. During the past three decades, there was a mutually beneficial relationship where East Germany received hard currency for managing the wastes produced by Western countries.

Another example of changing perspective is the emphasis placed on pesticide application and use. From as early as the '60s, environmentalists described the "circle of poison," demonstrating that chemicals considered too dangerous for domestic use, but which were exported (often under the pretense that they were "**environmentally safe**") did return with their full toxic impact to the countries of origin, mainly via agricultural products.

Additionally, I would like to emphasize that, at present, travel advisories are restricted to a limited set of risks (crime and violence). I am certain that in the not too distant future, travel advisories will include environmental health risks.

**Well, I hope that I have underscored the point that we live in a global village, however, we are still not conscious of the fact that actions taken by any of us affect all of us. Let us be resolved to become ecocentric and continue the industrial revolution by making the waste products of industrial/manufacturing processes the production factors for new industrial/manufacturing processes.**

**WOMEN, WATER AND ENVIRONMENT**

**Aminata Traore  
PROWESS/Africa  
United Nations Development Programme**

Dear sisters, colleagues and friends:

I am very glad to express myself at such a crucial time of humankind's history on a particularly important topic: women, water and environment. I am grateful to the organizers of this Global Assembly for this opportunity.

For hundreds of millions of women living in the Third world, the quality of environment lies firstly in what they are offered as potable water, food, and source of energy. That is why, in June 1992, when the developed countries will be pondering on the world situation in terms of destruction of the ozone layer, climate change, hundreds of millions of women in Africa, Asia and Latin-America will be concerned about how to satisfy their needs in water, food and firewood.

What is there in common between these women and the people who will decide in Rio de Janeiro upon the future of humankind? They are linked by a common destiny clearly defined by the Brundtland report: the forth-coming damages due to over-exploitation and unsound management of natural resources are a threat for all the human beings.

Dear participants:

Crises have this powerful ability to remind humankind of its fragility and the necessity for a consensus. The debt crisis in the Third world has not been able, yet, to bring about concerted policies capable of stopping poverty (which is one of the main causes of environmental degradation in the developing countries). Let us hope that the environmental crisis, because of its planetary dimension, will be able to create the required consensus and solidarity for a more equitable distribution of natural resources.

## **WOMEN, WATER AND ENVIRONMENT**

The water sector, combined to that of agriculture, is the field where partnership between women and environment shows its real dimension. Beliefs and rituals are still existing in rural societies, where machines have not yet caused too wide a gap between humans and nature; which demonstrate that women always been managers of natural resources. What a sad privilege in a world where these resources are jeopardized!

The majority of women in the Third world, particularly women living in rural areas must spend an important part of their time fetching the water needed by their communities. If food products are most of the time managed by men, as well as by women, water tasks are mainly, shouldered by women. They need it for drinking, cooking, cleaning, caring of children and the elderly, and washing the clothes. Therefore women are directly concerned with anything negative altering the quantity and quality of this precious resource. It is surprising that this vital position has not been perceived as such in the past and even now women's role is still under-estimated in sector development strategies.

## **THE DECADE'S IMPACT**

The Mar Del Plata Action Plan, adopted in August 1977, aimed at many objectives among which are water supply and a sound environment for all in 1990. The International Decade of Water Supply and Sanitation, launched by the United Nations General Assembly in

1980 aimed at the same objective: as a result, 1.3 billion people had access to drinkable water and seven hundred and fifty million were provided with adequate sanitation systems.

The Decade's impact was more important in rural areas. The most satisfactory results were registered in Asia and in the Pacific countries. Progress remained slow in sub-saharan Africa.

The efforts made had an impact on diarrheal diseases. Cholera and typhoid fever are likely to recede when the efforts are stressed on water quantity as well as its quality. In some regions in Mali, Burkina-Faso, Togo and Nigeria a decline of more than 85% of guinea worm infection cases has been recorded.

However the Decade did not reach its objectives: On the whole, most water-borne diseases are still at the level they were at the beginning of the Decade.

Rapid demographic growth is one main cause of the Decade's failure. The consequence of this phenomenon is particularly alarming in urban areas where the population has increased by 40% compared to 15% in rural areas. Even the little progress achieved during the Decade is fragile. Most water sources are under-utilized and misused when they are not entirely broken down.

At mid-term of the Decade donors and governments had to admit that providing people with water supply could not be enough to improve the health situation. Health and hygiene education as well as facilities maintenance are vital in the achievement of sector objectives.

In this approach women have been identified as special partners. Specialists say that effective operation of facilities by women reduces fetching water hours, improves their productivity as well as their health and that of their families. There exists today an abundant literature showing the link between water supply and women's situation, not only in terms of health but also in terms of equality, equity, reinforcement of their status and power within their communities.

## **THE CHALLENGE OF THE 1990'S**

Can we hope that the 90's will present more substantial and more sustainable results than what the 1980s Decade achieved?

### **• Financial Impediments:**

It would be simple and even hazardous to explain using only gender inequities the difficulties faced by women in relation to natural resources including water. These impediments are also and even more pronounced by the macro-economic realities which favor illiteracy and poverty.

As we know, the development of the water supply and sanitation sector requires important financial resources. Unfortunately the Decade took place within the context of an economic crisis. The most serious that the world has faced since the thirties. Powerless, the developing countries have seen their raw material prices decline. Economic recession measures have unfortunately worsened the living conditions of vulnerable communities, particularly, low-income earners and those working in the sector. But the most affected were households in poor communities living on subsistence agriculture, especially women, young people, and children. They have been and remain particularly exposed to the effects of the

drastic measures dictated by structural adjustment policies: increase in food prices, decrease in public expenditures, mainly in the sectors of health, education, water and sanitation.

For sub-saharan Africa, for example, the perspectives, according to classical development indicators, are not particularly encouraging. The poor performances of the water sector are essentially due to lack of interest and motivation among communities. Many donors are increasingly requiring community and women's financial participation.

More precisely, the point is to pay 5% to 10% of the initial investments; the price for a bore-hole amounts to \$15,000 to \$20,000 in West African countries for example. According to these agencies, this 5-10 percent contribution to be paid by women and their communities is a significant part of the investment which is different from symbolic financial contribution. This new requirement is supposed to ensure the interests of the most deprived people who are requested to rely on themselves since the international community will never have the means to ensure drinkable water and health for an increasing population.

Let us stress that sustainability in development has its requirements, it should be based on some conditions, which do not exist in many countries of the Third world. These conditions are: quality and reliability of technologies and services proposed to community/women, the consideration of their priorities, an enabling economic environment and strong political will.

- **Low Cost Technologies:**

If the water and sanitation sector faces so many difficulties, it is mainly because of the high investment costs required for its promotion.

This cost, as we know, can be reduced if the technologies are improved and adapted to financial and socio-economic and cultural realities of communities.

But, as we know, there are many impediments, for example, to the promotion of local pump makers: the procurement systems for different projects and programmes so far exclude local manufacturers because of the financial and technical criteria required.

There are not many satisfactory situations where populations themselves have been involved in the promotion of low-cost technologies. The success stories in this area are rather few and isolated. The ones encountered have often been possible thanks to affluent persons or NGOs.

The water and sanitation sector, as a matter of fact, suffers from a lack of a real political will to design realistic strategies in terms of promotion local resources and community/women's participation. The insufficiency of material and financial means given to field workers, for example, reflects the low degree of the importance given to community participation.

- **Women, Poverty and Environment:**

When we add poverty and illiteracy (commonplace for most women in the third world) to the economic, financial and technological impediments mentioned above, one should be really worried about the access of poor communities to water and adequate environment.



The biggest harm done to women belonging to these poor communities lies in ignoring their needs and aspirations, the close links between their situation and economic, financial and technological constraints mentioned above.

The Decade's experiences on which the international community wants to build to achieve sector objectives in the 1990s do not reveal much about the biased approaches and strategies which only contribute to worsening women's situation.

For example, in most traditional societies in sub-saharan Africa, women use facilities every day but it is not usual to make them build those facilities. Men share some water responsibilities with them. The experts in "Women and Development" of Western societies introduce notions about the sharing of responsibilities which sometimes create distortions. Women claim (when they really feel the need) water sources for practical reasons: because they have none near their homes or the existing ones are too deep or dry. Their expressed needs are rarely gender equity that some project implementers will try to face implement. To me, it is not fair to manipulate them in order to reach goals that they have not chosen identified. If we learn to listen to their needs it will be easier to communicate with them on other issues such as health, family planning, cost recovery, etc.

The UNDP Interregional Project PROWESS (Promotion of the Role of Women in Water Supply and Sanitation) has been designed to promote women's ability to make decisions about what they want for themselves and their countries. And then to participate in planning, implementation, monitoring and evaluation in a culturally relevant way, a lot has been achieved in the context of this project to heighten decision-makers', agencies' and project implementors' awareness about the social and human dimension of the sector development. But we still need to reinforce and to develop this type of approach and strategy.

Dear participants:

It may seem irrelevant to focus on so many constraints when it is more appropriate to look at success stories. But we cannot separate failures from success, when we talk about sustainability. We must be aware of the constraints in order to be prepared to overcome them. In this regard, I would like to raise some questions:

1. Let us ask ourselves who has been the true beneficiaries of investments in the Water and Sanitation in developing countries so far. Is it business in the industrialized world who provide the technologies? Is it the expatriate experts who advise us? Is it project managers or women and their communities?
2. During the decade did we truly attempt to build on traditional infrastructures which are conceived by communities and adapted to their needs and abilities to manage, to finance and to maintain?
3. Were the technologies of the implemented projects truly conceived to last and to be sustainable?
4. Were the costs of maintenance and operation of these water supply and sanitation systems too high in terms of time, effort and financial investment for poor communities and overloaded women?

5. Is it always necessary when we attempt to unburden women to assign to them tasks which are traditionally performed by men?
6. If we truly want participation of the poorest among us is it fair to ask them to contribute to the cost of the project before providing them with the economic environment which would support contribution over the long term?
7. Shouldn't we first listen to women and to hear them express their needs rather than listen to those caught up in ideas from outsiders?

I believe that sustainable development in Water Supply and Sanitation sector must be built on objectivity and a spirit of solidarity in analyzing the above questions.



**LIST OF  
SUCCESS STORIES  
Presented  
at the  
Global Assembly\***

\* The detailed write-ups of these success stories will appear in Volume II of these proceedings

SUCCESS STORIES: INVITED

<u>Region</u>	<u>Water</u>	<u>Waste</u>	<u>EFS*</u>	<u>Energy</u>	<u>Total</u>
AFRICA	12	4	18	17	51
ASIA/ PACIFIC	16	15	20	10	61
EUROPE	4	4	10	0	18
LAC	12	14	18	4	48
N. AMERICA	12	14	11	3	40
<b>TOTALS</b>	<b>56</b>	<b>51</b>	<b>77</b>	<b>34</b>	<b>218</b>

\*Environmentally-friendly systems, products and technologies

## *Success Stories*

### SUCCESS STORIES FROM AFRICA

PRESENTER	COUNTRY	SUBJECT	DESCRIPTION
Beatrice Adela	Ghana	EFS	Villages Pilot Project Combats Soil Erosion in Dawa, Ghana
Fatima Alaoui	Morocco	EFS	<i>Forum Maghrebin pour l'Environnement, Comite des Femmes</i> Mitigates Deforestation in Morocco
Gloria Aryee	Ghana	EFS	SWAG-Ghana - Senior Women Mobilize Support for Environmental Management Activities
Egbe Esther Besong	Cameroon	EFS	Besongabang Women Mokok - Aghem Association Combats Soil Erosion in Cameroon
Salwa Osman Ebeid	Sudan	EFS	Nile River Reforestation Project, Sudan
Ubleni Arikpo Ettah	Nigeria	EFS	The Cross River National Park Project Promotes Conservation and Health in Nigeria
Charity Kabutha	Kenya	EFS	Erosion Control in Katheka, Kenya
Atanasia Kachote	Zimbabwe	EFS	Women in Mupata Village Organize Themselves into Food Societies to Earn Money and Help Implement Water Project
Lucy Kolala	Zambia	EFS	Zambian Women Build Improved Storage Facilities to Enhance Food Security in the Luangwa Valley
Agatha Madondo (Mukoki)	Zimbabwe	EFS	Tree Nursery Groups in Mutoko, Zimbabwe Plant Over 38,000 Trees in One Year Alone
Justina Mwendwa	Kenya	EFS	A Couple Revives Neglected Plot of Farmland Outside Nairobi, Kenya

## *Success Stories*

Emily G. Ndungu	Kenya	EFS	Kenyan Women's Group Constructs Shelter and Home Gardens for Community
Zipporah Nganga	Kenya	EFS	Kibwezi Women's Integrated Rural Development Program - A Model for Community Self-Help Activities, Kenya
Charlotte Rajeriarison	Madagascar	EFS	Environmental Education for Students at all Levels in Madagascar
Samia Galal Saad	Egypt	EFS	Pollution Control in Lake Maruit, Egypt
Yasmeen Abu Samra	Sudan	EFS	The Women's Office of the Natural Resources Protection Group (NARP) Educates Sudanese Women About Dangerous Pesticides
Bonnake Tsimako	Botswana	EFS	<i>Thusano Lefatsheng</i> Promotes Sustainable Harvest of Veld Products, Botswana
Joy Tukahirwa	Uganda	EFS	Soil Erosion Control in the Community of Sagitwe, Kisoro Subdistrict, Uganda
Samira Amin Ahmed	Sudan	Energy	The Women's Development Centre in Alban Gadeed, Sudan Uses Solar Energy and Promotes Backyard Gardening
Margaret A. Aluah	Ghana	Energy	Dezendani Women's Group Initiates an Afforestation Project in Paga-Kazugu, Ghana
Sakeena Bonsu	Ghana	Energy	Evergreen Club of Ghana (ECOG)
Grace A. Faoye	Nigeria	Energy	Small-Scale Gas Stove Production in Nigeria
Olivia W. Hozheri	Zimbabwe	Energy	<i>Kwayedza</i> Community Woodlots Project in Zimbabwe
Marguerite Kabore	Burkina Faso	Energy	Woman Promotes the Use of More Efficient Wood Stoves in Burkina Faso
Benedicta Kamboe	Ghana	Energy	Tono, Veve Agroforestry Project in Ghana Checks Desertification

## *Success Stories*

Sophia W. Kiarie	Kenya	Energy	Green Islands Program in Ruiru, Kenya
Vertistine B. Mbaya	Kenya	Energy	The Green Belt Movement of Kenya
Zuhura N. Mdungi	Tanzania	Energy	Tree-Planting Campaign in the Dodoma Region of Tanzania
Zoulekha N'Dao	Mauritania	Energy	Improved Stoves Program Fights Deforestation in Mauritania
Stella C. Ogbuagu	Nigeria	Energy	Reforestation Project Initiated by the Inner Wheel Club of Calabar, Nigeria
Helen Owala*	Kenya	Energy	The Pusu Women's Group in Kenya Addresses Energy Shortages With Its Women and Energy Program
Audrey M. Peel	Zimbabwe	Energy	Esiphezini District in Zimbabwe Plants a Community Woodlot
Viviane Ralimanga	Madagascar	Energy	A Three-Pronged Environmental Protection Project in Fenerive, Madagascar
Janet Sambali	Tanzania	Energy	Introduction of Biogas Technology in the Dodoma Region, Tanzania
Kamilia Shoukry	Egypt	Energy	Introduction of Kerosene Stoves Saves Time and Energy, and Prevents Fire Hazards
Wafaa Ahmed Abdalla	Egypt	Waste	Promoting Community Participation to Improve Cairo's Public Housing
Irma A. Allen	Swaziland	Waste	The "Clean and Beautiful Swaziland" Campaign
Gladys Khangwayini Mashinini	South Africa	Waste	Recycling Household Waste in South Africa
Camara Sakiliba Kama	Mali	Waste	Women, Health and Employment in Mali

## *Success Stories*

Goitsewang Baebele	Botswana	Water	Sanitary Facilities for the Kgalagadi District of Botswana
Ruth Chipfunde	Zimbabwe	Water	Well Project in Chiredzi District, Zimbabwe
Hadijatou Beye Diouf	Senegal	Water	Safe Water for Senegal
Alice Mefi	Lesotho	Water	Maputo, Lesotho Community Development Improves Year-Round Availability of Water and Food
Mercy Mwamburi	Kenya	Water	<i>Maji Safi</i> Women's Group in Kenya Conserves Water
Margaret Ndoko*	Kenya	Water	Women's Group Supplements Water Supply in a Semi-Arid Eastern Province of Kenya
Veneranda Nikwigize	Rwanda	Water	Fresh Water Supply Infrastructure in Rwanda
Christine Nyabunze	Zimbabwe	Water	Independent Rural Village Project in Zimbabwe Constructs Wells and Provides Health Care Education
Emily Grace Othieno*	Kenya	Water	Jiwruok Women's Group Improves a Fresh Water Fishery in Western Kenya
Louisa A. Owiti	Kenya	Water	Muguna B Water Project Provides Water for a Variety of Purposes in Rwanyanga Community, Meru District, Kenya
O.A. Salau	Nigeria	Water	Creek Management by the Women of Degema-Abbey, Nigeria
Mimie Sesoko	South Africa	Water	The Tooseng Water Committee Improves One South African Community's Access to Clean Water



## *Success Stories*

### SUCCESS STORIES FROM ASIA/PACIFIC

PRESENTER	COUNTRY	SUBJECT	DESCRIPTION
Satapathy Annapurna	India	EFS	Community Institutes Social Forestry Program and Walks to Raise Awareness in Andhra Pradesh, India
Napa Bhongbhibhat	Thailand	EFS	Nature Farming for Agricultural Youth Training Project
Tuenjai Deetes	Thailand	EFS	Middle Path in the Hills: Farming with Nature in Thailand
Chalerm Sri Dhamabutra	Thailand	EFS	Appropriate Technology Association of Thailand's Natural Dye Weaving Development Project
Rajani Dhongchai	Thailand	EFS	Foundation for Children's Environmental Awareness Program at its Children's Village School in Kanchanaburi Province, Thailand
Puengpit Dulyapach	Thailand	EFS	"Environmental Awareness Starts at Home" - A Program of the Department of Agricultural Extension in Thailand
Anjana Dutt	India	EFS	Afforestation in the Himalayas
Clarita C. Escoto	Philippines	EFS	Defending Our Forest - A Nonviolent Approach in the Philippines
Kanta Kumari	Malaysia	EFS	Protecting Taman Negara National Park in Malaysia
Ping Lee	Taiwan	EFS	Environmental Education for Youth
Juanita Manalo	Philippines	EFS	Appropriate Technologies Alleviate Poverty in Cavite Province, Philippines

## *Success Stories*

Anita Mathur*	India	EFS	Integrated Development of Women in Sericulture, Udaipur District, Rajasthan, India
Selami Misuka	Solomon Islands	EFS	The Saenaua Tribe Combines Reforestation With Income Generation Activities, Solomon Islands
Hasna J. Moudud	Bangladesh	EFS	Promoting the Role of Women as Natural Conservationists in Bangladesh
Patricia J. Murrow	New Zealand	EFS	Women Participate in a Study on Hydroelectric Development
Margaret Peace	New Zealand	EFS	Permaculture Education in New Zealand
Genandrialine L. Peralta	Philippines	EFS	A Chemical Emergency Response Plan is Launched in Kalookan, Metro Manila
Emma Sta. Ana	Philippines	EFS	Swine, Toys and Trees and the Greening of San Miguel, Philippines
Aida Velasquez, OSB	Philippines	EFS	Philippine Women's Campaign Against the Bataan Nuclear Power Plant
Ratchaneewan Wantok	Thailand	EFS	<i>Thai Payap</i> Project in Nan Province, Thailand
Meera Arjyal	Nepal	Energy	ABC/Nepal - Agroforestry, Basic Health and Cooperatives Assist in Dacchi Village
Didi Contractor	India	Energy	Solar Box Cookers Help Indian Women Save Time and Reduce Consumption of Scarce Fuelwood
Nandini Gandhi	India	Energy	Gujarat Energy Development Agency Develops an Energy and Education Package for Tribal Children in India
Vasantha Kannabiran*	India	Energy	Deccan Development Society of India
Yasuko Matsumoto*	Japan	Energy	Greenhouse Gas Policy in Japan - One Woman's Approach

## Success Stories

Thoraya Obaid	Yemen	Energy	Biogas Technology in Al-Habeel Village, Yemen Reduces Women's Workload
Anjana Paudel	Nepal	Energy	Women's Groups Play a Main Role in an Integrated Environment Project in Nepal
T. Radhamani	India	Energy	KSSP Develops Fuel-Efficient Wood Stoves for Indian Villages
Yasmin Shahid	Pakistan	Energy	Paasban Women Introduce the Smokeless Stove, Pakistan
Archana Sharma	India	Energy	Rehabilitation of Degraded and Eroded Land in India with Community Participation
Padmini Abeywardene	Sri Lanka	Waste	A Sanitation Project in Kurana Village, Sri Lanka
Shanti Bhattarai	Nepal	Waste	The Compost Improvement Program of Nepal's National Agricultural Research Centre
Leonarda Camacho	Philippines	Waste	"Eco-Aides" Help Recycle Wastes for 18,000 Households in Manila
Mary Chen	Taiwan	Waste	Taiwan Homemaker's Union and Foundation Promotes "The Four R's" to Reduce Municipal Solid Waste
Kamala Dhungel	Nepal	Waste	"Women in Environment" Implement a Squatter Settlement Improvement Project
Anoja Chandrawathi Fernando	Sri Lanka	Waste	Women Spearhead Promotion of Environmental Health, Sri Lanka
Sayyada Ruhi Ghuznavi	Bangladesh	Waste	Women Members of <i>Naripokkho</i> Mobilize To Resist Toxic Waste Importation and Dumping in the Bay of Bengal
Shaozhen Jiang*	China	Waste	Tsinghua Environmental Engineering Corporation - Linking Universities and Industry for Better Pollution Control in China
Achie Sudiarti Luhultma	Indonesia	Waste	<i>Wanita Utama</i> Women's Farmers' Organization Initiates Waste Management System in Gambong Village, Indonesia

## *Success Stories*

Junko Nakanishi	Japan	Waste	Woman Develops an Improved Sewer System for Municipalities in Japan
Concepcion C. Ocampo	Philippines	Waste	Management of Community Waste Disposal System
Bhaswati Sarkar	India	Waste	<i>Sulabh Sauchalaya</i> Toilet Systems in India
Begum Tajwar Shaukat	Pakistan	Waste	All Pakistan Women's Association (APWA) - Sanitation Project
Safina Siddiqi	Pakistan	Waste	KAWWAS Women's Group in Pakistan Uses Collective Action and Self-Help to Transform Their Urban Community
Saisingh Siributr	Thailand	Waste	Training Housewives and Women Leaders on the Safe Uses and Handling of Toxic Substances, Thailand
Fitri Aini	Indonesia	Water	Radio Show Spreads the Word about Water, Health and Sanitation to Thousands in Indonesia
Nafisa Barot	India	Water	UTTHAN-MAHITI Water Pond Project in Gujarat State, India
Meera A. Bondre	India	Water	Lakaki Lake Preservation Project, India
Marcia Im	South Korea	Water	Water Projects Help Dangsa-ri Island Residents Obtain A Clean Water Supply
Janak Palta McGilligan	India	Water	Towards Environmental Transformation: A Baha'i Experience
Yi Qian	China	Water	Research Project on Controlling Organic Water Pollution Caused by Industries in China
Vachi Ramnarong	Thailand	Water	Mitigation of Ground Water Crisis and Land Subsidence in Bangkok
Colette Serruya*	Israel	Water	Research and Monitoring Program Preserves Lake Kinneret in Israel

## *Success Stories*

Hira Sharma*	India	Water	Mark II Pump Repair Training Program for Women in Tharu Tribal Community, India
Kuraisin Sumhadi	Indonesia	Water	Women in Bumiredjo Village, Indonesia Obtain a Safe Water Supply
Chitra Kumari Thapa	Nepal	Water	Woman Instigates a Series of Environmental Projects in Nepal
Pham Thi Thoa	Vietnam	Water	Provision of Safe Drinking Water in a Rural Vietnamese District
Luong Thi Truong	Vietnam	Water	Water Supply and Treatment in Daiang Commune, Vietnam
Kamini Meedeniya Vitarana	Sri Lanka	Water	The <i>Samanalagama</i> United Women's Association, Sri Lanka
Daranee Wenuchan	Thailand	Water	Girl Guide Association of Thailand's Water and Sanitation Program in Ban Bok Village
Daw Nyo Nyo Win	Myanmar	Water	A Gravity-flow Water Supply Project in the Northern Hilly Regions of Myanmar

## *Success Stories*

### SUCCESS STORIES FROM EUROPE

PRESENTER	COUNTRY	SUBJECT	DESCRIPTION
Rose Cotta	Spain	EFS	Organic Farming Practices in Barcelona, Spain
Suzy Doyle	Ireland	EFS	<i>Crann</i> - Re-treeing with Broad-Leaved Trees, Ireland
Kristin Eskeland	Norway	EFS	Making the Voice of Children Heard, Norway
Jacqueline Francou*	France	EFS	Soroptimist Club of Hyeres, France Provides Forest Fire Prevention Information
Marie Kranendonk	Netherlands	EFS	Building an NGO Coalition for Environment and Sustainable Development
Chryssanthi Laiou-Antoniou	Greece	EFS	Agro-Tourism in Greece
Gilliane Le Gallic	France	EFS	<i>Le Jour de la Terre</i> Raises Awareness of Environmental Issues in France
Esther Peter-Davis	France	EFS	Environmental Counseling - A New Profession
Eva Lian Takle	Norway	EFS	A Women's Perspective in Public Planning, Norway
Olga Tsepilova	USSR	EFS	Olga Tsepilova Increases Understanding of the Green Movements in the U.S.S.R.
Audrey Dickson	Ireland	Waste	Irish Women's Environment Network

## *Success Stories*

Edwige Guillon	France	Waste	Schools in Saint-Calais, France Increase Community Awareness of Environmental Issues
Mary Sheehy	Ireland	Waste	Kerry Recycling - A Recycling Cooperative in Ireland
Bernadette Vallely	United Kingdom	Waste	U.K. Women's Network Raises Awareness About the Environmental and Health Effects of Chlorine-Bleached Paper Products
Maria V. Cherkasova	USSR	Water	Citizens Environmental Movement, USSR
Natalia Salomatina	USSR	Water	Increasing Public Awareness on the Importance of Protecting Ecosystems in the U.S.S.R.
Johanna Schuurman	Netherlands	Water	Female Farmers in the Netherlands Organize for Sustainable Agriculture
Renate Walter	East Germany	Water	Exposing the Toxicity of the Elbe River Basin, East Germany

*Success Stories*

**SUCCESS STORIES FROM LATIN AMERICA/CARIBBEAN**

<b>PRESENTER</b>	<b>COUNTRY</b>	<b>SUBJECT</b>	<b>DESCRIPTION</b>
Mabel Bianco	Argentina	EFS	Seminars Train Urban Women as Health Promoters and Decrease Environmental Problems
Vera Lucia da Silva Braga	Brazil	EFS	International Environmental Alliance Forms to Avert the Threat of a Highway Project Outside Sao Paulo, Brazil
Lourdes Carazas	Bolivia	EFS	Training Program Helps Women in Bolivia Improve Their Environments
Daniele Mangonès Dejean	Haiti	EFS	Haitian Women Farmers Adopt Soil Conservation Techniques and Recuperate Their Land
Alegria Fonseca	Colombia	EFS	The Tayrona Park Debate in Colombia
Maria de Freitas*	Brazil	EFS	Environmentally Sound Mining in Tropical Forests, Brazil
Legeia Gonzalez L.	Colombia	EFS	Agroforestry and Income Generation Among Indigenous Women in Colombia
Maria Nohemy Londoño	Colombia	EFS	Women's Movement of Manizales Conducts Environmental Education in Colombia
Nina Magalhães	Brazil	EFS	Rural Program in Environmental Education (PREA) in Nova Friburgo, Brazil
Maria Marcovaldi	Brazil	EFS	<i>Fundacao PRO-TAMAR</i> Sea Turtle Conservation Program - Restoration of Biodiversity in Brazil
GCM Molenkamp-Geluk	Brazil	EFS	Small Farmers' Organizations Promote Preservation of Local Flora By Increasing Awareness of Their Medical Value, Brazil



## Success Stories

Socorro Vasquez Muñoz	Peru	EFS	Club de Madres Revives Traditional Farming Practices and Preserves Native Seed Stocks With UNEP Assistance
Maria del Carmen Olivera de Herrera*	Mexico	EFS	PROE Helps Peasant Families in Mexico to Use Ecotechniques and Appropriate Technology on their Farms
Sonia Pereira	Brazil	EFS	Woman Spearheads Campaign to Stop Destruction of the Amazon, Brazil
Maritza Pulido Santana	Venezuela	EFS	<i>Juegos Ecologicos en Los Parques</i> - Enhancing Children's Attitudes Towards the Environment, Society and Themselves, Venezuela
Alicia Garcia Scarton	Venezuela	EFS	Coordination of Successful Campaign Against Holding TransAmazonic Road Rally, Venezuela
Teresa Torres	Bolivia	EFS	The Women of the Kallawaya Culture in Bolivia Work to Preserve their Culture and Ecologically Sound Lifestyle
Rosa M. Villamayor	Paraguay	EFS	PRONATURA Helps Children in Paraguay to Become "Guardians of Nature"
Gerda Bien-Aime*	Haiti	Energy	Solar Cookers For Haiti
Fabiola Cuvi	Ecuador	Energy	Ecuadoran Institute for the Research and Training of Women (IECAIM) Decreases Rural Women's Demand for Fuelwood
Vilma Soto	Costa Rica	Energy	The Women's Solar Oven Group of Oriente in Costa Rica
Claudette Wilmot	Jamaica	Energy	Jamaican Solar Cooking Project
Raquel C. de Chang	Panama	Waste	The Center for Applied Scientific Studies (CECA) Addresses Both the Ecological and Social Problems at the Chitré Dump, Panama
Gema Zendejas Huerta	Mexico	Waste	Women Fight Against the Erosion of the Land in Mexico
Susan Mahon	Barbados	Waste	Barbados Environmental Association's Gully Clean Project Combats Illegal Dumping of Domestic Waste

## *Success Stories*

Azucena F. Martinez	Venezuela	Waste	<i>FundaGrea</i> - Controlled Decomposition Systems in Venezuela
Maria Madelena de Brito Melo*	Brazil	Waste	A New Drainage System for Reino Encantado, Brazil
Josefina Mena-Abraham	Mexico	Waste	Transforming Waste Into Flowers in Mexico
Giovanna Merola	Venezuela	Waste	Citizen's Group Organizes to Halt the Importation of Contaminated Foodstuffs in Venezuela
Jacqueline Pitanguy	Brazil	Waste	CEPIA Raises Awareness on Health and Environment in Sao Gonçalo, Brazil
Rosa Aquino Portal	Peru	Waste	Alternative Methods of Waste Collection in Peru
Veronica Irene Joy Royes	Jamaica	Waste	Composting in Jamaica - A Student Science Project
Rosa Arteaga Sato	Peru	Waste	Peruvian Women Plan Sanitary Education Against Cholera Epidemic in Comas District
Gabriela Solis de Carreto	Mexico	Waste	Waste Management in Merida, Mexico
Tania M. Tavares	Brazil	Waste	Lead/Cadmium Reduction Project in State of Bahia, Brazil
Sonia Trotman	Dominica	Waste	Year of Environment and Shelter (YES) in Dominica
Sara Aguilera*	Honduras	Water	Sara Aguilera Organizes Artisanal Fishermen and Small Farmers To Resist Wetlands Conversion in Honduras
Guillermina Lopez Bravo	Mexico	Water	Laubach Literacy International's Clean Water and Fish Pond Project, Tinaja de Negrete, Mexico
Norma Barreiro Garcia	Mexico	Water	Training to Allow Participation of the Community in Projects Concerning Water and Sanitation, Mexico

## *Success Stories*

Graciela Fabiano Gonzalez	Uruguay	Water	Protection of Fresh and Brackish Water Fishery Resources in Uruguay
Nazare Imbiriba	Brazil	Water	An Innovative Breakthrough for Clean Water in the Amazon Region, Brazil
Maria Onestini	Argentina	Water	Project Raises Awareness about Pollution in Mantanza-Riachuelo River, Argentina
Wilfrida Ramona Garcia Perez	Dominican Republic	Water	CODERENA Works to Prevent a Mining Project Near La Vega, Dominican Republic
Bertha Rivera*	Mexico	Water	Socioeconomic Program for Women's Organizations: The Experience of Tempoal, Mexico
Flor Isabel Tur	Venezuela	Water	GEMA Raises Awareness of Mercury Contamination in the Gold Mines of Guayana, Venezuela
Carmen Bustillo Turcios	Honduras	Water	Women's Group in Tripoli, Honduras Addresses Watershed Degradation Related to Deforestation
Irene Rut Wais de Badgen	Argentina	Water	Environmental Impact Considered in Dam Projects in Argentina
Veronica Yearwood	Antigua and Barbuda	Water	Woman's Campaign Moves Government to Stop Groundwater Contamination in Antigua, West Indies

## *Success Stories*

### **SUCCESS STORIES FROM NORTH AMERICA**

<b>PRESENTER</b>	<b>COUNTRY</b>	<b>SUBJECT</b>	<b>DESCRIPTION</b>
Isabel Abrams	USA	EFS	Caretakers of the Environment Mobilizes High School Students and Teachers on Environmental Problems
Brenda Killian	USA	EFS	The Dolphin Project at Earth Island Institute Promotes the Use of Dolphin-Safe Technology
Kathleen Lemler	USA	EFS	Mothers and Others for Safe Food
Ellen B. Mitchell	USA	EFS	Community Garden Program Provides Food for Houston's Hungry
Patricia Monahan	USA	EFS	Kids for the Earth, Mount Vernon, New York
Jean Parsons	USA	EFS	The Burlington Woman's Club Uses State and Local Resources to Educate Young Children in North Carolina
Phyllis V. Roberts*	USA	EFS	Wildlife Preservation and Protection Program, General Federation of Women's Clubs
Elizabeth Thorndike	USA	EFS	Center for Environmental Information Improves Public Access to Information
Elizabeth Titus	USA	EFS	The Student Conservation Association Helps Protect and Preserve National Parks
Mary Wimmer*	USA	EFS	Preserving the Monongahela National Forest
Miriam Wyman	Canada	EFS	WEED - First Canadian Foundation to Link Women and the Environment

## *Success Stories*

Anna Edey	USA	Energy	"Solviva" Winter Garden - An Innovative Energy-Efficient Solar Greenhouse
Sheri Powell	USA	Energy	Project ROSE (Recycled Oil Saves Energy) Conserves Energy While Recycling Used Motor Oil in Alabama
Lois Sagel*	USA	Energy	"Growing Solutions" Encourages Water and Energy Savings In The Urban Environment
Mary Appelhof	USA	Waste	Composting Garbage with Worms
Frances Bianco	USA	Waste	Woman Inspires Temple Terrace Community, Florida to Recycle and Educate the Youth about the Environment
Linda Wallace Campbell	USA	Waste	Woman Organizes Grassroots Campaigns Against Hazardous Waste
Katsi Cook	USA	Waste	Akwesasne Mother's Milk Project
Mildred Feldman	USA	Waste	League of Women Voters Task Force on Recycling, Baton Rouge, Louisiana
Patti Frase	USA	Waste	Arkansas Environmental Congress Fights Incineration Plant in Jacksonville
Susanne Greer*	USA	Waste	PAHLS - A Grassroots Alliance for Environmental Justice and Waste Management
Miriam S. Nichols	USA	Waste	Woman's Club of Vista's Recycling and Hazardous Waste Education Programs
Kathy O'Hara	USA	Waste	Volunteer-Based Beach Cleanup Campaigns
Kip Oschwald	USA	Waste	Collection Service For Recyclables in St. Joseph, Missouri
Sheryl L. Puracchio	USA	Waste	The Wilmington Junior Women's Club Educates Community on Waste Reduction through its "Model Community" Program

## *Success Stories*

Donna M. Reynolds*	USA	Waste	The Richmond Area, Virginia League of Women Voters Produces a Local Recycling Guide and Promotes Recycling
Marie Steinwachs	USA	Waste	Missouri's Household Hazardous Waste Project
Margaret Underhill	USA	Waste	The Silsbee Woman's Club Conservation Department Promotes Recycling in Texas
Isedora Ballard	USA	Water	Women Fight the Use of Sludge on the Chesapeake and Delaware Canal
Lee Botts	USA	Water	Lake Michigan Federation Works to Protect One of the World's Most Important Fresh Water Sources
Kathleen K. Ellett	USA	Water	Chesapeake Bay Citizen Monitoring Program
Noreen Gebauer	USA	Water	The Lake Erie Basin Committee (LEBC) Helps Clean Up Lake Erie
Barbara Harmony	USA	Water	Concerned Citizens' National Water Center in Eureka Springs, Arkansas
Marcha Hunt	USA	Water	The Adopt-A-Stream and Storm Drain Stenciling Program of the Wildwood Girl Scouts
Wanda Johnson	USA	Water	Nebraska Groundwater Foundation
Jo Ellen Litz	USA	Water	Citizens Coordinating for Clean Water in Lebanon, Pennsylvania
Marylee Orr	USA	Water	Louisiana Environmental Action Network Empowers the Rural Poor to Protect Louisiana's Waterways and Environment
Suzi Ruhl	USA	Water	The Legal Environmental Assistance Foundation's Groundwater Protection Program
Mary Lou Sharon	USA	Water	Local Residents in Naugatuck, Connecticut Form Pollution Extermination Group (PEG) to Close Landfill Contaminating Water Supply

***Success Stories***

Rose Strickland

USA

Water

Lahontan Valley Wetlands Coalition Obtains  
Water Rights For Stillwater Wildlife Refuge in  
Nevada, U.S.A.

**\*Did not attend Assembly**





## **SATELLITE WORKSHOP DESCRIPTIONS**

**GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT  
"PARTNERS IN LIFE"**

**4-8 NOVEMBER 1991**

**OMNI INTERNATIONAL HOTEL  
MIAMI, FLORIDA, U.S.A.**

**SATELLITE WORKSHOP DESCRIPTIONS\***

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**Subject: INSTRAW: United Nations International Research and Training  
Institute for the Advancement of Women**

**Organization: INSTRAW, Cesar Nicolas Penson 102-A, Santo Domingo,  
Dominican Republic; Tel: (809) 685-2117**

**Presenter(s): Julia Tavares  
Rosi Braidotti  
Hilka Pietila  
Eva Munk Madsen**

**Objective:**

To introduce workshop participants to INSTRAW's activities on women, environment and development through videos and audio-visual presentations.

**Format:**

The workshop will have a sequential format as follows:

Mon., Nov. 4 4:45-6:30 Twenty-minute audio-visual produced by INSTRAW on Women, Environment and Sustainable Development and presentation of a background paper summarizing the results of the research study that INSTRAW has carried out in a joint effort with the University of Utrecht and the Institute of Social Studies in the Netherlands.

Tue., Nov. 5 4:45-6:30 Audio-visuals on Water and Sanitation and New and Renewable Sources of Energy (NRSE) produced by INSTRAW. Discussion will follow on how to mainstream these environmental issues into national and international agendas.

Wed., Nov. 6 4:45-6:30 Discussion on strategies for INSTRAW in the area of women and the environment.

**Outcome:**

Workshop participants should come away with an understanding of the work INSTRAW is involved in and how the organization may help further the goals of women and environment as they relate to sustainable development.

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**GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT  
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**SATELLITE WORKSHOP DESCRIPTIONS\***

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**Subject: MIAMI HOSTING COMMITTEE WORKSHOP**

**Presenter(s):**     **Dr. Anitra Thorhaug  
Pam Pierce Chenowith  
Maureen Harwitz  
Nancy Brown  
Marjorie Stoneman Douglas  
Dagne Johnson**

**Objective:**

Presentations of local Miami (South Florida) solutions for citizen action on waste, water restoration, island ecosystems including reefs, and preservation of biodiversity sustainability.

**Format:**

Poster sessions, presentations, and questions and answers relating to the four field trips available to Global Assembly participants and organized by the Miami Hosting Committee. Other organizations assisting in these workshops are: Greater Caribbean Energy and Environment Foundation, Friends of the Everglades, Tropical Audubon Society, Miami- Dade Water and Sewer Authority and the Izaak Walton League, the Junior League and the Upper Keys Citizen Association. Workshop topics will be:

**Mon., Nov. 4     Water: Florida Keys, Biscayne Bay and Children's  
4:45-6:30        Educational Trip**

**Tue., Nov. 5     Everglades National Park  
4:45-6:30**

**Wed., Nov. 6     Hazardous and Toxic Waste and Sewage Disposal  
4:45-6:30**

**Outcome:**

Participants will gain real hands-on knowledge about the control of indiscriminate waste dumping and of unbridled development into the Everglades, the Bay and the Florida Keys from the women who made it happen. Participants will see political citizen action and management realities.

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**SATELLITE WORKSHOP DESCRIPTIONS\***

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**Subject: ORGANIZING FOR DEVELOPMENT  
"Women's Organizing Abilities"**

**Organization: Organizing for Development an International Institute  
(ODII), 2134 Leroy Place N.W., Washington D.C. 20008  
Tel: (202) 483-6344**

**Presenter(s): Barbara Boyd  
Turid Sato  
Somjit Tipprapa**

**Objective:**

To introduce participants to a new framework for organizing that values and utilizes women's skills equally with men's and to discuss a project in Northeast Thailand where more than 500 villagers - half men and half women - came together to plan for their own development. To share ideas on integrating women fully into planning and decision making at local and district levels.

**Format:**

Thirty minutes of formal presentation to include a 20-minute video, "Threads of Change: Women's Voices in Development", followed by one hour of roundtable discussion.

**Outcome:**

Participants will leave the workshop with an understanding of a new organizing framework in which development can take place; what women's specific organizing skills are; and how participants can integrate these skills into their own work situations.

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**SATELLITE WORKSHOP DESCRIPTIONS\***

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**Subject: REGENERATIVE AGRICULTURE**

**Organization: Rodale Institute, 222 Main Street, Emmaus, PA 18098  
Tel: (215) 967-5171**

**Presenter(s): Rhonda R. Janke, Ph.D. Rodale Institute Research Center**

**Objective:**

To give participants a better understanding of the U.S. food system and the constraints that farmers face when converting from farming systems that rely on off-farm pesticide and fertilizer inputs to sustainable cropping systems that rely on a internal supply of fertility and pest control such as cover crops and crop rotation.

**Format:**

50% lecture/presentation with slides  
50% round-table discussion

A slide presentation will give an overview of the areas of research in regenerative agriculture currently addressed by the Rodale Institute. Conventional agricultural practices will be compared with feasible alternatives for farming without the use of pesticide and fertilizer inputs. The state-of-the-art in research methods to discover and create new cropping system alternatives will be covered in the material. At the end of the formal presentation several questions or issues will be raised and used as discussion topics for the whole group. Positive examples of citizen actions will be discussed, such as the establishment of green belts around cities, rural/urban networks, community supported agriculture, and other ways to become politically involved. The important roles that women play in the agricultural research and farming communities will also be discussed.

**Outcome:**

Participants will leave with a better understanding of how farmers grow food and what they can do as informed consumers and as voting citizens to encourage farmers to reduce or eliminate the use of pesticides and chemical fertilizers.

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**SATELLITE WORKSHOP DESCRIPTIONS\***

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**Subject: SOLAR COOKING "Assessing Regional Potential to Address  
Fuelwood Shortages and Air Pollution"**

**Organization: Solar Box Cookers Int'l, 1724 11th St., Sacramento, CA  
95814; Tel: (916) 444-6616**

**Presenter(s): Barbara Knudson, Ph.D. Women in International Dev.  
Research and Inf., University of Minnesota**

**Beverly Blum, M.S., Solar Box Cookers International  
Margot Aguilar de Perez, M.A.**

**Objective:**

To demonstrate a simple solar cooking prototype, a basic teaching process, and a format to help women make and use their own solar cookers.

**Format:**

The workshop will include presentations, demonstration of solar cooking, discussion, slides, and group participation in planning exercises.

**Outcome:**

Environmental solutions, to be readily practiced, must offer immediate, tangible benefits as well. A simple solar cooker has multiple uses - convenient cooking, easy water pasteurization, heating water for other uses. By saving wood and charcoal it also reduces air pollution. It is low-cost, and through education, people can learn to build and use their own.

Participants will gain: 1) an exposure to solar cooking, 2) tools to evaluate its possible benefits in specific regions and 3) an overview of a process for successful introduction of versatile solar cooking technology.

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**SATELLITE WORKSHOP DESCRIPTIONS\***

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**Subject: WOMEN'S WORLD BANKING (WWB) "Women, Enterprise and the Environment"**

**Organization: WWB, 8 West 40th St., 10th Floor, New York, NY 10018  
Tel: (212) 768-8513**

**Presenter(s): Nancy Barry, President  
Mary Okelo, Vice President  
Michaela Walsh, Founding President**

**Objective:**

The presenters will coordinate a discussion around the following areas:

- Women and small enterprise - as environmentally-friendly activities that are pivotal in achieving a balance in addressing economic survival issues of poor families and building sustainable development strategies.
- Effective local organizations and financial mechanisms to build the economic participation of low-income women and to facilitate their influence as change agents in their communities.
- Activities and means to promote women-owned small businesses and enterprise networks which contribute to achieving environmental objectives.

**Format:**

The presenters will outline the experience of WWB's 50 affiliates in 40 countries in building solid not-for-profit business providing credit, savings and other business services to low income women microentrepreneurs; how financial mechanisms can be used to promote environmentally sound businesses; and how women are taking an active role in addressing economic and environmental objectives at the grassroots.

**\* Note:** It would be particularly useful if conference participants who have experience in financing microbusiness and building environmentally sound and positive enterprises could join this workshop, since the objective is to pull together the best of practice and innovation in this area.

**Outcome:**

A set of workable strategies, organizational modalities and mechanisms for women to play a leading role in designing and implementing sustainable economic development strategies.

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**SATELLITE WORKSHOP DESCRIPTIONS\***

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**Subject: WOMEN AND THE ENVIRONMENT "Participating in  
WorldWIDE's Network"**

**Organization: WorldWIDE Network, 1331 H St. N.W., Washington D.C. ;  
20005; Tel: (202) 347-1514**

**Presenter(s): Members of WorldWIDE Network Inc.**  
- **Board of Directors**  
- **International Advisory Council Members**  
- **National WorldWIDE Forum Members**

**Objective:**

To explore options and opportunities for expanding WorldWIDE's international, national and community networks, to ensure that these networks function effectively for and in support of all members and to establish an action agenda for WorldWIDE's future role in mobilizing women on behalf of environmental management.

**Format:**

The workshops will focus on group participation and exchange of information.

**Mon., Nov. 4 Meeting Practical Needs for Networking  
and Information Sharing**

4:45-6:30

Helen Freeman, WorldWIDE Directory Coordinator

Linda Spencer, WorldWIDE member, Infoterra & WW Information Center

**Tue., Nov. 5 Establishing National Forums to Advance Community  
Networking**

4:45-6:30

Prabha Bhardwaj, Kenya

Maria Cherkasova, USSR

Sakeena Bonsu, Ghana

**Wed., Nov. 6 Envisioning the Future - Establishing a Working Group and  
Action Agenda for Consultation on November 7, 1991**

4:45-6:30

Presiding: Michaela Walsh, Chairperson, WorldWIDE Board

Board Members, members and National Forum Coordinators

**Outcome:**

Participants should come out of every session with strategies, new ideas and energy to continue the spirit of WorldWIDE's goal of mobilizing women in support of environmental management.

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**CLOSING PRESENTATION**  
**BY**  
**SHARON CAPELING-ALAKIJA**  
**DIRECTOR**  
**UNITED NATIONS DEVELOPMENT FUND FOR WOMEN**  
**UNIFEM**

Good morning! It is a pleasure for me to be able to share this forum with you.

Having heard so many success stories, over the past few days about contributions by women to human development and environmental protection, some of you might be wondering why there has been such limited political follow-up; so little legislative recognition of your work in these areas; so little economic support; and so little apparent understanding of the impact of gender biases on the living standards of men as well as women. No nation, however rich in physical resources, can afford to sideline half its potential, but this is effectively what we are seeing in nation after nation -- rich and poor.

"Can they really be missing the point?" you might ask. "What more do we have to prove? Well, I can assure you -- you are not alone in your thoughts.

We have made some significant headway, as you have heard during this assembly, but we have a long -- perhaps very long way left to travel. A colleague reminded me recently that 100 years after the scientific revolution, the pioneers of the modern industrial world -- as we know it -- were still barely tolerated. Many were considered to be crackpots. Their endeavours were viewed with deep suspicion. They were held at arms length: confined to the margins of the economy and decision making processes. Does their story sound at all familiar?

Even today, the scientific and political communities have difficulty communicating, but science did prevail. Why? How did the new knowledge and practices make their way into the mainstream? How did the scientists and thinkers achieve their present status and change the way we view the world -- the way we live?

The answer, in part, is that the scientists positioned themselves in important places where they could make their voices heard: places where they could make their presence felt. They trained a labour force to speak their language and to understand their principles. And they applied science and technology to human productivity and the solution of socially significant problems. They recognized the importance of having a broad base of understanding and support, which they fostered by educating and training others to build on progress, to spread the word, and to further swell their ranks. What a shame there were not more women among them!

As we well know, modern science has frequently ignored indigenous knowledge and women's interests. However, on balance, there are some important lessons to be drawn from this experience, and in some respects, history is being repeated through the women's movement. Women are beginning to position themselves in important places. They are gradually sensitizing people to gender issues and more and more people are beginning to speak the language of equality. We have seen growing understanding and acceptance of the concept of Women In Development, and now Women in Environment and Development.

Where we appear to be weakest, is in our ability to convince policy makers that women do indeed have solutions to social problems. While we claim that development will occur more rapidly and effectively, if women are fully integrated in all areas of human endeavour, we have had only limited success demonstrating that point. As yet, we have only

a few models -- a few effective strategies which others might replicate. We have yet to establish many of our experiences as fact.

You have shared some of those experiences among yourselves over the past four days, but we must do more to document what works and what doesn't work, and apply the principles of success in the mainstream where the impact will be greater and more visible. We must give more support and exposure to innovation through expanded programming. We need to disseminate new technologies and techniques more widely. We have to be more vigorous in our campaigning for legal, social and political change.

Having broadcast the basic tenet that equality and development are intrinsically linked; having established institutional structures to pursue the objective of Women in Development; we now need a more strategic application of these fundamentals. We need to assemble the approaches which we know will work in a given context and give them a larger audience. We must apply our models to widely acknowledged problems. The environment is a good place to begin.

As we approach the United Nations Earth Summit, in Brazil next June, it is interesting -- I am reluctant to use the word significant -- that the Preparatory Committee for the Conference on Environment and Development, has been able to reach wide agreement on just one major resolution so far -- just one major resolution in the midst of such pressing concerns as global warming, deforestation, depletion of the ozone layer, and the need to transfer clean technologies to developing nations. The resolution which has been agreed upon, it OUR resolution; the resolution on Women in Environment and Development. It calls for the recognition of women as "active and equal participants" in eco-system management. It also highlights the need to address "women's critical economic, social and environmental contributions to sustainable development."

It is obvious to those of us here today, why the needs of women should be prominent on the conference agenda, and the optimist in me would like to believe that this resolution is in direct response to our efforts. I would like to believe that it reflects the level of recognition we have been reaching for -- recognition by this major international forum -- this Earth Summit -- that the needs of women, the environment and the development process, are inseparable.

However, against the background of political disinterest which greets so many issues affecting women, the realist in me begs three questions: Why did the Preparatory Committee agree on words to a resolution related to gender? Could it be that its members consider the role of women to be a peripheral, and therefore, a non-contentious issue? When we get to Rio will we find that women's contributions to economic production and environmental preservation are on the back burner?

Yes, we are on the agenda. The challenge now will be to engage those who are indifferent: to establish accountability, both moral and financial. We have organizations watching over our human rights. We have an international treaty which recognizes the oceans as our global heritage. We have an international convention which monitors the protection and rights of our children. If the Earth Summit is to make a lasting impression on the political consciousness of nations we will need a similar mechanism by which our leaders can be measured publicly, at home and abroad.

It troubles me, and I know it troubles many of you as well, that we also lack the financial mechanisms for progress. How are we going to sustain, let alone replicate, our positive examples? We talk a lot about sustainability and replicability, but where's the money

coming from? We need answers and we are going to have to chase them from here to Rio, and most probably back again.

Equally, we must focus attention on the cycle of poverty and environmental degradation which has made women both victims and agents of environmental abuse. We must attempt to bridge the chasm between rhetoric and the real world.

The real world is where the poor majority live by their wits in fragile eco-systems -- in the rain-forests, on the arid desert fringes, on the hillslopes and in the flood plains. These people are mostly dependent upon subsistence agriculture and other activities in the informal sector; and their work, their income, their contributions to national economic growth are rarely reflected in the national accounts.

Meanwhile, many millions of these 'invisible' people -- without land or tools to boost their productivity -- are effectively mining the environment. The seldom own land and they have few personal possessions. Their stake in the preservation of overcrowded public lands is tenuous at best. Survival is a day-to-day proposition -- the future, a gamble.

People who are poor, hungry and desperate, have little time to ponder the long term consequences of their actions. They do whatever they can to satisfy their immediate needs. They do whatever it takes to survive. Much of their farming -- their hard scrabble for survival -- is in the hands of women: women who are poor: women who are heads-of-household most, if not all, of the year while husbands and older sons seek cash income elsewhere: women who have been denied alternatives because government ministries and development agencies have ignored them. As long as these women remain poor, fragile ecosystems will remain at risk.

Women in difficult circumstances have faced and surmounted similar challenges in the past, and with recognition and support there is every reason to believe that they will do so again. It might not be widely known, but as authors Irene Dankelman and Joan Davidson have noted in their book "Women and Environment in the Third World", women in early foraging societies invented their own instruments for food gathering and storage and developed a thorough knowledge of plant growth, maturation and reproduction. It was through their interventions that early grain seeds such as wheat and sorghum were culled. It was through their observation and experimentation that ash was used as fertilizer, and that mulching, terracing, fallowing and crop rotation were established as basic agricultural practices. Women also domesticated animals and are credited with the practice of selective breeding. These are fundamental elements of sustainable agriculture and are essential to food security and environmental preservation.

As the main providers of food and fuel for their families, women have a powerful incentive to protect the environment. In much of the developing world, management of the natural resource base has become almost exclusively the responsibility of women, and UNIFEM is helping to give voice and visibility to their situation. You have had the opportunity to study six UNIFEM projects as part of your case studies during the past few days. They reflect an experience which is common to all regions, and that is, that whenever women have the capacity to safeguard the environment, they will do so. These projects, among the many we support, demonstrate the very fundamental truth, that in many countries, and in many communities today, women may be the environment's last and best hope.

## Biography

### **Sharon Capeling-Alakija**

**Director, United Nations Development Fund for Women (UNIFEM)**

Sharon Capeling-Alakija was appointed Director of UNIFEM on 1 February 1989.

UNIFEM's mandate is to pioneer approaches which will enable women's participation in national planning; to support innovative economic activities of grassroots women; and to be an effective instrument of advocacy and action in the service of women of developing countries. Recognizing the magnitude of the challenge in its mandate and the limit of its resources, UNIFEM concentrates its efforts in sectors of obvious strategic importance to women: agriculture and trade and industry. Work within these two key sectors is supported by concentration on credit, technology transfer and small business development.

A native of Moose Jaw, Saskatchewan, Ms. Capeling-Alakija began her career as a Volunteer for CUSO, Canada's largest non-governmental organization working in international development. After becoming a staff member, she spent sixteen years with the organization which took her from posts in Barbados and Tanzania to positions in public affairs, funding and human resource development in Ottawa. She then went on to Lome, Togo, where she was West Africa Regional Director, responsible for CUSO's programmes in Ghana, Nigeria, Togo, Sierra Leone, Cameroon and the Gambia.

Ms. Capeling-Alakija is currently an executive member of the Board for the North/South Institute and is among the few women in senior management positions in the United Nations System.



## **FINDINGS, RECOMMENDATIONS AND ACTION PLANS**

- **SUMMARY REPORT: WOMEN'S PERSPECTIVES ON THE ENVIRONMENT - RECOMMENDATIONS OF THE GLOBAL ASSEMBLY FOR A SUSTAINABLE FUTURE**
- **REGIONAL STRATEGIES AND ACTION PLANS**
- **MENTORS' RECOMMENDATIONS AND ACTION COMMITMENTS**
- **NEW GENERATION LEADERS - YOUTH COMMITMENTS TO ACTION**
- **PLEDGES TO SUSTAIN THE EARTH AND LIFE'S FUTURE: PERSONAL AND COLLECTIVE ACTION GUIDELINES TO SUPPORT THE FOUR SUBSTANTIVE THEMES OF THE GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT**
- **RECOMMENDATIONS FROM REGIONAL ASSEMBLIES OF WOMEN AND THE ENVIRONMENT**





**SUMMARY REPORT**

**WOMEN'S PERSPECTIVES ON THE ENVIRONMENT:**

**RECOMMENDATIONS OF THE GLOBAL ASSEMBLY**

**FOR A SUSTAINABLE FUTURE**

## **SUMMARY STATEMENT**

**We expect the heads of governments to:**

- **Sign binding conventions on climate change and biodiversity.**
- **Reach an agreement on principles on the World Forests.**
- **Assure that the Earth Charter includes men and women in the charter's rights and obligations.**
- **Approve a programme of action on Sustainable Development in which all sectors of society play an active role.**
- **Ensure that resources and the free flow of environmentally-friendly technology are available to men and women to implement Agenda 21.**

**We insist that the perceptions and priorities of women be fully reflected in Agenda 21.**

**We urge the United Nations and their agencies to support these recommendations.**

## **WOMEN'S PERSPECTIVES ON THE ENVIRONMENT**

### **RECOMMENDATIONS OF THE GLOBAL ASSEMBLY**

1. The Global Assembly of Women and the Environment met in Miami, Florida, USA from 4-8 November to address the global issues of water, waste, energy and environmentally-friendly systems, products and technologies. During the Assembly, 218 successful grassroots projects, concerned with these issues were presented by women from all regions of the world. The Global Assembly also received the conclusions of the four regional Assemblies held in Africa, West Asia/Arab World, Asia-Pacific and Latin America and the Caribbean.
2. The success story presentations showed that women, based on their experience, roles and skills, have specific and valuable contributions to make on issues related to the environment which are being addressed by governments, United Nations agencies and which will be addressed by the United Nations Conference on Environment and Development (UNCED). They also demonstrated that the global resolution of environmental issues and the advancement of environmental management requires the involvement of women.
3. The Global Assembly recommends that the following findings be brought to the attention of the Fourth Preparatory Committee of the United Nations Conference on Environment and Development, the Governing Council of the United Nations Environment Programme, to the World Bank and other international financing organizations. These perspectives and recommendations should also be widely communicated to institutions and people through the mass media.

## **ROLE OF WOMEN IN THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT**

### **BACKGROUND**

Women's role in environmental management for sustainable development has taken place at the grassroots level and their concern for the environment has been motivated by their desire to improve the quality of life and natural systems. Women's perspectives recognize that the eradication of poverty is central to solving problems of the environment. They understand that wasteful consumption contributes to environmental degradation. They further recognize that peace is essential to an ecologically-sound environment.

Women's experiences, perspectives and concerns have not been taken into account in development generally, nor in most programmes dealing with the protection of the environment and human and natural resources. Women's full participation in environmental management is essential for achieving sustainable development.

Too few women have been involved in decision-making with regard to policies, programmes, projects or funding for the environment, despite the international target of 30 percent of women in leadership positions by 1995, and equal representation between women and men by the year 2000.

The Third Preparatory Committee of the UNCED, called for the effective participation of women in knowledge generation, decision-making and management at local, national, regional and international levels which should be a global goal reflected in Agenda 21.

## **FINDINGS AND RECOMMENDATIONS**

- Successful projects at the grassroots level should lead to more concerted policies and action at the national level. Mechanisms should be established to incorporate the experience, talents and contribution by women into national policies and programmes.
- Governments and national, regional and international organizations should appoint women at all levels. Women should occupy a significant proportion of the senior positions on panels, boards, parliamentary committees, ministries and public agencies, as well as on delegations to the United Nations, including UNCED, and any organizations established for its follow-up.
- Candidates for all public offices should be assessed in terms of their position on environmental issues. Women should exercise their democratic rights and responsibilities to elect leaders, especially women, who are responsible to women's needs and concerns about the environment and development.
- Non-governmental organizations should publicize the positions of candidates for public office, in terms of their consistency with the concerns of women and the environment, and should monitor the performance of governments in placing women in decision-making positions concerned with the environment and taking decisions reflective of women's perspectives.
- Environmental non-governmental organizations should significantly increase the number of women serving in top level positions in their organizations.
- Women should be party to the allocation of funds and resources from national authorities or international lending agencies.
- The needs and views of women must be incorporated in the establishment of priorities in the management of human and natural resources. Women should also be involved in setting priorities in this action.
- National and international funding sources for environmental projects should establish procedures for including and consulting women prior to project design or making an investment.
- Appropriate research to identify the type of potential impact on people's lives of environmental and development projects should be made available to both public and private institutions, including academia.

## **BACKGROUND**

The Assembly presentations of successful projects by women to find solutions for specific environmental problems demonstrates the capacity of women at the local level, close to the lives of people, to benefit both themselves and the environment. Policies concerned with the environment without the involvement of women will not succeed in the longer run.

## **FINDINGS AND RECOMMENDATIONS**

- Governments should design policies for environmental management with maximum decentralization of authority and action at the local level. Adequate public resources should be made available to local initiatives, both governmental and non-governmental.
- A grants programme should be established to support women in environmental management at the local level.

## **BACKGROUND**

The success stories also demonstrated that while initiated with local resources, the supportive role of external funding, particularly through development assistance, helped to sustain such projects during their initial periods, and serve to attract additional funding. The value of investing in projects and building capacity largely led by women was clearly demonstrated.

## **FINDINGS AND RECOMMENDATIONS**

- Development assistance in support of women's grassroots efforts for environment and sustainable development should be substantially increased. A significant share of aid portfolios should be earmarked for those efforts. In addition, women should be provided with resources to monitor, evaluate and exchange experiences.
- International development assistance organizations should improve coordination among programmes dealing with the environment, the advancement of women and development policies.

## **ENERGY**

Energy consumption will define the environment of the future. Women have power as consumers to determine the future types of energy systems. Availability of adequate energy supplies benefits women in their traditional tasks and gives them time to engage in other, more productive and educational activities. Conservation of energy starts in the household and is often related to tasks women predominantly perform. Success stories show that women have developed new approaches to environmentally sound energy production in rural areas and better conservation of energy everywhere. The objective is to take this experience into account in designing environmentally-sound energy policies.

## **FINDINGS AND RECOMMENDATIONS**

- Governments should evaluate energy policies in terms of total energy systems including the micro-systems managed by women in the home as well as their role as consumers and should take into account their views and preferences.

- Priority must be given to reducing dependence on the use of fossil fuels particularly in view of their contribution to global atmospheric change. A greater threat to the survival of the Planet is posed by nuclear power and its associated wastes.

## **WATER**

Availability of water of good quality is an essential human need, but one that is not adequately met. Provision of water is essential to human settlements and requires cost-effective solutions. The objective is to ensure the provision of safe water to all.

## **FINDINGS AND RECOMMENDATIONS**

- Governments should give priority in the allocation and protection of water supplies to the needs of people over other uses. Technologies should be developed and disseminated that are inexpensive, universally accessible and easy to install and maintain. Designers of all water supply and sanitation systems should be required to consult women who are the primary users in the home.

## **WASTE**

Waste is a lost resource, dangerous to ecosystems and to health. The success stories show that women have found ways to deal with waste economically and safely, whether by recycling or responsible consumer behavior. They have also shown that uncontrolled dumping of toxic wastes, nationally and internationally, can be resisted and stopped. Waste should be reduced by development of cleaner production technologies.

## **FINDINGS AND RECOMMENDATIONS**

- Recycling and environmentally-sound waste management should be institutionalized by national policies and local programmes. Disposal of toxic wastes anywhere should be strictly regulated.

## **ENVIRONMENTALLY-FRIENDLY SYSTEMS, PRODUCTS AND TECHNOLOGIES**

New, cost-effective, environmentally-friendly systems and the re-introduction of effective indigenous methods can reduce waste production and protect natural resources. Women as consumers are a powerful force for research and development of such technologies, as demonstrated by the success stories.

## **FINDINGS AND RECOMMENDATIONS**

- Women should use their rights as consumers to influence Governments and the private sector in the development of appropriate technology. Women should also endeavor to take environmentally friendly decisions and actions in their

every day lives in their home, in their place of work, and in their local communities.

- Governments should provide for this protection and careful administration of their communities and natural resources and patrimony, in particular those identified as crucial at the local and global level, such as genetic resources.

The Global Assembly expressed its appreciation to UNEP for its efforts to bring the concerns and perceptions of women into environmental decision making and to facilitate this Miami meeting. It also expressed the hope that UNCED would confirm the need for a strengthened unit to continue to work in this area within the UN system.

More generally, the women at the Global Assembly expressed the fervent hope that the Earth Charter to be adopted at UNCED would lay down an ethical framework for the rights and obligations of both men and women. In this context, the Assembly endorsed the call by UNEP's Executive Director for recognition that the sovereignty of nature must prevail over the sovereignty of nations.





## **REGIONAL STRATEGIES AND ACTION PLANS**

**AFRICA  
ASIA-PACIFIC  
EUROPE  
LATIN-AMERICA/CARIBBEAN  
NORTH AMERICA**

## AFRICA REGION

### STRATEGY AND ACTION PLAN

The strategy and action plan for the Africa region were developed jointly by the success story presenters, the NGLs and Mentors present. This action plan is a logical follow-up to the strategies that came out of the two regional Assemblies of Women and the Environment, held in Zimbabwe and Tunis.

#### **Success Story Presenters' Commitments:**

Success story presenters committed themselves to continue their work to which they are already committed, and inter alia to:

- Improve the quality of life of their communities;
- Work towards restoring and preserving the natural resources available to them;
- Achieve food security for their families and communities;
- Continue to involve and engage children and the new generation of leaders in the processes of awareness raising on issues affecting the environment and development;
- Share the knowledge and technologies with other groups, communities, and regions;
- Establish an all-African Green Belt-like network as a follow-up to the Global Assembly.

#### **Mentors' Commitments:**

Mentors, representing academia, international, national, governmental, and non-governmental organizations, committed to:

- Promote exchanges of information and success stories through various publications, newsletters, adequate communication, and local, national, and regional meetings;
- Promote adult literacy programmes with special emphasis on natural resource management;
- Insist that national and international organizations take into account women's concerns in developing environmental policies and strategies;
- Encourage inter-agency coordination in all women and environment related activities and projects;
- Maintain a holistic and integrated approach in sustainable

development plans and programmes;

- Lobby governments to increase financial resources allocation for women's and environmental activities;
- Advocate and strengthen public awareness regarding the relationship between development and the environment;
- Facilitate dialogue between NGOs and governments.

## **Other Challenges**

Convinced that a healthy environment must be preserved for future generations.

Aware that this environment is being degraded.

Concerned that widespread poverty in Africa is closely related to her burden of debt and debt servicing, Structural Adjustment Programmes and the unacceptable rate of extraction and outflow of natural and other resources.

Also concerned that as long as this situation persists, Africa will be unable to pay adequate attention and response to key environmental issues which results in lack of adequate water and fuel supplies, food scarcity, improper waste disposal systems, inappropriate technologies and unsafe products.

Concerned that such worsening environmental conditions would exacerbate African women's already fragile socio-economic situation, given their central role as home managers and partners in life with the environment, we urge that:

- Concerted efforts be directed at minimizing and eventually eradicating poverty on the continent;
- Measures be adopted to reverse the uncontrolled outflow of Africa's natural and human resources;
- Financial inputs be ploughed into projects that would promote women's environmentally-protective activities;
- The Structural Adjustment Programmes which have so far intensified poverty on the continent be critically reviewed and more humane alternatives found;
- Those African governments that are effecting socio-political changes and providing an enabling environment to women for capacity-building be technically and financially supported;
- We endorse the Bamako and other conventions or agreements on the dumping of hazardous waste in the continent and urge their immediate implementation and enforcement;

- Peace be promoted on the continent to enhance effective and sustainable development that takes cognizance of environmental issues;
- African traditions and knowledge be incorporated into strategies aimed at promoting environmentally sound development;
- In the interest of a healthy global environment for all, international and national mismanagement of human and material resources is counter-productive to sustainable development and must be eradicated.

**ASIA-PACIFIC REGION**  
**STRATEGY AND ACTION PLAN**

**We recommend:**

1. That the government recognize the potentials and major role of women in ensuring an environmentally-sound, sustainable development; and therefore strengthen their commitments in this direction.
2. Taking into consideration, the growing population pressure, governments should adopt population policies that are in harmony with globally available natural resources.
3. Consumption lifestyles promoted and practiced in affluent sectors in all countries which deplete available resources and degrade the environment, should be discouraged through government campaigns and community action at all levels.
4. That water resources be properly studied for its wise utilization and regulation to prevent depletion and to secure quality. Women should be involved in water management.
5. That all governments legislate and enforce clean technology by the year 2000, involving women in the development of such technology.
6. Waste should be disposed of in an environmentally safe manner. Countries and industries should be responsible for the safe disposal of their wastes in their own countries.
7. Governments should develop and promote alternative, renewable energy sources in consultation with women; that investments be made in the development of appropriate indigenous technology, most particularly those that address the needs of women.
8. That policies of governments and funding agencies concerning development programmes harmonize with ecological principles.

We urge governments to implement the recommendations adopted at the ESCAP ministerial level conference on environment and development in Bangkok October 1990.

**Action Plan**

Recognizing that the future of the planet is the responsibility of all of us we recommend that:

- Women should ensure that our capability to successfully manage environmental programmes is recognized;
- Development plans include gender and environmental perspectives at all levels;
- Women be involved in environmental policy, planning, assessment and implementation;

- Nations recognize that excessive consumption, wherever it occurs, affects developing countries the most;
- Environment decisions should recognize local knowledge and traditional, cultural and spiritual values.

We challenge ourselves as members of local, national, regional and global institutions to work towards a healthier environment.

**Specifically we ask that:**

- Donors recognize and act upon recommendations of this Assembly;
- Environmental literacy programmes be integrated into the formal and non-formal educational curricula;
- All natural refuges be nurtured and supported;
- International maritime law be promoted to protect against damage to the marine environment resulting from mismanagement of toxic and hazardous waste;
- We actively campaign for environmental concerns to be incorporated into economic policy and planning at every level;
- Gender and environmental issues be recognized in political decision making and planning;
- National and international organizations recognize and support the community groups at all levels who are active in environmentally-friendly programmes;
- Environmental Impact Assessments be emphasized in all projects and that women's access to information and the process of public participation be assured;
- Women be called upon to support each other in defending against environmentally inappropriate development in their own and in other countries;
- Mass media be used to disseminate information on success stories from the Assembly to assist in the replication process where the methods can be adapted to local needs and conditions;
- An action group of environmental NGOs be developed to formulate an action plan on women and the environment and to find measures and channels to implement it.

### **Resolutions from the Asia-Pacific Region to the UNCED Process**

1. Primary health care is of major concern to the women of this region. Safe water must be universally accessible and the management of human, household, agricultural and industrial waste must be effective. Organic systems for waste recycling are essential for a healthy ecosystem.
2. Non-polluting renewable energy sources should be promoted and developed to lighten the load for women and protect the planet's atmosphere.
3. Grassroots women's NGOs must have the resources to apply their inspirational and innovative solutions to the problems of sustainable living in their own biosphere.
4. Political action is essential to ensure equal access to information, technology and resources.

## EUROPEAN REGION

### STRATEGY AND ACTION PLAN

#### Preamble

We, women of the European region, commit ourselves towards healthy and un wasteful lifestyles and economies, in which basic human needs are met.

We express our deep concern about the ongoing damage to human beings and the destruction of their environment, as a result of which children are born handicapped, ecological diseases are increasing and life expectancy and fertility are decreasing. Maldevelopment, over-consumption and arms production are responsible for these crises. So, people often lose sight of real vital values and priorities.

We insist that the first priorities in the development process are the physical and spiritual health of human beings, and at the same time, preserving and restoring our natural environment.

We demand constitutional rights for people to live in a healthy environment. We oppose production, proliferation and use of arms. We refuse nuclear power and support energy efficiency and the promotion of renewable energy. We express our solidarity with other women around the globe, struggling for a healthy life and planet.

Finally, we promote the development of a World Strategy for Survival.

#### **We Will Accomplish This By:**

- **Ensuring people's full rights to a healthy environment** and to participate in decisions affecting their environments, health and well being, and to ensure, enforce and revitalize legal remedies and redress.
- **Allocation of public funds and other resources** for research, education and action toward the prevention of conflicts and to ensure peaceful settlement of disputes at local, regional and international levels.
- **Adequate funding** for initiatives which contribute to an un wasteful lifestyle in Europe.
- **Analyzing the inter-linkages between the sectors and actors** in our development process and the relationships between environmental, social and economic aspects, taking into account both scientific expertise and practical experiences. And based on this, the re-definition of concepts of development, economy and progress.
- **Showing that alternative, including indigenous solutions and lifestyles** are effective, economically feasible and ecologically sustainable. In this respect, pilot projects play a crucial role and should be supported.



- **Introduction and promotion of sustainable production and consumption patterns**, thereby preventing excessive, exploitative or polluting practices.
- **Continuous monitoring and documentation** of human, animal and plant health and making such information accessible to all.
- **Information exchange**, translation in understandable language and networking, in formal and informal ways, through:
  - Women's environmental and development organizations and networks (existing and new ones);
  - Exchange of scientific information among women and make this information accessible for women at the grassroots level;
  - The organization of a regional European Meeting of women focussing on our life and survival, and challenging economic growth. This meeting will take place at the end of 1992, will have a balanced representation from all different regions from Europe, have an inclusive character and take place in a human, environmentally and culturally (languages) friendly environment.
- **Supportive Mechanism**
  - Joining of each other's campaigns;
  - Establishing a "hotline" for emergencies and protective and supportive campaigns for all women that are threatened because of their environmental activities, and promoting their legal protection;
  - Building up an alert system and supportive systems for those areas that are most in immediate danger of ecological and human collapse, with emphasis on regions in Central and Eastern Europe which are now under immediate threat;
- **Awareness Raising**
  - Through individual examples;
  - Through environmental education at all levels;
  - Via our information and networking channels;
  - The organization of environmental and consumers campaigns, e.g. a Non-Shopping Day on Women's or Earth Day.
- **Advocacy**
  - Denouncing destructive developments, projects, plans and sectors,

such as war systems, the production, use, disposal and dumping of toxic and nuclear products.

- **Apply our expertise, promoting:**
  - Environmental training to trainers;
  - Training of environmental and socially sensitive (including gender) professionals, particularly of women professionals;
  - Establishing corps of environmental mediators.
  
- **We will promote local and community action:**
  - Acquiring knowledge on how to integrate women's values and needs in municipal plans and development of models for achieving this goal;
  - Development of municipal plans which include a strong women's perspective in regard to the residential environmental, the industrial and employment policies, and the health and social welfare policies.
  - Spreading of knowledge acquired, to their municipalities.

#### **WE WILL DO THIS BY:**

- Personal commitment
- Individual changes and actions
- Community participation
- Including more women in planning and decision-making positions within private and public organizations, and industries on local, national and international levels.
- Approaching governments, academic and scientific establishments, industries and financial institutions and other decision-makers at regional, national and international levels to hold them to their commitments, resolutions, and agreements.

#### **OUR WAY**

We will act in a way which reflects our care, concern, commitment and internal power; and in this sense we want to work together with men for a healthy planet for all. We suggest that a similar assembly as this Global Assembly be organized for men and by men.

## LATIN AMERICA AND THE CARIBBEAN REGION

### STRATEGY AND ACTION PLAN

Environmental degradation cannot be considered outside of an analysis of the larger social, cultural, economic and political factors that affect our lives, and the natural environment. Poverty and environmental degradation are driven by an economic model which is fundamentally exploitative of women and nature.

The projects we presented in the success stories at this Global Assembly must not only be recognized and replicated, but they must also be related to the economic and political processes which have caused the problems which we address. This means that in addition to supporting women's initiatives and efforts to solve these environmental problems in our communities, we must also use these experiences to change the practices at the national and global levels which contribute to environmental degradation and increase the levels of critical poverty.

For that reason, we want to express our deep concern for the current global trends toward the model of free-market economics.

We consider that it is necessary to reorient knowledge to a holistic concept of the natural and social environment.

The mass media have become one of the principal mechanisms that perpetuate the domination strategy of a consumerist society and in effect also perpetuate irrationality as well as degradation of the environment. For this reason, we appeal to women and men journalists to join us in our struggle for a better environment and quality of life.

#### **Strategies**

- Use of the regional mechanisms for development already established (Andean Pact CARICOM, MercoSur, and others) to reach an agreement of environmental management.
- Incorporate pertinent principles in environmental programmes and projects to achieve sustainable development.
- Active participation of NGOs and grassroots groups in sustainable development plans and their implementation.
- Include the conclusion of the Global Assembly in the New York PrepCom discussion, in order to incorporate the perspective of women in UNCED 92.

#### **Action Plan**

- Incorporate other women's groups and environmental NGOs in our movement to contact and motivate local, regional and national organizations and/or mechanisms to accept an environmental management commitment.

- To conduct community forums to inform the average citizen about Brazil 92.
- To disseminate within six months the success stories shared in the Global Assembly so as to contribute to the improvement and care of our national environmental and cultural heritage.
- To work with communities to motivate them to participate in the design and implementation of sustainable development plans, at the national, regional and local level, using the media where at all possible.

**Finally, We Ask the UN and Governments to Do the Following:**

- Stop development of new nuclear energy throughout the world.
- Incorporate appropriate alternative systems to protect and rehabilitate natural resources (with ecological criteria) and strengthen biodiversity and encourage the research of such systems.
- Emphasize cost-benefit analyses that prioritize ecological and human values, not only economic values.
- Use criteria for evaluation of long-term projects, that incorporate assessments of the negative effects, destruction or alteration of the environment, of cultural values and of the quality of life.
- Request the UN to create an International Ecological Tribunal with the participation of women's groups and of society to judge infractions against the environment and human lives that are being done by governments, international organizations and the private sector.
- Promote the dissemination of information and ample debate in all countries regarding debt-for-nature swaps, ensuring especially the participation of women's groups and affected society.
- Set up a UN global environmental mechanism to ensure that the needs of people and nature are met.

**NORTH AMERICAN REGION**  
**STRATEGY AND ACTION PLAN**

**Guiding Principles**

1. Pollution Prevention
  2. Public Involvement
  3. Political Action
  4. Cost/Benefit Analysis
  5. Sustainability and Population Growth
  6. Inter-generational Environmental Education
  7. Bilateral and Multi-national aid
  8. The Role of Women in the Protection of the Environment
  9. Governmental Accountability
  10. Resource Consumption and Cultural Diversity
- **Pollution Prevention** - For health, environmental and economic protection, it is essential that we "Live Lightly on the Earth". To do so, we must shift the world environmental focus away from pollution control and toward pollution prevention, away from hazardous waste management and toward toxic use reduction. This effort will entail 1) the establishment of reduction goals for toxic materials and waste, 2) the integration of pollution prevention measures into all regulatory functions and, 3) the establishment of institutions to facilitate pollution prevention measures for all users of hazardous and toxic wastes, as well as other forms of environmental pollution.
  - **Public Involvement** - The right of public involvement ensures the political diversity that is essential to our ecological survival. It must be recognized that:
    - The common democratic heritage of Canada and the U.S. requires maximum opportunity for direct citizen involvement in policy formulation;
    - The current exclusion of citizens from administrative revision of statutory protection (e.g.. wetlands) is undermining this fundamental right;
    - Publics need to be broadly defined to include people of color, indigenous populations, disadvantaged persons, and citizens of all ages; and that
    - As women of the world, we must demand and attain direct and high level access

to our nations' environmental decision-making.

- Political Action - Women's contributions to, and the implementation of, environmental protection measures must be more fully recognized and incorporated into the global political decision-making processes. Women of all races and cultures need to become better informed, more active and thus allowed to more directly affect the global political debate via:
  - Persuasion
  - Litigation
  - Political action
  - Consumerism
  - Eco-management
  
- Cost/Benefit Analysis - The evaluation of costs (impacts) and expected benefits of environmental policy making is essential to effective environmental protection and development. Such analysis although difficult to quantify should include, but not be limited to, the following key factors:
  - Financial constraint affordability
  - Social concerns
  - Health effects
  - Environmental protection
  - Cultural diversity
  - Human and habitat implications
  
- Sustainability and Population Growth - Our global natural resources must be permanently sustained for current and future generations. Thus the global resource base must be appropriately managed to ensure protection of fragile ecosystems, maximize protection and distribution of commodity food stuffs and effectively address land use management worldwide. Criteria for evaluation of sustainability should include, but not be limited to:
  - Energy consumption
  - Land management
  - Water protection
  - Air pollution control

- Bio-Diversity

Population management is a critical component of natural resources sustainability, and is related to the overall improvement of female status, health, human rights and education. Public access to reproduction information and state of the art technology is essential to worldwide survival, environmental protection, and global well being.

Therefore, the issue of population growth must be addressed at the UNCED conference in Brazil in June of 1992.

- Inter-generational Education - Education, relative to the environment and governmental environmental policies, is critical and self perpetuating. We, as women and consumers, have the right to know about and directly affect our environmental protection programmes and we call upon every government and learning institution to include environment science as a high priority in public and student education programmes.
- Bilateral and Multi-lateral Aid - and its accompanying conditions, must support, not destroy environmentally-sustainable development, lifestyles and environmental ecosystems. Particular emphasis should be given to the poor, persons of color, the disadvantaged and female population. Monies should not be provided to countries which ignore basic environmental and health concerns and needs.
- The Role of Women - Conferences, such as the Global Assembly of Women and the Environment "Partners for Life", should be promoted throughout the globe and must become a major part of the governmental mainstream of the world decision-making process. Every effort should be made to ensure the involvement of women at the highest levels of government.

To ensure such high level involvement, women participating in the Global Assembly are prepared to organize and use their consumer power to effect change by only purchasing environmentally-sound products and services and in particular female related products such as sanitary and diaper products, which should be free of chlorine and dioxin.

- Governmental Accountability - Federal, State, Local and Provincial Governments are endowed with the responsibility for controlling and regulating pollution. Even so, these governments are too often the source of significant environmental degradation. Recognizing that governments can and do pollute our precious natural resources, the Global Assembly calls upon all governments, at all levels, to comply with established environmental and health laws and regulations.
- Resource Consumption and Cultural Diversity - We, as North American women, acknowledge that most of us consume an inordinate amount of our world's resources. For this reason we freely and willingly commit ourselves to personal lifestyle changes which will result in a 50% reduction in our resource consumption. In addition, we recognize that resource conservation has been a priority for our indigenous colleagues and we acknowledge that current lifestyle and habitual practices threaten the cultures of many indigenous Americans. Therefore, we also commit to become more sensitive to the concerns of our indigenous sisters and to seek their counsel as appropriate, in the course of our own environmental decision-making.

## **Water**

Our concern for preservation, protection and conservation of water focuses on both quality and quantity, surface and ground.

- We must promote public supply conservation technologies such as re-use, heat management practices in agriculture and industry and conservation on household use both indoors and outdoors.
- We must reaffirm our commitment to zero discharge of the priority pollutants to our surface waters.

## **EFS**

- The systems government create must reduce consumption and waste of all resources.
- The government must involve more women's organizations when developing criteria for EFS.
- The government must provide better education about problems and issues related to EFS in order to achieve resolutions.

## **Energy**

- In determining energy policy, the government must not simply choose the most available supply but must be guided by the following values:
  - life cycle costs
  - environment and social impacts
  - human health
  - and sustainability for future generations
- The government must practice conservation and efficiency in all its affairs, for example support the existing public transportation and develop additional mass transportation.

## **Waste**

- The public has a right to information concerning the production transportation and disposal of chemicals, hazardous materials and processes. Access to information should include governmental policy, monitoring data, and relevant military decisions.
- Producers, handlers and users of chemicals and waste products should be made responsible for life cycle analysis and management. Governments should permit the use and sale of only those products which can be safely reused, detoxified or disposed.



- The government should encourage extra positive research on the impacts of chemical products, and environmental degradation on women and children's health and seek out non-polluting substitutes. The government should institute an integrated waste management policy with an emphasis on reducing, rejecting, rethinking and recycling.

### **Personal Commitments**

- North American women will commit to using only chlorine-free sanitary and diaper products. (Waste)
- North American women will use their consumer power by purchasing only environmentally-sensitive and recyclable products. (EFS)
- North American women commit to reducing their personal energy consumption by a personally determined percentage by a personally determined date. (Energy)
- North American women are committed to habitat restoration, monitoring and clean-up of water bodies and watershed management. (Water)
- North American women all consider the impact and connection between personal diet and the environment. (Water)
- North American women declare 1992 a year of clean water. (Water)
- North American women are committed to using best management practices of water resources, including conservation, waste and water reuse. (Water)
- North American women are committed to the proper disposal of potential contaminants to the water supply. (Water)

## **North America - Mentors' Commitment to Action**

- 1) K. O'Hara:\* Educate and facilitate her foundation to prevent pollution, reduce waste product and conserve energy.
- 2) N. Todd: Dedicate one edition to the Global Assembly.
- 3) T. Haleson: Accelerate and promote successful women's environment projects and progress based on Global Assembly criteria.
- 4) C. Pezzullo: Carry recommendations to her organization and help implement.
- 5) J. Kathan: Help her organization to contact Congress about wetlands and lack of public participation.
- 6) S. England: Take issues home and implement educational progress.
- 7) B. Washburn: Emphasize recycling, 0-discharge and continue working with contractors and vendors.
- 8) S. Stone: Educate her council, start letter-writing campaign and develop curriculum in schools.
- 9) T. Irwin: Educate her group and public on Global Assembly principles.
- 10) L. Spencer: Brief administration and write Journal article.
- 11) M. Wyman: Direct and support chlorine-free paper campaign.

## **North America - Glossary of Terms**

1. BEST MANAGEMENT PRACTICES - The method with the most positive impact on environmental ecosystems (i.e., organic fertilizers).
2. BIODIVERSITY - An environment beneficial to all life forms.
3. COST BENEFIT ANALYSIS - The financial, social, environmental, and cultural costs of a project.
4. CRADLE TO GRAVE ANALYSIS - The environmental and health costs of producing, collecting, and disposing of materials.
5. ENVIRONMENT - The medium in which all life forms exist, including social, natural, and man-made habitats.
6. INDIGENOUS PEOPLE - Native to the country of origin.

\* Success Story Presenter

7. **INTER-GENERATIONAL** - Referring to peoples of all ages -- from one generation to another generation (daughter, mother, grandmother).
8. **MONITORING** - Continued measurement and observation of a substance for positive or negative change.
9. **POLLUTION PREVENTION** - The process or substitution of materials in order to prevent environmental degradation.
10. **POPULATION** - The number of species in an area that are both consumers and reproducers
11. **PUBLIC INVOLVEMENT** - Direct citizen participation in government decision making.
12. **RESEARCH** - Ongoing investigation.
13. **RIGHT TO KNOW** - Information about government actions as well as the use and production of materials should be available to the general public.
14. **SOCIAL IMPACT** - Consequences of an action on the culture and living conditions of people --e.g. increased traffic.
15. **SUSTAINABILITY** - Using resources in ways that assure their availability for future generations.
16. **TOTAL INVOLVEMENT** - Public participation by all people, regardless of race, color, national origin, age, or disadvantage.
17. **ZERO DISCHARGE** - No release into the environment of substances in amounts sufficient to damage the health and reproductive capacity of living organisms -- including human beings.



**MENTORS:  
RECOMMENDATIONS AND ACTION COMMITMENTS**

**GENERAL RECOMMENDATIONS**

**ACADEMIA  
CORPORATIONS  
FOUNDATIONS  
GOVERNMENTS  
INTERNATIONAL AND REGIONAL ORGANIZATIONS  
NON-GOVERNMENTAL ORGANIZATIONS  
MEDIA**

**INTER-INSTITUTIONAL COOPERATION**

## **GENERAL RECOMMENDATIONS AND ACTION COMMITMENTS**

On behalf of all the mentors at this Global Assembly of Women and the Environment, we applaud the sustained and courageous efforts of all those women who have contributed to the local success stories presented at the Assembly. These success stories are a public manifestation of all those unrecognized and unheard-of efforts of women around the world to tackle the problems of the environment at the local level.

These success stories reflect the will, the courage, the power and the potential of women to ensure the planet's future. These can serve to have a multiplier effect for action fostered by mentors of all categories.

We recognize that women, men and children share equal responsibility in the environmental management of the earth, and therefore there is a need for lifelong education regarding this responsibility.

We must ensure that the contributions of women in achieving sustainable development will be utilized by their involvement in decision-making and implementation of environmental programmes at all levels. This will facilitate the actions of all those who wish to restore and improve our environment.

We call on governments, financial institutions, donor agencies, intergovernmental and non-governmental organizations, academia, the private sector and all community organizations to recognize and support women at all levels, beginning with grassroots, in environmental policies and programmes.

All the means at the disposal of our respective organizations should contribute to the enhancement of environmentally-beneficial processes and events and the avoidance of environmentally-harmful ones.

Future actions should include recognizing the importance of women's perspective in:

- New alliances between organizations and people to harness their joint capacities and energies in environmental policies and programmes;
- Organizations becoming more open and accessible to individuals and communities for environmentally-sound and sustainable development;
- The values of communities being more closely reflected in policies, priorities and programmes of the organizations;
- The redirection of consumption of resources and products; and
- Measures to reduce the poverty that contributes to environmental degradation.

While we recognize that women are a vital force in environmental protection, we believe that true change will come from the involvement and commitment of all people working together in which our organizations represent a powerful force for change.

## ACADEMIA MENTORS

### RECOMMENDATIONS AND CHALLENGES

We, the academic mentors, believe that a dynamic and holistic framework would deepen discussions of complex and difficult issues related to women and environment. A conceptual approach that raises relevant questions would help to nurture the connections between the many sectors represented in this conference. An ongoing dialogue and debate is essential among academics locally, regionally and globally, as well as among academics, grassroots organizers, NGOs and policy makers. Recognizing the long histories of discussion around the issues of women and environment, our proposal is to encourage systematic support for the development of a gender-sensitive analytic framework for understanding and implementing change.

- The challenge for academia is to promote the most salient indicators for monitoring and assessing the interrelationship between women and environment.
- Guidelines and implementation strategies based on experience and dialogue are required. Continued interdisciplinary research is needed to incorporate the themes of women and environment which could lead to policy, dialogue, formulation and action.
- Academia should develop its linkages with the international and NGO communities to make a greater contribution to strengthening their environmental management capacities.
- Cultural diversity should be taken into account in the integrating of gender issues into environmental curricula, research and projects.
- An understanding of macro social, political and economic issues (e.g. structural adjustment policies) is essential.
- Academic institutions need to address the need for more scientists who would be engaged throughout their training in discussions about gender and the environment as well as gender and science.

## **CORPORATE MENTORS**

### **RECOMMENDATIONS AND CHALLENGES**

Corporations represent the business energy of the private sector and should accept their responsibilities as planetary citizens through their roles as:

- employers;
- producers; and
- consumers of resources

by striving to communicate and connect with and support women in their efforts to improve our global environment.

The means of doing this should include:

- Acting ethically in relation to central and local authorities, particularly those of the developing world;
- Working with and responding to individuals and local communities and supporting local initiatives;
- Promoting environmental consciousness and education amongst communities, staff and management;
- Ensuring good environmental practice at all stages of corporate activity.

We commend corporations that have taken initiatives in relation to women and the environment and exhort others to follow suit including:

- Recognizing and fostering the distinct contribution of women to senior management;
- Allocating senior management responsibility for environmental matters;
- Reflecting environmental concerns in promotions and publicity;
- Supporting educational programmes and scholarships of benefit to the environment;
- Providing funding for local environmental initiatives that are community based.

As a result of these initiatives we look forward to a greater representation of corporations at the next Global Assembly of Women and Environment.



## FOUNDATIONS MENTORS

### RECOMMENDATIONS AND CHALLENGES

As organizations which are positioned as a result of their independence and financial capabilities to provide incentives and to direct policy and programming, Foundations are encouraged to use their role to require women's participation in environmental management.

Moreover, as a condition of Foundation support, it is advised that proposals be assessed on criteria which take into consideration:

- Priorities which are set by women;
- Structures and processes which include the significant representation of women at all levels and in all aspects of decision-making, planning, implementation and evaluation; and,
- Local community involvement, cultural traditions, appropriate technology and encouragement of self-sufficiency.

Moreover, Foundations are also encouraged to:

- Review their structures and procedures and to give consideration to gender, race, disability, cultural background, etc., at their boards, committees and consultation processes; and,
- Establish special funding programmes to replicate and promote successful examples of sustainability which demonstrate an integrated approach to environmental management, including health, education/literacy and household management.

## **GOVERNMENT MENTORS**

### **RECOMMENDATIONS AND CHALLENGES**

#### **Preamble**

All countries must redefine their relationship to the earth and its ecosystems and forge a new ethic. National and international emphasis on ecosystem management and control of environmental degradation must be strengthened and women must be recognized as active and equal participants in this process. Solutions lie in the full participation of all people in the eradication of poverty. A more holistic approach that embraces the full diversity of cultures and solutions must be developed.

#### **Basis for Action**

The Global Assembly of Women challenges the World Community, convening in Rio in June of 1992, to make decisions on specific issues with specific attainable time tables to ensure women's participation in building the road to a more just, equitable, humane, sustainable and environmentally-sound twenty-first century and beyond.

Women play a critical role in the management, use and protection of natural resources and the environment. Women form the majority of the poor and thus unequally bear the burdens of environmental degradation. The close linkages between poverty, wasteful production and consumption, the rate of population growth and environmental degradation are becoming more obvious.

However, women are not equally represented in the decision-making process on environmental and development issues, and their knowledge, needs and priorities are not reflected in the planning and implementation of environment and development policies.

The success stories presented at the Global Assembly have demonstrated women's critical role as a catalyst in the achievement of ecologically-sustainable development.

The Global Assembly recognizes that the benefits derived by women from programmes directed at conservation such as new skills, income generation, confidence building, and improvement in standard of living and status should be documented, shared and disseminated to the UNCED process in order to facilitate the improvement of the status of women and the environment worldwide.

#### **Objectives**

- a. To ensure women's equal and integral participation in all decision-making levels of all policy that effects environment and development, including the UNCED process.
- b. To ensure that women's priorities, needs and experiences are fully integrated in environment and development planning and practices, including the UNCED process.
- c. To acquire knowledge on the linkages between the grassroots level and macro-policies affecting daily lives of women in the country-specific and

international context, environment and development in general and in all cross sectoral issues.

- d. To promote and support efforts which empower women at all levels from the grassroots to the national and international levels in the field of environment and sustainable development.
- e. To recognize that learning, managing and interacting with the environment is a life long process for women.

### **Activities/Action Points**

- Positive action legislative policy concerning women should be effectively enforced and monitored so that the areas of systematic or *de facto* discrimination against women can be abolished.
- All governments, political parties, trade unions, professional and other representative organizations should aim at a target of 30% participation of women in leadership positions by 1995 with a view to achieving equality by the year 2000 as expressed by the consensus ECOSOC resolutions 1990/15, annex recommendation #7, and thus incorporating women as an integral part in the environmental and development decision-making process affecting their and the Earth's well-being.
- Environmental impact assessments and gender impact assessments and analyses should be undertaken as an essential step in the development of projects, programmes and policies of governments, NGOs, financial institutions, international organizations, private sector and academia activities.
- Gender training of professionals in environment and development planning and implementation must take place.
- Environmental and development policies must guarantee women's access to the participatory process of and control over natural resources in order to make women beneficiaries of said policies and initiatives.
- The UN system should incorporate horizontal communication and information exchange between WID offices, environmental offices and development offices in order to ensure sustainable development as well as enable vertical communication and networking between the NGOs and women's groups at the grassroots.
- Governments should implement their commitment to the consensus General Assembly resolution 40/108, adopting the Nairobi Forward Looking Strategies in particular paragraphs 224, 225, 226 and 227.
- Governments should also encourage and support governmental, intergovernmental and non-governmental organizations in implementing the Forward Looking Strategies as stated in operative paragraph #8 of General Assembly Resolution 40/108.
- Support should be given to the preparation of an analysis on micro-macro linkages in the field of environment and development by academia with active involvement of

women's groups and the NGOs recognizing the responsibility of the individual alone and collectively and understanding that grassroots involvement is essential.

- Based on this analysis, local, national, international and regional strategies should be prepared which strengthen women's roles in protecting the environment and making development sustainable and with a particular focus on local and community approaches defined as primary environmental care (PEC), including a participatory process.
- Women will be enabled and empowered to tackle environmental degradation and improve their socio-economic positions by having:
  - a. Access to finances, credit and equal employment opportunities.
  - b. Equal rights to ownership, access to and control over land and other natural resources.
  - c. Access to formal and informal education and training and retraining at all ages.
  - d. Access to the development and use of curricula for education systems and awareness-raising material on gender aspects of environment and development related issues aimed at both women and men, in order to control information and communication systems to relate to environmentally-sound technologies.
  - e. Access to information necessary to make informed decisions about resource utilization, allocation and management and their impact on the environment.
- All nations should establish an action plan consistent with each country's social and cultural circumstances to address sustainable, affordable development, increasing agricultural productivity, slowing population growth, improving health systems, and strengthening educational systems, in order to produce sustainable environmental development.
- Recognizing the important contribution of the Global Assembly toward the protection and management of the environment, and as a gathering to more fully implement the concerns of women in the preparations toward the '92 World Conference on the Environment we call upon other UN conferences to initiate a similar assembly prior to UN conferences in order to raise the awareness of men and women to the issues of importance to women.
- Member states should insist that the UN body in charge of monitoring the implementation of the results of the UNCED process should pay specific attention to the issue of women in the environment and the UN Commission on the Status of Women, in its role of monitoring the implementation of the Forward Looking Strategies system wide, should pay particular attention to the extent to which women in the environment is part of the implementation of the UNCED process.
- In preparing Agenda 21, the UNCED process should ensure that the gender dimension is reflected as a cross sectoral issue in the broadest of terms in the overall programme approach and the agendas for water, waste, energy and environmentally friendly systems. Population policies must also be formulated with the participation of women who possess an integrated overview of social and gender problems. A review of gender issues should be addressed in the National Reports submitted to Preparatory Committee for UNCED.

- All policy makers should follow and implement the recommendations which were forthcoming from:
  - The African Women's Assembly, held in Harare, Zimbabwe, 6-9 February 1989.
  - The Arab Women's Assembly held in Tunis, Tunisia, 6-10 February 1990.
  - Asia-Pacific Regional Assembly held in Bangkok, Thailand, 11-15 March 1991.
  - Latin America-Caribbean Regional Assembly held in Quito, Ecuador 19-22 March 1991.

Please see Recommendations from the Regional Assembly - Reproduced on page 187

## **Instruments**

- Financial

In order to execute the gender impact activities as proposed above, there must be specific improvement of the effectiveness of existing official assistance and private investment in order to produce the maximum impact to achieve environmentally sound programmes and technology. Closer collaboration and coordination among donor organizations can enhance the impact of assistance programmes and these donor agencies should reorient their lending programmes to incorporate explicitly gender-balanced environmental goals. Umbrella mechanisms established as a result of the UNCED process must be held accountable for the environmental, social and gender impacts of its programmes.

- Institutional

National and international institutes should train staff and exchange experiences on women, environment and development in order to supply expertise to optimally execute the above-mentioned activities. Women at all levels involved in sustainable development activities need support to enable them to share and exchange information on these activities.

- Legal

Any statement of environmental principles should build on the recognition of the rights embodied in the Stockholm Declaration.

## **INTERNATIONAL/REGIONAL INSTITUTIONS MENTORS**

### **RECOMMENDATIONS AND CHALLENGES**

We, the international/regional institution mentors participating in the Global Assembly of Women and the Environment--"Partners in Life", Miami, 4-8 November 1991, have deeply appreciated the grassroots work of women from all over the world as illustrated by the examples related here and have learned a number of valuable lessons from them.

At the same time, we realize that the principles underlying these lessons have in fact been long accepted and reiterated by development agencies at international and regional levels. These principles include recognition of the major role of women in development and as environmental actors and managers; the concept of sustainable development encompassing poverty alleviation; equity within and between nations, as well as between genders; responding to macro-economic problems such as debt burdens and negative impact of structural adjustment on the poor, and issues of population growth and consumption patterns.

However, international and regional institutions, have been faced with various constraints external and internal, which have impeded their attempts to help operationalize these principles. We therefore strongly urge that the experience of this Global Assembly be used to full advantage by all institutions. To this end, we suggest the following actions:

#### **Policy/Programme Strategies**

- Promote and support increased government attention to issues and linkages relating to women, environment and development.
- Support women's own initiatives and improve efforts to involve, consult and cooperate with women at all levels in promoting community-based sustainable development, drawing upon their knowledge and experience.
- Promote increased links and cooperation between governments, NGOs and grassroots groups in participatory activities to support women, environment and development.

#### **Implementation:**

- Continuously assess implementation strategies of our own projects, procedures and operations at all levels (headquarters and in the field) to ensure a genuine concern for women, environment and people's participation in development.
- Continue and strengthen the existing UN Inter-Agency Working Group on Women, Environment and Development. Seek expanded inter-agency communication and cooperation at headquarters and country level, to avoid duplication and enhance overall support.
- Support increased in-house and project-based training at all levels in integrating gender, environment and development.
- Advocate and provide support to similar training for government officials, NGOs and communities.

- Examine, and raise if necessary, the criteria for recruitment, training and appraisal of personnel to ensure that staff are fully-equipped to contribute effectively to fulfilling the principles of each institution with reference to gender, environment and sustainable development.
- Explore, publicize and address possible impacts on women and the environment of proposed institutional activities and macro-level policies.
- Encourage greater institutional and staff familiarity with local initiatives, for environmental protection.
- Promote increased support for relevant NGO and grassroots activities in mainstream programmes and special initiatives.
- Improve cooperation and communication with and among NGOs to avoid duplication of efforts and develop coherent strategies.
- Support training for women in environmental management and assessment and relevant technical skills.
- Advocate with governments the importance of women's role in environmental and sustainable development and support appropriate follow-up.
- Promote dialogue among governments, businesses, NGOs, the media, community level leaders and academia on environment and sustainable development including women's roles.
- Advocate that governments and others include both men and women in their delegations to UNCED and that the agenda adequately address the role of women in environment and sustainable development.

## **NON-GOVERNMENTAL ORGANIZATIONS (NGO) MENTORS**

### **RECOMMENDATIONS AND CHALLENGES**

#### **A Challenge from Non-governmental Organizations to Ourselves and Others to Increase the Role of Women in Environmental Management**

This group of NGO representatives declares that women have a unique role to play in designing and implementing global environmental leadership, they must become involved at all levels of planning and decision-making and work together with men to create a sustainable society. As NGOs, we also recognize the importance of approaching environmentally-sustainable development from local perspectives and respecting and working with those social structures that enhance women's roles in the environment. This is particularly important for the growing urban poor and rural and indigenous women who are often the principal managers of their economic livelihoods and the custodians of beliefs regarding the natural elements in the environment.

We recognize the importance of building upon and strengthening the many success stories emerging from the grassroots NGO sector, and the need to promote environmentally-sustainable development from an integrated approach.

At the same time, we must recognize that many women do not have equal rights or roles in their respective societies. Women often lack the legal, financial and technical means to achieve environmental sustainable development, and are the primary victims of environmental degradation. Macro-economic pressures and policies, such as debt obligations, are incapacitating poor nations, increasing poverty and decreasing countries' abilities to effect environmentally sustainable development. Thus, one of society's principal tasks must also be to educate women and prepare them for leadership roles in society, including those major financial, education and government institutions which define the major economic and social policies in our respective countries.

#### **NGOs are Committed to Increasing the Involvement of Women in Environmental Management to:**

- Empower women at all economic and social levels, particularly at the grassroots level, by strengthening their capacities to communicate and collaborate with other women, local decision makers, regional, national and international organizations and government about their specific environmental needs and solutions.
- Strengthen their communication skills by providing specific education, training and access tools to promote environmental literacy, public speaking and negotiating skills.
- Provide information and support for small-scale technology transfer that will assist women to reduce the workload at the local level (e.g. in the areas of reforestation, energy, waste management, water purification, rainwater collection, provision of shelter, nutrition, hazardous wastes/chemicals).



- Utilize the success stories and other community level experiences of environmental management as a source of technology transfer and networking across geographical, technological and cultural boundaries.
- Connect indigenous knowledge of ecosystem resources to scientific research and technological development.
- Involve women in policy decisions about land-use (urban and rural), particularly those decisions that compete with people's rights to use of land for subsistence.
- Advocate and facilitate opportunities for women to acquire and inherit land and other real property, to access credit and to pursue economic development activities.
- Recognize that all women and all women's organizations have a special role in the empowerment process. Women, particularly young women and women at the grassroots level, need opportunities to develop leadership skills in order to achieve equal partnership with men.
- Publicize and educate about successful women's activities at the local, national and international levels through media and organization networks.
- Encourage women to achieve political office, and provide support to those holding office or positions of leadership through networking, education and mentorship.
- Provide an international network to protect women who are fighting for environmental change in their respective countries and places of work.
- Facilitate access to information that permits effective responses to toxic wastes and hazardous products, particularly where such information may now be restricted by governments or corporations for a variety of reasons.

#### **NGOs are Committed to Change Within Our Own Organizations to:**

- Seek qualified women as executive directors, members of boards of directors, governmental advisory committees and cabinet level positions, as well as to advance women within the organization.
- Sensitize men on the need to involve women at levels of power and decision-making.
- Include women as speakers and workshop leaders, task force members and committees internally and externally at all levels, balancing work teams and striving to incorporate women's view on environmental issues.
- Network and exchange success stories and technologies.
- Direct donor contributions directly to NGOs and CBOs (community-based organizations) for strengthening, expanding and networking success stories.

- Provide work opportunities and options for mothers and volunteer mothers in the workplace (e.g. flex time, childcare, job sharing).

**NGOs are Committed to Work With Other Institutions to:**

- Advance and facilitate the participation of women in environmental management and critical public decision-making through networking, publicizing of actions, formal and informal agreements in all sectors.
- Mutually support and advocate efforts within NGOs to empower women through education, representation and sharing a united commitment to equality and equity.

**As NGO Mentors We are Committed to:**

- Publicizing internally and externally the success stories and lessons as presented at this conference and use them as building blocks to implement appropriate models within our own organization.
- Working cooperatively to educate other women's groups on the global links between women and the environment.

## **MEDIA MENTORS**

### **RECOMMENDATIONS AND CHALLENGES**

A woman at a conference may address 1,000 people; that woman's voice, amplified by the media, can address millions. In our plans for social and political change to save the planet, the models invented and carried out by women must also be covered by the press.

Further, consistent with our position as the Seventh Mentor Group, we as media and communications specialists have a role to play as technical experts within the larger international development and environment paradigm. We wish to bring our skills to bear as professionals trained in areas such as: communication strategies for behavior change, media advocacy for public policy, non-traditional and interactive media, and educational innovations incorporating media technology.

Media is the contemporary tool for tomorrow's history. As members of the working press and allied communications professions who perceive the tremendous importance and value of women's ideas and work for the salvation of the planet, we agree with the presenters on the need for a holistic approach. The continued exclusion of women's voices and viewpoints from mainstream media has obscured the truth that women's work is the key to survival of the planet. Furthermore, women's work and contribution to society is fundamental to all lasting social change; thus, every effort should be made to ensure that women themselves have a voice at all levels of society.

Central to promoting their efforts, women working at the grassroots must have access to information and training in effective media advocacy and community education through the media, as well as access to technical assistance. In addition, we perceive the need for a coordinated exchange of detailed project information. We request that planning for this project be taken up swiftly.

Recognizing the role that media plays in setting and maintaining national and international agendas, women in media urge ongoing coordinated action to maintain and expand comprehensive reportage on issues of concern to women in the environment and development.

## **MENTORS ROUNDTABLE DISCUSSIONS**

### **RECOMMENDATIONS FOR INTER-INSTITUTIONAL COOPERATION**

***"I am only one, but I am one. I can't do everything, but I can do something."  
EVERYONE MUST DO SOMETHING. No person or sector can solve this;  
only with every person's participation can we do it.***

#### **NGOs AND GOVERNMENT ORGANIZATIONS**

Networking within and between government delegations and NGOs is essential to ensure that the gender perspective is reflected throughout the UNCED process. It is imperative to raise the awareness of men and women to the issues of importance to women.

In recognition of the NGOs' role in representing the knowledge, needs and contributions of the grassroots level, governments must ensure that NGOs are actively involved in the decision-making and participatory process associated with UNCED and other mechanisms working towards ecologically-sustainable development.

Governments and NGOs are both responsible for ensuring effective exchange of information. It is the responsibility of governments and also in their interest to establish the necessary channels of information and consultation mechanisms to enable NGOs to contribute fully to ecologically-sustainable development.

Networks must be created amongst the NGO community on a national, regional and international level in order to facilitate dialogue with governments and international organizations. The recommendations of all NGO parallel forums must be incorporated in the official UNCED document.

#### **INTERNATIONAL INSTITUTIONS AND NGOS**

General Themes for cooperation between international institutions and NGOs for women in environment and sustainable development:

1. There is a perceived need for international institutions to assist NGOs in capacity building to:
  - Formulate forward looking strategic plans to ensure their own sustainability;
  - Play an active role in policy analysis and formulation;
  - Increase their ability to actively and successfully pursue funding sources;
  - Participate in international fora.

2. NGOs are not solely grassroots organizations but operate at many different levels and international institutions have to recognize this. They need to cooperate at these various levels and in particular encourage indigenous research capacity and dissemination of findings.
3. It is important for international institutions to support the various levels of NGOs from community based to national level, to strengthen their relationships with national governments. For the purposes of:
  - Having access to and participation in decisions concerning identification and allocation of funds;
  - Development planning and programming.
4. International institutions and governments should work together to facilitate the operations of NGOs at grassroots levels. National NGOs should identify and remove obstacles to full participation of grassroots women in the development process.
5. The experiences gained at grassroots levels need to be recorded more systematically and disseminated to a much wider audience, including other NGOs, governments and international institutions. The principle purpose being to capture the knowledge being developed by grassroots women and linking it to larger schemes, for a greater impact on environment and sustainable development.
6. Many international institutions have initiated or are in the process of initiating methods and mechanisms to provide for greater consultation with NGOs and for assisting them in accessing their institutional resources. Examples were given. The general findings in the meeting were aimed at encouraging an acceleration of these processes.

## **ACADEMIA AND CORPORATIONS**

Points of intersection and cooperation discussed in this meeting were:

1. Development of mentor systems in corporations reaching down into universities or developed through student training experiences to help women, who may be able to instill more sensitivity to environmental concerns, to achieve important positions in corporations.
2. Greater use of case studies of unethical environmental practices by business and industry in academic courses.
3. Requirement of basic knowledge of environmental matters of all university graduates. Development of environmental certification programmes on an extension basis.
4. Establishment of an international court with jurisdiction on environmental matters.
5. Channels for results of research on environmental matters to be communicated to corporations.

6. Interaction between corporations and academia through establishment of task forces, workshops, etc., to consider training and research directions.

Representatives of both groups recognize that while universities may desire financial help from corporations, safeguards to ensure independence of research must exist.

### **INTERNATIONAL INSTITUTIONS AND CORPORATIONS**

The group recommended that existing collaborative practices between international institutions and corporations be strengthened and expanded.

Greater use of existing fora for collaboration between international institutions and corporations, such as the Global Business Forum, was recommended.

There should be an expansion of two-way interchange of technological information, with particular support for research focussing on technological adaptation to local environment/community requirements, both labor-intensive and gender-responsive. This technological information exchange should include sponsorships and country/corporation exchange visits.

There should be increased dissemination of best management practices, particularly in relation to the involvement of women, in fertilizer and pesticide management.

Governments, local communities and research institutions should be supported in the identification and maintenance of traditional medicinal plants and appropriately resistant hybrids.

The two-way exchange role of corporations and international institutions should be confirmed in supporting the establishment and enforcement of national and international regulations and conventions pertinent to the management of intellectual property rights and the responsible distribution of industrial products (i.e. pharmaceuticals, pesticides, etc.). Efforts should be intensified to categorize hazardous waste and degrees of biodegradability.

### **INTERNATIONAL INSTITUTIONS AND ACADEMIA**

The group engaged in a rather wide-ranging discussion and the following concerns were expressed:

Linkage: international organizations need to rely on academics to provide basic scientific research (both natural and social science);

In particular, basic conceptual research on women and environment is badly needed by international organizations;

A strengthening of indigenous science capacity (including development of appropriate technology) is needed in many developing countries - especially training of women in science (broadly defined to include traditional knowledge);

Continuing dialogue between international organizations and academics is crucial to build and maintain the necessary trust to facilitate cooperative endeavors;

Usefulness of internships for academics with NGOs so that academics can develop a greater understanding of development issues, to be funded by international organizations;

Two-way transfer (North-South and South-North) of appropriate technology and wider dissemination of existing appropriate technology;

Creation and use of an alternative model of development rooted in environmental knowledge is desperately needed, funded by international organizations.

## **NGOs AND FOUNDATIONS**

The NGO group discussion turned to a plan of action and possible means for greater communication and coordination among women's groups, particularly on a regional basis. Besides networking there is need to share concrete success stories. Another important need is an emergency response capability for times when women are at serious risk by adversaries due to their environmental activities. An international network could quickly mobilize visible support. A newsletter forum was briefly discussed but considered insufficient. Do we need a 24-hour desk? There are already many networks and there may be organizations that could take this on. There is a need to 1) identify the most appropriate agency and 2) find funding. It was agreed that any governmental or United Nations body might be politically constrained. The NGO mentors recommend approaching WorldWIDE formally to explore a joint commitment to an expanded information network and emergency response capability among women's environmental groups. The group recommends regional branches of such a network through WorldWIDE.





**NEW GENERATION LEADERS:  
RECOMMENDATIONS AND ACTION COMMITMENTS**

## **EMPOWERMENT AND CHANGE:**

### **YOUTH COMMITMENT TO ACTION**

Our world is in a state of crisis. The global ecosystem and its biological and cultural diversity are under threat. We, as young women and the inheritors of this crisis, express our anger about the current state of our world. We are angry, but anger is not enough. We ask for change, but asking is not enough. We have been inspired by the vision and the commitment of the success story presenters, who have acted as catalysts in change. It is they who are our true leaders. Yet the struggle for ecological integrity and economic and social justice cannot be the burden of only a few. Therefore, we call on everyone to take immediate action to reverse these global trends.

Despite their urgency, environmental problems are only some of the symptoms of the world's ills. We want to stress that environmental, developmental and social justice issues are inseparable and must be dealt with in an integrated fashion. Moreover, these issues are consequences of a global system which displays inequality and injustice at all political and socio-economic levels. This includes conflicts between North and South, and within regions, localities and households. This unjust system perpetuates and is reinforced by factors such as the marginalization of various groups, the debt crisis, neocolonialism, materialistic values, economic exploitation and unfair distribution of wealth, disrespect of cultural and racial differences, cultural dominance and the muting of women's voices. The system must be changed.

The current system constrains poor populations in developed and developing countries in meeting their basic daily survival needs and cripples their ability to participate in long-term environmental conservation efforts. As such, issues of availability of food, clean water, clothing, shelter, healthcare, education, and a source of livelihood must be addressed.

Development efforts in developing countries have been crippled by the need to service external debt. Debt policies need to be reformed, as part of an effort to change the existing international order. It is here that we ask the Mentors to influence action on a global level. We call upon the people of industrialized countries to lobby their governments to change their trade and economic policies and reform the lending practices of multilateral development banks which have caused environmental destruction.

Current patterns of consumption in the North are unsustainable and based on exploitation of human and natural resource in developing countries, at the expense of these countries' welfare and environment. The industrialized countries must compensate the developing countries for the resulting devastation. We call on young people living in the North to assist us in this process. Similarly, we pledge to change our lifestyles.

To representatives of academia we ask their commitment to recognize traditional forms of knowledge which have sustained a harmonious relationship between human beings and nature.

Despite the key roles women play in sustaining family and community life, women's contributions remain largely unrecognized, their knowledge ignored, their capabilities untapped. We demand that women be active participants in every sphere which relates to sustainable development. We pledge ourselves as young women and sisters to strive for this goal.

In formulating our document in the capacity of New Generation Leaders attending the Global Assembly of Women and the Environment, we moved from a position of turmoil and worked through a process of communication involving fears, tears and anger to a point of mutual, cross-cultural understanding. Through this, we gained a deeper understanding and appreciation for ourselves and each other. We emerged with a sense of common joy, confidence, respect and strength. We recommend youth participation in fora such as these to achieving this important goal. For change to occur, partnerships must be formed between races, cultures, religions, classes, languages and genders.

As young women dedicated to the preservation of the integrity of the earth's ecology and the advancement of the role of women in environmental management, we pledge to apply the knowledge gained from the Success Stories and dialogue of this Assembly in our personal and professional capacities to facilitate this change. They have demonstrated the validity of the advice that to act locally is to think globally. This is what we will carry with us. We intend to form a network of solidarity worldwide to carry these stories forward through human-made boundaries of nations and cultures. Not only will we convey the stories which have been told here but we will also provide the space for stories which have not been heard. Our vision is that this network will lead to a mobilization which will bring global change.

To be successful, we must base our work on an understanding of the underlying social, political, military and economic systems which currently impede environmental justice. We will continue to work through established networks and to strengthen linkages formed among ourselves.

Our specific roles as participants in sustainable development will vary depending on where we are. We have learned, however, that leaders are ordinary women with extraordinary perceptions of needs and determination.

Young women: we have been inspired and enriched. Now let us act.



**PLEDGES TO SUSTAIN THE EARTH AND LIFE'S FUTURE:**

**PERSONAL AND COLLECTIVE  
ACTION GUIDELINES TO SUPPORT  
THE FOUR SUBSTANTIVE THEMES OF  
THE GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT**

## **PERSONAL AND COLLECTIVE ACTION GUIDELINES TO SUPPORT THE FOUR SUBSTANTIVE THEMES OF THE GLOBAL ASSEMBLY OF WOMEN AND THE ENVIRONMENT**

As your presence at the Global Assembly of Women and the Environment so dramatically illustrates, women are powerful agents for change.

Your capacities are essential to achieving a sustainable future. The Global Assembly having focussed on women-centered concerns in the areas of water, energy, waste, and environmentally friendly systems clearly demonstrated, through 218 successful projects, that women, as innovative as well as traditional managers of resources, are capable of and willing to develop practical, affordable and replicable policies for sustainable development.

The following informal guidelines and suggestions are designed to maintain the momentum and to identify action areas where you could integrate the aims and strategies you have developed at the Global Assembly in the drive to "create and institutionalize" sustainable development practices for our shared planet.

Similarly, recommendations of the Global Assembly can be used to influence governments, non-governmental agencies and the forthcoming UNCED Agenda 21 with its proposed Earth charter. But delegates of each of our countries must be aware of our findings, recommendations and expectations. We must act.

### **ON A PERSONAL LEVEL:**

- Identify and become familiar with national and regional agencies and NGOs that are involved in environment and development and women's concerns. Inform them of the Global Assembly recommendations.
- Link into or create an information/action network on the environment through your normal contacts and through friends made at the Global Assembly.
- Find legal mechanisms -- national, bilateral and international -- (treaties, charters, government committees) through which to implement recommendations from our Global Assembly.
- Suggest to your (a) Deputy/Mayor/Chief; (b) Civil Authorities; (c) Member of Parliament; (d) Government Bureau, Municipal or Community Authority; that women, one-half of the population and custodians of the family, be represented in the National Delegation to UNCED through specific appointments of environmentally aware women and briefing of entire delegation on our concerns and priorities.
- Inform political leaders and civil leaders, as soon as possible, as to what action they should take between now and the UNCED meeting June 2-12, 1992 to ensure that your concerns are represented. (Consult the Global Assembly recommendations).
- Inform the media of our priorities and programme of action.
- Share your documentation with opinion leaders (political, religious, education, labor, mass communication, etc.).

## **IN THE HOME:**

- Set examples for the young, through family behavior and concern for the environment. Encourage conservation values such as use of non-disposable utensils, avoidance of aerosol sprays and use of traditional utensils and goods (where possible), plan clothing purchases to avoid dry cleaning, and join non-littering teams. Help your children to develop a sense of values and knowledge about material goods which are good for nature.
- Avoid throwing away what can be used again, recycled or turned into compost.
- Take care of disposal of household waste, with special attention to disposal of chemical wastes, the dumping of wastes in streams, canals and waste grounds.
- Support energy conservation in use of electrical appliances and in purchase of energy-efficient consumer goods; considering solar, wind energy uses, non-fossil fuel and other energy uses.
- Be aware of the relationship between population, land and resources and the sustainability of the environment.

## **AT THE COMMUNITY LEVEL:**

- Mobilize women who belong to different community and neighborhood groups: Parent-Teacher Association/councils, professional women; religious organizations; labor, youth and women's groups; etc. to encourage the organization and execution of environmentally-sensitive projects;
- Encourage Networking: Cooperate with organizations to educate and sensitize the population on the need for joint community management of the environment, including recruitment of resource persons where necessary; consider the cost benefits of networking.
- Ensure that educators are fully informed and willing to incorporate environmental studies in their classrooms.

## **AT THE MUNICIPAL/PROVINCIAL OR STATE LEVEL:**

- Assess all candidates for public office in terms of their records on environmental issues with a view to determining whether their views adequately reflect the perspectives of women in exercising your democratic rights and responsibilities. Use this assessment as a basis for electing leaders, especially women, who are responsive to women's needs and concerns about the environment.
- Non-governmental organizations concerned with environment should publicize the positions of candidates for public office, in terms of their consistency for women's concerns and in the prudent management of the earth's resources.

- Creatively support machinery, at national or international levels, assigned the responsibility for the protection of the environment by developing a thorough knowledge of their agenda. Offer to brief them on the priority resolutions evolved at the Global Assembly.
- Insist that these authorities carry out the environment agenda assigned to them by the government or local authority.
- Encourage a larger number of women to be trained in the environmental sciences, to enable women to provide technical assistance on all environmental issues.
- Keep national leaders aware of what the grassroots women are doing.

#### **AT THE INTERNATIONAL LEVEL:**

- Through institutional networking clarify the need to include more women on delegations and ensure that international agendas reflect women's concerns for environment and development;
- Urge greater involvement of women in policy-making, greater sensitivity of women to public policy issues that affect women and that affect the quality of life;
- Request revision of national policy documents on women to incorporate concerns for the environment;
- Sensitize women in positions to influence policy on environmental and development issues as they affect people and nature;
- Involve women within the mass media, including advertising, as advocates for promoting/alerting the population to environmental issues, including sustainable development policies.



**PERSONAL COMMITMENTS FROM SOME OF THE LATIN  
AMERICAN PARTICIPANTS**

**PLEDGE TO SUSTAIN EARTH AND LIFE'S FUTURE**

**AN INFORMAL GLOBAL ASSEMBLY  
DOCUMENT IN SPANISH**

**TERESA TORRES**

**BOLIVIA**

1. Consecución del proyecto modelo de etno-eco-desarrollo (como demostración de la factibilidad y viabilidad de desarrollo alternativo) (holístico). "Rescate, revitalización, perpetuación de la cultura Kallawayá".
2. Participación en la formación y función de la Red Latinoamericano-Caribe de emergencia, intercambio y apoyo.
3. Compartir los resultados con las organizaciones relacionadas a la protección y defensa del Medio Ambiente y niveles gubernamentales.

### **PROYECTOS A DESARROLLAR**

**GIOVANNA MEROLA R.**

**VENEZUELA**

1. **PROYECTO EDITORIAL**

Creación de micro-empresa editorial para edición, publicación y distribución de prensa alternativa y manuales y libros relacionados con la temática ambiental, que apoye el trabajo de organizaciones de base, técnicos y público en general interesado en estos temas.

2. **PROYECTO DE INVESTIGACION A NIVEL ACADEMICO SOBRE "RECUPERACION DE AREAS VERDES EN ZONAS URBANAS NO CONTROLADAS"**

Se trata de una investigación que aporta beneficios al mejoramiento de la calidad de vida urbana, empezando con una investigación piloto en un barrio caraqueño, tomando en cuenta la participación activa de la comunidad en la recuperación de su propio medio. Las áreas verdes recuperadas servirían para producir alimentos, recreación y estabilización de suelos.

**MARIA SUAREZ**  
**RADIO INTERNACIONAL FEMINISTA**

**PROPUESTA: RESOLUCION DE APOYO A LOS ESFUERZOS DE LAS MUJERES**

Todos los grupos han hablado de la importancia y la necesidad de irrumpir en los medios de comunicación para divulgar y educar, desde la perspectiva de la mujer, en la lucha por la defensa y protección del medio ambiente.

Estamos invisibles en los medios, y es obvio que tenemos mucho que decir porque mucho hemos hecho.

Nosotras, las mujeres en los medios, estamos invisibles si no trabajamos para difundir lo que hacen ustedes. Desde ya les dejamos saber que tienen en Radio Internacional Feminista y en Servicio Internacional de Noticias de la Mujer (WINGS) dos medios desde la mujer, para difundir, dar seguimiento y construir redes en apoyo a su trabajo.

La dirección de Radio Feminista Internacional para mandar su información es:

R. Internacional Feminista  
Apartado 88  
San José, Costa Rica

Es onda corta, lo cual se oye por todos lados y en Español e Inglés! Esperamos su información para difundirla, la dirección de WINGS es:

P.O. Box 5307  
Kansas City, MO 64131  
Estados Unidos

**RAQUEL C. DE CHANG**

**PANAMA**

Yo, Raquel C. de Chang, en Panama intentaré organizar un seminario de capacitación en materia ambiental a los medios de comunicación social iniciandolo en mi distrito, con el fin de que se disminuya la desinformación en este campo.

**MARIA SUAREZ  
FIRE**

**FRIEDA WERDEN  
WINGS**

**PROPOSAL OF A RESOLUTION IN SUPPORT OF ALL THE WOMEN'S  
EFFORTS TO SAVE THE PLANET**

FIRE (Feminist International Radio Endeavor) and WINGS (Women's International News Gathering Service) have been present at this Global Assembly, making our efforts to break through the silence in other media, so that your voice will be heard around the world.

All of the region's resolutions drafted this morning mention one way or another, the need to use the media to create, to inform and to network around what women are doing to save the planet.

FIRE and WINGS are your partners in life in that effort. We are committed to working with you to report your work.

FIRE is a radio magazine by and about women, at radio for Peace International based at the University for Peace in Costa Rica. Write or send your tapes, and listen to us on short wave around the world. Spanish, English and all other languages.

Our address:  
FIRE  
P.O. Box 88  
San Jose, Costa Rica

WINGS is a news gathering service in English including translations from tapes in other languages. Write to the following address and send tapes with news by and about women.

WINGS especially wishes to network with women radio producers in many countries, and will send WINGS tapes to your radio stations or programmes.

WINGS  
P.O. Box 5307  
Kansas City, MO 64131  
USA  
Phone/Fax (816) 361-7161  
E-Mail: IGC: WINGS

## **KARINA ROBINSON**

Yo, Karina Robinson, prometo discutir promover e insistir en la participación de mi organización (Cuerpo de Paz) en proyectos ambientales y sanos, vinculados a la vida de F.

**PAZ!**

## **CARMEN BUSTILLO TURCIOS**

Yo, Carmen Bustillo Turcios, voy a trabajar para que nuestro país tenga un código penal del medio ambiente para ser aplicado generalmente.

## **FLOR ISABEL TUR**

**GRUPO DE ESTUDIO SOBRE MUJER Y AMBIENTE, GEMA  
APDO. 118, SAN ANTONIO DE LOS ALTOS 1204A  
ESTADO MIRANDA, VENEZUELA**

Desde nuestra organización no proponemos continuar un Programa de Mujer y Ambiente, a través de proyectos de Investigación-Acción en sectores populares:

1. Autoconstrucción de una casa de capacitación para mujeres en un barrio pobre de Caracas (capacitación para el trabajo micro empresas de reciclaje, huertas familiares, mejoramiento de la salud-alimentación, nutrición, reproducción).
2. Vida cotidiana de las mujeres en las minas de oro de Guayana. Investigación cualitativa e implementación de un programa de intervención para frenar los daños ecológicos y capacitar en otros métodos de trabajo y tecnologías alternativas.

Estos proyectos se desarrollan con la participación de la población, especialmente las mujeres, y otro propósito es que en el proceso las mujeres puedan formarse para la autogestión de sus problemas y el desarrollo de la capacidad de tomar decisiones.

GEMA es una organización de investigación, acción y difusión que asesora y acompaña a grupos de mujeres populares para mejorar sus condiciones y calidad de vida.

**MARITZA PULIDO**  
**ECOLOGICAL GAMES**  
**IN PARKS**  
**APARTADO POSTAL 74410**  
**CARACAS 1070 A VENEZUELA**

En 1991 niños logré beneficiar en mi programa "Juegos Ecológicos en los Parques" a un total de 4,000 niños de 5 a 16 años, en 20 parques de recreación a nivel nacional apoyada y auspiciada por el Instituto en donde trabajo, sin embargo, considero que esta labor debe ser durante todo el año y así tener oportunidad de:

1. Entrenar docentes en ejercicio y en formación en estrategias al aire libre y otros.
2. Recopilar y publicar a nivel nacional todas las estrategias al aire libre que se experimentan con nuestros niños y jóvenes.
3. Realizar investigaciones en el campo de la recreación, educación ambiental, cultura de reciclaje, la percepción sobre el uso del tiempo libre por parte de la población infantil, adulta y juvenil.

Finalmente si no recibo financiamiento sobre estos importantes aspectos me gustaría conocer e intercambiar experiencias en el campo de la educación ambiental para explicarla con los niños-jóvenes y adultos en los Parques Nacionales de mi país.

Muchas Gracias,

Martiza Pulido

8-11-91

Plan para 5 años:

1991 = 4,000 niños	1991 - 500 jóvenes
1992 = 6,000	1992 - 600 "
1993 = 8,000	1993 - 800 "
1994 = 10,000	1994 - 900 "
1995 = 12,000	1995 - 1200 "
	1996 - 1400 "

ALEGRIA FONSECA

COLOMBIA

FUNDACION ALMA

FAX 256-7339

### PROYECTOS

"Capacitación- para las responsables de tomar decisiones, para los planificadores y gobernantes en los asuntos ambientales y asesoria al respecto a nivel regional y local".

GUILLERMINA LOPEZ BRAVO

MEXICO

Yo, Guillermina López Bravo, Educadora Popular, me comprometo a darle a mi trabajo un especial cuidado y énfasis al aspecto ecológico en los proyectos Tuya y Calesa y en la red de alfabetización que abarca ocho (8) grupos de Educación Popular en México y buscar formas de relacion con los grupos que vienen trabajando especialmente en esta area y unir fuerzas por el bien de nuestro pais y el mundo.

NIN NINA MAGALHAES

PREA

RUA PRINCESA ISABEL 318

PARQUE IMPERIAL

28615 NOVA FRIBURGO, RJ, BRASIL

PHONE: (55-245) 22-8436

FAX: (55-245) 22-1145 / EMAIL:

HATHAWAY@.APC.ORG.

### PREAS - PROGRAM RURAL DE EDUCACAO AMBIENTAL

The "Farm Yard" Project is being carried out in the public school of Nova Friburgo, and involves production of humus/vermicompost, the setting up of agro-forestry nurseries and reactivation of school-yard vegetable gardens. This work is aimed at offering youth cooperative experiences in direct contact with organic farming and agroforestry techniques as a part of their curricular activities. The ultimate objective is to furnish youth with the means and motivation for staying on the land.

The farm yard project with which I have worked has been successful in the efforts in organic farming programmes and the process can be replicated in other communities.

The project has had positive results as well in that other communities have begun to request this programme as part of an increasing environmental awareness in Brazil.

Our goal is to replicate and amplify this programme at the municipality level, and eventually, at the national level.

A principal objective is to create an exchange programme between this and similar youth projects in Brasil to enrich the experience of all participants.

**MARIA ANGELA MARCOVALDI**

**BRASIL**

**FUNDACAO PRO IDMAR - BRASIL**

- Aid in the establishment of projects in Marine Conservation, as consultant.
- Analyze the management plans in National Marine Parks and National Marine Biological Reserves for their implementation.
- Based on our experience of 12 years in managing an area of 1,000 (one thousand) kilometers of the Brazilian Coastline, which put as its priority the integration of fishermen communities in conservation activities, benefiting them directly. We can adopt this model to help establish similar programmes in Brasil. We have confidence that these results can be replicated successfully.

**AZUCENA MARTINEZ**

**VENEZUELA**

**(FUNDAGREA)**

Este evento me permitió reiterarme una vez más la necesidad de promover y desarrollar acciones que faciliten las herramientas prácticas y teóricas que permitan la satisfacción de las necesidades vitales en deterioro del ambiente en el contexto de un programa integral global como global e integral es el ecosistema donde se contemple la implementación de:

- El reciclaje como alternativa para el tratamiento de los derechos.
- La Agricultura Ecológica que nos brinde productos de alta calidad y no contaminados.
- La utilización de fuentes alternas no contaminantes de energía.
- Todas aquellas otras tecnologías apropiadas que nos ayuden a lograr el objetivo mencionado al inicio y que resulten de la investigación de las potencialidades energéticas, agrícolas, ambientales y culturales tecnológicas de la región en cuestión.

Analizando estos planteamientos veo que coincidieron casi exactamente con los que mantiene la institución que represento quien desde hace mas de 10 anos en Venezuela ha venido



realizando este importante y duro trabajo gracias a actividades de capacitación, investigación y extensión.

Como la mayor dificultad que ha tenido nuestra organización es la falta de recursos para extender el trabajo, mi reto y compromiso es abocarme a obtener dichos recursos para poder llevar a cabo esta importante labor y difundir en la mayor extensión posible todos estos aspectos.

**CARLA MOLENKAMP-GELUK**

**BRASIL**

**PORTUGUESE:**

Ajudar par obter informacoes sobre cultivo das plantas medicinais para preservar elas.e tocar informacoes con os outros paises in Latina America e Caribbean.

E assim preservar a cultura de usar estes remedios naturais.

**ENGLISH:**

Help to gain information about the cultivation of medicinal plants to preserve them, and exchange information with the other countries en Latin America and the Caribbean.

And so to preserve a culture of using natural medicines.

**VERA LUCIA S. BRAGA**

**BRASIL**

**NGO: OIKOE (UNION DE LOS DEFENSORES DE LA TIERRA)**

Yo puedo ayudar a organizar las "Grass roots" para defender el patrimonio ambiental, humano!

Lo hago en Sao Paulo y también con los NGOs Internacionales.

**GRACIERA FABIANO  
INSTITUTO NACIONAL DE PESCA**

**URUGUAY**

Area: Manejo de recursos pesqueros en aguas continentales y ecosistemas costeros/ordenamiento de pesquerias artesanales.

Ofrecimiento: Capacitación de Tecnicos Participation en programas en la tema



RECOMMENDATIONS  
FROM THE  
**REGIONAL ASSEMBLIES  
OF  
WOMEN AND THE ENVIRONMENT \***

Latin America - Caribbean Regional Assembly -Policies and Population

Asia-Pacific Regional Assembly - Information/Education, Advocacy/  
Participation, Policy/Legislation, Technology/Impact Assessment  
and Financial/Other Support

African Women's Assembly - Forests and Woodlands, Deserts and Arid  
Lands, Rivers and Lake Basins and Seas

Arab Women's Assembly - Environmental Education and Information

\* NOTE: These recommendations were annexed to the Global Assembly findings and recommendations by formal request from the Government Mentor Group. See page 157.

## **Recommendations from: Latin America - Caribbean Regional Assembly**

In this context, population policies must be formulated principally by women, who possess an integrated overview of social and gender problems.

Finally, in anticipation of the adoption of family planning programs, one must consider the socioeconomic, cultural, linguistic and educational variables which increase the opportunities for women to make informed decisions.

### **Women and Natural Resources**

The pivotal issues which unite the themes of women and the environment are the controversial assumptions upon which the development model is built. From this perspective, this Regional Assembly proposes an integral change which recognizes the interdependency between all forms of life on this planet and which equally respects the individual, society, politics, economy and ecology.

Stemming from this change in axiomatic assumptions, the new model would evolve a new ethic permitting the development of harmonious relations between human beings and natural environments, based on respect, solidarity and the recognition of social and natural limitations.

The deterioration of the environment has accentuated the increase in social marginality and has affected female populations. As a result, it is vital to take measures that not only recognize the value of female contribution in all spheres of society, but also protect the socially underprivileged.

Among the methods for improving the use of resources, it has been proposed that pressure be brought to bear on the responsible institutions for the creation and adoption of coherent macro-politics, and that efforts be concentrated on small-scale, sustainable development projects which include consultation and support.

Projects to be executed must respect the national sovereignty of each country of the region, as well as the rights of biodiversity and natural heritage.

With respect to the exchange of the external debt for natural resource conservation (debt for nature swaps), it is necessary that the methods and requirements be made well known to the Latin American and Caribbean communities. It would also be necessary to hold public regional and local forums for the entire population to ensure that all decisions are democratic.

It is also recommended that the indicators for determining women's benefit from the programs established during the Women's Decade be retained; that small-scale project objectives be coordinated with women's projects; that assistance be given to women's projects together with greater emphasis on the roles of women in middle and high level decision-making positions; and that gender components be introduced in all training and education in all sustainable development projects.

Before their execution, development projects must be preceded by an information process through public forums, referendums, plebiscites or other means of public participation. Moreover, they must include studies on environmental impact, and the specified legislative apparatus must be made public using a variety of communication methods.

### **Women and Human Settlements**

This Assembly proposes public petitions and the participation of social movements, among which include women's and environmental groups, towards the application of a clean environmental policy. This policy would incorporate inexpensive and successful alternatives that have low environmental impact, respond to the basic needs of the population and allow the participation of women in the decision-making process.

### **Women's Organizations and Movements**

Increased female participation in the management of the environment requires the application of parallel mechanisms towards change in the present sexual division of labor, which has impeded positive female participation in the public sector.

**Quito, Ecuador, March 1991**

## **Recommendations from: Asia-Pacific Regional Assembly**

### **Information/Education**

States, national and international organizations (governmental and non-governmental) and the private sector should promote both formal and non-formal education to enhance awareness of the environment, respect for creation and nature, gender equality, and motivate people's participation in protecting the environment and eliminating gender discrimination. They should take account of traditional ecological practices which respect the environment. This is closely linked with the elevation of female literacy, including legal literacy and scientific literacy. The educational process should be directed at recognition of ecological values, integration of environmental components in the subjects taught and a culture sensitive to gender equality. Specific training of environmental skills for livelihood opportunities should be promoted.

States, national and international organizations and the private sector should support programmes to train people's representatives, teachers, especially at the primary level and officials on environmental and women's issues. They should encourage women planners and students at the higher level of education to become more involved in science and the environment.

The mass media should be utilized effectively in awareness raising, education and information dissemination to a broad public in environmental promotion, preservation and protection and women's development.

States, national and international organizations and the private sector should encourage the preparation of appropriate educational materials on environmental and gender issues, including audio-visuals, songs, plays, puppets, etc. These should be packaged and disseminated to a wide range of groups, including families, mass media, religious organizations, NGOs and government officers.

Educational authorities should survey the existing materials on environmental and gender issues and adapt them for use among different groups. This entails multi-lingual and multi-modal educational materials catering to both literate and illiterate groups in rural and urban areas.

States, national and international organizations and the private sector should provide assistance for participatory action research concerning women and the environment and appropriate technology to reduce women's workload, as part of project planning and implementation, so as to identify needs and prepare appropriate responses.

Educational authorities should provide extensive consumer education in rural and other areas to emphasize the need to live within the limits of natural growth, in matters of concern to women and the environment.

Educational programs should be more conscious of the time constraints facing women and should be organized so as to suit the time when women are free to participate.

### **Advocacy/Participation**

States, national and international organizations and the private sector should promote dialogues between leaders at all levels of the community and interlink with the population so as to advocate sensitivity to, and respect for, environmental and gender issues. This should include state commitment to appropriate population planning for family welfare.

States, national and international organizations and the private sector should support community organization with a view to lobbying for more effective laws and policies in principle and in practice.

The private sector should recognize its responsibility to the environment more extensively. This includes social responsibility not only to the natural environment but also to the human resources in the vicinity whose needs interrelate with employment opportunities.

States, national and international organizations and the private sector should ensure adequate representation of women at all levels of the decision-making process. This is linked with the need for more decentralization and greater people's participation.

States, national and international organizations should establish fora and mechanisms for consulting women and others affected by development projects. These include local committees, public inquiries, consultation groups, etc. to which women's access should be promoted.

States should ensure that there is a national machinery on environmental protection and women's affairs, supported by effective policies and budgets for implementation purposes.

States, national and international organizations and the private sector should promote involvement and leadership of committed people and entities at all levels in respect of environmental management and gender equality.

Women's organizations at the national and regional levels should incorporate more concretely environmental issues in their work. Conversely, environmental organizations should take greater account of gender issues.

### **Policy/Legislation**

States should introduce legislation and policies to encourage participation by women in development planning and the decision-making process at all levels. There should be emphasis on effective law enforcement with sanctions and incentives where necessary. Clean water supply and sound water resources management should be accorded priority in national inputs concerning the environment.

States should assess the impact of existing legislation and policies on environmental protection and management and gender equality.

They should introduce reforms, where necessary, and ensure that there are effective laws and policies on consumer protection, natural resource conservation, incentives for use of bio-degradable products, consultations at the local level prior to decision-making, community participation and non-discrimination.

Quality control of products should be strictly enforced at the national and transnational levels so as to prevent dangers to the population and environment. Different environmental standards are required to reflect the different needs and characteristics of women.

An integrated approach representing the inter-sectoral concerns of women and the environment should be promoted. This implies that projects should be comprehensive in approach, catering not only to environmental protection, but also to the livelihood needs of women and their families. They should promote attitudinal changes concerning traditional gender roles, including the need for equitable apportionment of work.

### **Technology/Impact Assessment**

States, national and international organizations, and the private sector should assist in the identification and/or creation of appropriate and benign technology, and its research, development and transfer, so as to minimize negative impact on women and the environment. This includes assessment of existing indigenous technology which can be adapted to modern uses and research to identify needs for alternative fuel and energy sources. The criteria for appropriateness include availability, affordability, acceptability and accessibility.

States, national and international organizations and the private sector should evolve standards for environmental impact assessment before projects are undertaken as well as after they are undertaken, with consultation of the people affected. Assessment of the social impact should be emphasized, with particular concern for the effect of projects on women's development on a long-term basis. Women and other groups directly affected by such projects should participate in the assessment and have access to the results with correlative compensation for the damage incurred.

## **Financial/Other Support**

States, national and international organizations and the private sector should allocate sufficient funds to women's development and environmental protection, and strengthen self-reliance on the part of the community. These should be decentralized to facilitate support for village development funds, revolving funds and initiatives at the local level to advance women's development and environmental protection.

States, national and international organizations and the private sector should commit funding to the identification and development of appropriate and benign technology. A key area needing funding is that of clean water supply.

States, national and international organizations and the private sector should provide more resources to promote female literacy and participation in education and development programmes. These may be complemented by social subsidies to help their families and ensure that the economic difficulties at home do not impede women's access to development activities.

States, national and international organizations and the private sector should recognize the importance of the multiplier effect of development personnel, such as project trainers and trainees, who can help to catalyze and pave the way for change. Financial and other support should be rendered so as to broaden the impact of their work.

**Bangkok, Thailand, March 1991**

## **Recommendations from: The African Women's Assembly**

### **Forests and Woodlands**

1. Programs should seek the early involvement of women to ensure that their insights and concerns are fully incorporated into the planning and implementation stages.
2. Both rural and urban poor women should be educated about conservation issues.
3. The proper application of technical information should be widely disseminated to the people who need it most. For example, women who are provided with energy-efficient stoves should be shown the correct way to use such equipment.
4. Planners should emphasize the planting of indigenous trees as part of reforestation programs.
5. SWAGSD should assist individual governments in creating women's groups consisting of women at all levels, to ensure consistency between international policies and programs and individual country level activities.
6. Follow-up activities should be carried out on all levels and performance indicators should be set for the evaluation of three actions.
7. SWAGSD should assist African women to impress upon policy-makers the need for joint action with men in population control.

### **Deserts and Arid Lands**

1. The environmental impact of development programs should be assessed and taken into consideration prior to implementation, institutional mechanisms should be established to facilitate cooperation between governments, NGOs, and local communities.
2. Recognizing local traditions and the need for multi-purpose trees, governments should institute policies which define the criteria for species selection.

3. Both indigenous and exotic tree species should be promoted and governments and NGOs should endeavor to respect and support local traditions that emphasize protection of certain species.

4. A complementary effort in forestry research should be undertaken by both technocrats and local people, particularly women. Governments should provide the necessary infrastructure and facilitate the communication of research results to the local communities.

5. Facilities, resources, and training should be provided to local residents for grazing schemes, and zero grazing should be encouraged.

6. All proposed environmental projects should include a population component; and documentation of both human and animal populations should be carried out.

7. Villagers should be employed as extension workers so they can educate their own communities.

### **Rivers and Lake Basins**

1. Screen proposed water management schemes for their environmental and social impacts on women.

2. Ensure that the benefits from large-scale water management schemes (such as electricity, improved transportation and opportunities for fishing) accrue to local people.

3. Develop appropriate water management technologies which build upon women's knowledge (hand pumps designed by and for women and training of women in their use and maintenance). An effective delivery system for developed technologies should be put in place.

4. Encourage rural farmers to adopt agricultural practices that conserve natural resources.

5. Enforce laws on water quality.

6. Promote regional cooperation on water management for rivers and lakes shared by multiple countries.



## **Seas**

1. Environmental impact assessment studies should be systematically conducted for industrial, agricultural, and tourism development projects.
2. Governments should enforce national and international laws, texts, and conventions governing the exploitation of marine areas.
3. Drawing on local knowledge, research should be carried out on marine ecosystems and the economic and social activities linked to them.
4. The development of appropriate and environmentally sound technologies (such as the Kagan oven for smoking fish which reduces fuelwood consumption) should be a research priority.
5. Protected areas should be created for breeding and conservation of marine flora and fauna.
6. Since traditional fishing is a means by which self-sufficiency can be achieved by coastal and island populations, it should be promoted.
7. International and national legislation should be drafted and enacted to prevent the dumping of toxic wastes on African coasts.

**Harare, Zimbabwe, February 1989**

## **Recommendations from: The Arab Women's Assembly**

### **RECOMMENDATIONS: THE ROLE OF WOMEN IN THE PRESERVATION ON RESOURCES, FOOD SECURITY AND SELF SUFFICIENCY**

#### **Increasing Women's Participation**

Increasing women's participation in different social sectors, including environmental management, is necessary to encourage the dissemination of knowledge about the role of women to all sectors of society, especially policy makers. This will ensure that women's concerns are included in planning and decision making.

#### **Education and Training**

Special attention should be given to rural women's education and training in order to enable them to develop and advance traditional methods of food production and preservation. Training women in the production, distribution and marketing of food and agricultural resources is also essential to encourage wise natural resource use and environmental management.

#### **Extension Services**

Extension services to both rural men and women should be supported. Extensive use should be made of female agricultural extension workers. These workers are best qualified to help impart the attitudes and practices necessary for sound and productive participation as well as the overall development of the village and village environment.

#### **Field Research**

Women's organizations should carry out field studies on traditional methods of food preservation, as well as on sound hygienic food production and preparation methods.

#### **Environmentally-Benign Traditions**

Training programmes should emphasize positive rural traditions. Both practitioners and policy makers should examine and implement

novel and environmentally-benign ways of processing and preserving food. Also, energy saving methods and traditional processes that do not sacrifice hygiene and health should be considered. Considerable effort should be put into popularizing these environmentally-benign methods.

### **RECOMMENDATIONS: THE ROLE OF WOMEN IN ENVIRONMENTAL PROTECTION THROUGH GOVERNMENTAL AND NON- GOVERNMENTAL ORGANIZATIONS**

#### **Increase Policy and Decision Making Roles for Women**

Governments should encourage the participation of women in all sectors, especially the policy and decision making sectors such as the legislative and executive bodies. In particular, government policies should support organizations concerned with environmental and population problems.

#### **Women's Organizations**

Governments should recognize the importance of women's organizations as having considerable potential in environmental management and as effective means of advancing their roles. Where such organizations do not already exist their formation should be encouraged. Where they exist, governments should facilitate their activities. They should be encouraged to become involved in environmental education programmes.

#### **Coordination Among Women's NGOs**

The work carried out by Arab NGOs should be coordinated and a network of international NGOs involved in environmental protection activities encouraged.

#### **Small-Scale Projects**

Governments should design and implement small-scale projects involving women, especially focussing on water, agricultural resources, the

substitution of energy and the use of environmentally harmless products and processes.

### **International Cooperation**

Governments and practitioners involved in this field should encourage international cooperation among NGOs, and foster the creation of an Arab and international network of such organizations.

### **Financial and Technical Support**

Regional and international organizations are requested to provide technical and financial support to NGOs, particularly women's environmental organizations.

## **RECOMMENDATIONS: THE ROLE OF ARAB WOMEN IN ENVIRONMENTAL EDUCATION AND INFORMATION**

### **Formal Education and Training**

Training programmes using different methods for the dissemination of environmental information to women should be developed. Such programmes should include knowledge, values and norms focussing on increased awareness among both rural and urban communities and should incorporate the recommendations adopted by the Cairo meeting of Arab Ministers of the Environment, held in October 1989.

### **Informal Education**

Mobile environmental awareness units for the dissemination of environmental information should be established, especially for use in rural areas.

### **Curricula**

Environmental education curricula should be developed for all levels of education, including teacher training institutions.

### **Higher Education**

Universities and institutions of higher learning should be encouraged to establish lectureships and faculty teaching positions in environmental and natural resources management

as well as gender-related aspects of these disciplines.

### **Community-Based Education**

Community-based education, especially those programmes focussing on adult education, should be emphasized. Women's literacy programmes should be reinforced to ensure that Arab women can assume their full responsibility for environmental protection.

### **Traditional Knowledge**

Traditional knowledge, information on social heritage, indigenous knowledge, practices and experience should form an integral part of national environmental education programmes.

### **Role of Media**

Different media channels should be fully utilized in order to increase national and regional awareness and understanding of environmental issues. National radio broadcasting and TV networks should be encouraged to include environmental material in their programming, especially those ones in the Arabset network.

### **Research**

Research should take place in Arab universities and other research institutions on the role of women in environmental problem solving. In particular, women should be encouraged to participate in and conduct such research.

### **Data Resources**

Data resources available at the United Nations and Arab institutions (for example, the League of Arab States and ALECSO) should be fully utilized. Particular emphasis should be placed on augmenting these databases with information of particular relevance to women and environment.

### **Funding and Scholarships**

Arab governments should be encouraged to allot funds for scholarships that will enable women to specialize in different environmental fields as well as to expand on existing research projects on women's role in environmental protection.

## **International Cooperation**

**Arab countries should cooperate among themselves and with international organizations in translating and publishing literature and other relevant environmental material into Arabic.**

**Tunis, Tunisia, February 1990**

**MANDATES:  
Women and the Environment  
Past and Present for Future Actions**

**UN Conference on Environment and Development (UNCED)  
UN Environment Programme (UNEP)  
UN Development Programme (UNDP)  
UN Development Fund for Women (UNIFEM)  
UN Division for the Advancement of Women (Vienna)  
UN Children's Fund (UNICEF)**

## UN Agency Mandates

### Language to Strengthen the Role of Women in Sustainable Development

International organizations are critical in advancing policies and programs which can meet basic human needs. The goal of the United Nations Conference on Environment and Development (UNCED) is to achieve sustainable development through the integration of environment and development goals. Without the full participation of women it will not occur. The mandates from governments to many agencies of the United Nations system, reflect this connection, and support the strategies and recommendations of the **Global Assembly of Women and the Environment - "Partners in Life."** Following is a selected list of Mandates, which we hope will be further strengthened at UNCED in June 1992.

### The United Nations Conference on Environment and Development (UNCED)

#### Background

The United Nations Conference on Environment and Development (UNCED) was established on the basis of General Assembly Resolution 44/228 and taking into account other relevant General Assembly Resolutions. The role of women was not specifically discussed at the 1st or 2nd Preparatory Committee meetings (PrepComs). At the 3rd PrepCom, in August, 1991, a decision on Women in Environment was tabled by the governments of Canada *et al* (**Decision 3/5**). In anticipation of the final Preparatory Committee for UNCED, an official document on Women, contained a section entitled "Strengthening the Role of Major Groups" was prepared and discussed at the PrepCom negotiations in New York in March/April 1992. We reproduce both the text of Decision 3/5 and the text (**Doc.A/Conf.151/PC/100/L.72**) that was adopted at the final PrepCom in the following pages.



## General Assembly

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PREPARATORY COMMITTEE FOR THE UNITED NATIONS  
CONFERENCE ON ENVIRONMENT AND DEVELOPMENT  
Third session  
Geneva, 12 August-4 September 1991  
Item 2 (c) of the provisional agenda

PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT  
AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY  
RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT  
GENERAL ASSEMBLY RESOLUTIONS

### CROSS-SECTORAL ISSUES

Canada, Finland, Germany, Ghana\*, Japan, Netherlands\*\*, New Zealand,  
Norway, Sweden, United States of America: draft decision

#### Women in environment and development

The Preparatory Committee recalling General Assembly resolution 44/228 calls inter alia for the development of human resources, particularly in developing countries for the protection and enhancement of the environment, noting that the gender dimension is important in implementing this resolution and its decisions 1/24 (Guidelines for national reports), 1/25 (Environment and Development), 1/28 and 2/6 (Cross-sectoral issues) and taking due account of the recommendations on development in the Nairobi Forward-looking Strategies for the Advancement of Women as they relate to the work of the

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\* On behalf of the States Members of the United Nations that are members of the Group of 77.

\*\* On behalf of the States Members of the United Nations that are members of the European Community.

United Nations Conference on Environment and Development, which state inter alia that national and international emphasis on ecosystem management and the control of environmental degradation should be strengthened and women should be recognized as active and equal participants in this process, requests the Secretary-General to undertake the following activities in collaboration with the relevant organizations and bodies of the United Nations system, Governments, intergovernmental and non-governmental organizations.

(a) To ensure that key elements relating to women's critical economic, social and environmental contributions to sustainable development be addressed at the United Nations Conference on Environment and Development as a distinct cross-cutting issue in addition to being mainstreamed in all the substantive work and documentation, particularly Agenda 21, the Earth Charter and the Conventions.

(b) To establish mechanisms:

- (i) To include a global goal in Agenda 21 promoting the effective participation of women in knowledge generation, decision-making and management at local, national, regional and international levels;
- (ii) To recommend specific actions needed in each of the sectoral and cross-sectoral areas of Agenda 21 to ensure that progress towards sustainable development incorporate measures which will have beneficial impacts on women;
- (iii) To identify human and material resources and infrastructural support needed from international, regional and national agencies, to promote women's participation in UNCED activities at all levels and in each sector.

(c) To ensure that recommendations from relevant meetings undertaken by non-governmental and intergovernmental organizations and Governments be made available to the Preparatory Committee.

19 August 1991



**PREPARATORY COMMITTEE FOR THE UNITED NATIONS  
CONFERENCE ON ENVIRONMENT AND DEVELOPMENT**

Fourth Session  
New York, 2 March - 3 April 1992  
Plenary Session  
Item 2c of provisional agenda  
A/CONF.151/PC/L.72

**PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON  
ENVIRONMENT AND DEVELOPMENT ON THE BASIS  
OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO  
ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS:**

**Strengthening the role of major groups**  
(Section III, Chapters 1 to 9 of Agenda 21)  
**Report of the Secretary-General of the Conference**

1. Critical to the effective implementation of the objectives, policies and mechanisms agreed to by governments in all programme areas of Agenda 21 will be the commitment and genuine involvement of all social groups.
2. One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making. Furthermore, in the more specific context of environment and development, the need for new forms of participation has emerged. This includes the need of individuals, groups and organizations to participate in environmental impact assessment procedures and to know and participate in decisions, particularly those that potentially affect the communities in which they live and work. Individuals, groups and organizations should have access to information relevant to environment and development held by national authorities, including information on products and activities that have or are likely to have a significant impact on the environment, and information on environmental protection measures.
3. Any policies, definitions or rules affecting access to and participation by non-governmental organizations in the work of United Nations institutions or agencies associated with implementation of Agenda 21 must apply equally to all major groups.
4. The programme areas set out below address the means for moving towards real social partnership in support of common efforts to build environmental and economic security.

**I. GLOBAL ACTION FOR WOMEN TOWARDS  
SUSTAINABLE AND EQUITABLE DEVELOPMENT**  
(Section III, Chapter 1 of Agenda 21)

**INTRODUCTION**

5. This programme area was prepared on the basis of Preparatory Committee decision 3/5 on women in environment and development in which the Preparatory Committee requested the Secretary-General of the Conference "to ensure that key elements relating to women's critical economic, social and environmental contributions to sustainable development be addressed at

economic, social and environmental contributions to sustainable development be addressed at the United Nations Conference on Environment and Development as a distinct cross-cutting issue in addition to being mainstreamed in all the substantive work and documentation particularly Agenda 21, the Earth Charter and the Conventions". Other Agenda 21 programmes of special relevance to women include sustainable agriculture and rural development, freshwater resources, combating poverty, education and health. Recommendations from relevant meetings on women in environment and sustainable development also requested by the Preparatory Committee in decision 3/5 are contained in document A/CONF.151/PC.114.

## PROGRAMME AREA

### Basis for Action

6. The international community has endorsed several plans of action and conventions for the full, equal and beneficial integration of women in all development activities, in particular the Nairobi Forward-Looking Strategies for the Advancement of Women, which emphasize women's participation in national and international ecosystem management and control of environment degradation. Several conventions, including the Convention on the Elimination of All Forms of Discrimination against Women (General Assembly resolution 34/180, annex) and conventions on the International Labour Organization (ILO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) have also been adopted to end gender-based discrimination and ensure women access to land and other resources, education and safe and equal employment. Also relevant are the 1990 World Declaration on the Survival, Protection and Development of Children and its Plan of Action (A/45/625, annex). Effective implementation of these programmes will depend on the active involvement of women in economic and political decision-making and will be critical to the successful implementation of Agenda 21.

### Objectives

7. The following objectives are proposed for national Governments:

(a) To implement the Nairobi Forward-Looking Strategies for the Advancement of Women, particularly with regard to women's participation in national ecosystem management and control of environment degradation;

(b) To increase the proportion of women decision makers, planners, technical advisers, managers and extension workers in environment and development fields;

(c) To consider developing and issuing by the year 2000 a strategy of changes necessary to eliminate constitutional, legal, administrative, cultural, behavioral, social and economic obstacles to women's full participation in sustainable development and in public life;

(d) To establish by the year 1995, mechanisms at the national, regional and international levels to assess the implementation and impact of development and environment policies and programmes on women and ensure their contributions and benefits;

(e) To assess, review, revise and implement, where appropriate, curriculum and other educational material with a view to promoting the dissemination to both men and women of gender-relevant knowledge and valuation of women's roles through formal and non-formal

education, as well as training institutions, in collaboration with non-governmental organizations;

(f) To formulate and implement clear government policies and national guidelines, strategies, and plans for the achievement of equality in all aspects of society, including the promotion of women's literacy, education, training, nutrition, health and their participation in key decision-making positions and in management of the environment, particularly as it pertains to their access to resources, by facilitating better access to all forms of credit, particularly in the informal sector, taking measures towards ensuring women's access to property rights as well as agricultural inputs and implements;

(g) To implement, as a matter of urgency, in accordance with country-specific conditions, measures to ensure that women and men have the right to decide freely and responsibly the number and spacing of their children and have access to information, education and means, as appropriate, to enable them to exercise this right in keeping with their freedom, dignity and personally held values;

(h) To consider adopting, strengthening and enforcing legislation prohibiting violence against women and take all necessary administrative, social and educational means to eliminate violence against women in all its forms.

### Activities

8. Governments should take active steps to implement the following;

(a) Measures to review policies and establish plans to increase the proportion of women involved as decision makers, planners, managers, scientists and technical advisers in the design, development and implementation of policies and programmes for sustainable development;

(b) Measures to strengthen and empower women's bureaux, women's non-governmental organizations and women's groups in enhancing capacity-building for sustainable development;

(c) Measures to eliminate female illiteracy and to expand the enrollment of women and girls in educational institutions promoting the goal of universal access to primary and secondary education for girl children and for women, and increased educational and training opportunities for women and girls in sciences and technology, particularly at the post-secondary level;

(d) Programmes to promote the reduction of the heavy workload of women and girl children at home and outside through the establishment of more and affordable nurseries and kindergartens by Governments, local authorities, employers and other relevant organizations and sharing of household tasks on an equal basis by men and women; environmentally sound technologies which have been designed, developed and improved in consultation with women; accessible and clean water; efficient fuel supply and adequate sanitation facilities;

(e) Programmes to establish and strengthen preventive and curative health facilities, which include women-centered, women-managed, safe and effective reproductive health care and affordable, accessible, responsible planning of family size and services, as appropriate, in keeping with freedom, dignity and personally held values. Programmes should focus on

providing comprehensive health care, including pre-natal care, education and information on health and responsible parenthood, and should provide the opportunity for all women to breastfeed during the first four months (post-partum). Programmes should fully support women's productive and reproductive roles and well-being and pay special attention to the need to provide equal and improved health care for all children and to reduce the risk of maternal and child mortality and sickness;

(f) Programmes to support and strengthen equal employment opportunities and equitable remuneration for women in the formal and informal sectors with adequate economic, political and social support systems and services including child care, particularly day-care facilities and parental leave; equal access to credit, land and other natural resources;

(g) Programmes to establish rural banking systems with a view to facilitating and increasing rural women's access to credit as well as agricultural inputs and implements;

(h) Programmes to develop consumer awareness and the active participation of women, emphasizing their crucial role in achieving changes necessary to reduce or eliminate unsustainable patterns of consumption and production, [particularly in industrialized countries]\* (USA) in order to encourage investment in environmentally sound productive activities and induce environmentally and socially friendly industrial development;

(i) Programmes to eliminate persistent negative images, stereotypes, attitudes and prejudices against women through changes in socialization patterns, the media, advertising, and formal and non-formal education;

(j) Measures to review progress made in these areas and prepare a review and appraisal report which includes recommendations to be submitted to the 1995 World Conference on Women.

9. Governments are urged to ratify all relevant conventions pertaining to women if they have not already done so. Those that have ratified conventions should enforce and establish legal, constitutional and administrative procedures to transform agreed rights into domestic legislation and adopt measures to implement them in order to strengthen women's legal capacity for full and equal participation in issues and decisions on sustainable development.

10. States Parties to the Convention on the Elimination of All Forms of Discrimination against Women should review and suggest amendments to it by the year 2000, with a view to strengthening its elements related to environment and development giving special attention to the issue of access and entitlements to natural resources, technology, creative banking facilities and low-cost housing, and the control of pollution and toxicity in the home and workplace. States Parties should also clarify the extent of the Convention's scope with respect to the issues of environment and development and request the Committee on the Elimination of Discrimination against Women to develop guidelines regarding the nature of reporting such issues, required under particular articles of the Convention.

#### **AREAS REQUIRING URGENT ACTION**

11. Countries should take urgent measures to avert the ongoing rapid environmental and economic degradation in developing countries that generally affects the lives of women and children in rural areas suffering from drought, desertification and deforestation, [wars,]\*

USA, natural disasters and toxic waste and the aftermath of the use of unsuitable agro-chemical products.

12. In order to reach these goals, women should be fully involved in decision-making and in the implementation of sustainable development activities.

(a) Research, Data Collection and Information Dissemination:

13. Countries should develop gender-sensitive databases, information systems and participatory action-oriented research and policy analyses with the collaboration of academic institutions and local women researchers on the following:

(a) Women's knowledge and experience of the management and conservation of natural resources for incorporation in the databases and information systems for sustainable development;

(b) The impact of structural adjustment programmes on women. In research done on structural adjustment programmes, special attention should be given to the differential impact on women especially in terms of cut-backs in social services, education and health and in the removal of subsidies on food and fuel;

(c) The impact on women of environmental degradation, particularly drought, desertification, toxic chemicals and [war]\* USA;

(d) Analysis of the structural linkages between gender relations, environment and development;

(e) The integration of the value of unpaid work, including work that is currently designated as 'domestic', in resource accounting mechanisms in order to better represent the true value of women's contribution to the economy, using revised guidelines for the United Nations System of National Accounts to be issued in 1993;

(f) Measures to develop and include environmental, social and gender impact analyses as an essential step in the development and monitoring of programmes and policies;

(g) Programmes to create rural and urban training, research and resource centers in developing and developed countries that will serve to disseminate environmentally sound technologies to women.

(b) International and Regional Cooperation and Coordination:

14. The Secretary-General of the United Nations should review the adequacy of all United Nations institutions, including those with a special focus on the role of women in meeting development and environment objectives, and make recommendations for strengthening their capacities. Institutions which require special attention in this area include the Division for the Advancement of Women, the United Nations Development Fund for Women (UNIFEM), the International Research and Training Institute for the Advancement of Women (INSTRAW) and the women's programmes of regional commissions. The review should consider how the environment and development programmes of each UN organization could be strengthened to implement Agenda 21 and how to incorporate the role of women in programmes and decisions related to sustainable development.

15. Each United Nations organization should review the number of women in senior policy-level and decision-making posts and, where appropriate, adopt programmes to increase that number, in accordance with Economic and Social Council resolution 1991/17 on the improvement of the status of women in the Secretariat and the specialized agencies.

16. UNIFEM should establish regular consultations with donors in collaboration with the United Nations Children's Fund (UNICEF), with a view to promoting operational programmes and projects on sustainable development that will strengthen the participation of women, especially low-income women, in sustainable development and in decision-making. UNDP should establish a women's focal point on development and environment in each of its resident representative offices, to provide information and promote exchange of experience and information in these fields. United Nations organizations, agencies, Governments and non-governmental organizations involved in the follow-up to the United Nations Conference on Environment and Development (UNCED) and the implementation of Agenda 21 should ensure that gender considerations are fully integrated into all the policies, programmes and activities.

#### Means of Implementation

17. \*[ Finance and cost evaluation:

Studies suggest that the actual budgeting process in some countries results in underfunding of activities related to the participation of women in sustainable development. The following action would be necessary:

(a) At the national and international levels, financial policies and programme budgets of Governments, international organizations and aid agencies should be re-oriented and executed to ensure adequate funding for greater gender equity on an annual basis in the period from 1993-2000;

(b) There will be a need for allocation of adequate funds by each country to conduct national reviews and prepare reports for the 1995 World Conference on Women. An average cost of \$30,000 is estimated at the national level;

(c) Establishing gender-sensitive national databases and information and research activities would require \$250,000 a year for two years on the average for each country, and \$10,000 a year thereafter as expenditure for maintenance;

(d) Funding for United Nations Development Fund for Women (UNIFEM) could be increased by about \$10 million to give it enhanced capacity to manage technical cooperation activities. As part of an overall increase in funding for projects targeting issues related to women in sustainable development a strengthened UNIFEM would be able to manage projects in excess of \$100 million annually by the year 2000.

18. The Secretary-General's review and production of a report will require additional staffing in the United Nations system for a period of at least two years at a cost not to exceed \$2 million dollars. ]\*

\*These brackets indicate that the text within parenthesis was not agreed upon at the negotiations and may be renegotiated by governments in Rio.

# WOMEN AND THE ENVIRONMENT

## Resolution

**The World Conference to Review and Appraise the Achievements of the United Nations Decade for Women: Equality, Development and Peace,**

**Notes** with appreciation the activities of governments, non-governmental and international organizations, particularly the United Nations Environment Programme, to protect, enhance, improve and manage more effectively the environment,

**Recognizes** that significant progress has been made since the United Nations Conference on the Human Environment, held in Stockholm in 1972, in the identification of environmental problems, the institutional and technical measures for resolving these problems, as well as the understanding of the interrelationships between people, development, resources and environment,

**Conscious** that development must not only increase standards of living, but must also improve the quality of life for men and women equally,

**Agrees** that development must not destroy the ecological a base on which critical life support systems, such as water, soil, forests, on which human survival is dependent,

- 1. Urges** women to be more conscious of the crucial role they play in environmental and natural resource management;
- 2. Requests** international organizations, particularly the United Nations Environment Programme, to provide information on how women can play an active role in combatting serious environmental problems such as desertification, deforestation, depletion of plant genetic resources, proliferation of hazardous chemicals and mismanagement of water resources, water pollution, urban noise and air pollution as well as in preventing the wasteful use of resources in the home, agriculture, commerce and industry;
- 3. Recommends** government, bilateral and multilateral funding agencies to adequately take environmental considerations into account in development projects and, where appropriate, assess the environmental impact of such projects, particularly during feasibility studies and project planning stages;
- 4. Further recommends** that in addition to economic criteria for evaluation of projects, societal benefits must also be included, specifically assessment of the participation of an impact upon women;
- 5. Calls upon** governments to promote, adopt and implement sustainable development policies that, while promoting development, will ensure that natural resources are rationally used and prudently conserved as well as the environment protected, for the benefit and enjoyment of present and future generations.

## **United Nations Development Programme (UNDP)**

At the 38th meeting of the UNDP Governing Council on 22 June, 1990 in the 19th resolution of 1990, the Governing Council:

1. Takes note of the report of the Administrator on women in development (DP/1990/26);
2. Approves the undertaking of a survey of the implementation of the women-in-development mandate of the United Nations Development Programme and the establishment of a data base against which future priorities in the implementation of this mandate can be measured in a systematic manner.
3. Requests the Administrator to give high priority to women-in-development training, particularly at the country level, and to ensure that gender issues are addressed throughout all other training courses;
4. Calls upon the United Nations Development Programme to continue to strengthen its capacity and that of recipient countries to ensure that their activities are gender-sensitive, especially through the provision of support to field offices and Governments and through inter-agency collaboration and co-ordination;
5. Urges the United Nations Development Programme to adopt measures to ensure that gender issues are adequately taken into account in its programmes on the environment, poverty, the HIV pandemic, and refugees and displaced persons;

### Women in Development

The Governing Council:

1. Takes note of the report of the Administrator on environment (DP/1990/27) and the statement of the Secretary-General of the United Nations Conference on Environment and Development;
2. Notes that the strategy and the action plan outlined in the report of the Administrator on the environment (DP/1990/27) address General Assembly resolutions 44/227 and 44/228 of 22 December 1989 and the resolution adopted by the Preparatory Committee for the United Nations Conference on Environment and Development A/44/48.

### **UNDP: Mandate for the Division for Women in Development**

#### Overall Responsibilities

The Division will assist in ensuring and monitoring through UNDP's programmes and projects a substantially larger role for women, both as active participants at all levels and as beneficiaries for such projects.



## Functions

- iii) to maintain close liaison and establish an effective working relationship with UNIFEM (United Nations Development Fund for Women) in order to maximize the complementarity of approaches and inputs of the Fund and of UNDP;
- v) to liaise closely with the Divisions, Offices or Units of other United Nations Organizations and Agencies, as well as of bilateral programmes dealing with women's affairs;
- vi) to act as the focal point in UNDP for dealing with other women-related issues, including the preparation of programme advisory notes and Governing Council documents;

## **United Nations Development Fund for Women (UNIFEM)**

In 1976, the United Nations General Assembly established the Voluntary Fund for the United Nations Decade for Women which in 1985 became UNIFEM. The Fund was created to provide direct support for women's projects, and to promote the inclusion of women in the decision-making processes of mainstream development programs.

## **United Nations Division for the Advancement of Women (Vienna)**

Resolution 34/5 - Women and Development:

The Commission on the Status of Women,

**Convinced** that development cannot take place without the effective participation of women,

**Aware** that the slow progress in the implementation of the Nairobi forward-looking Strategies for the Advancement of Women as related to development necessitates urgent action to be taken by all the parties concerned,

**Aware** that the debt burden of many developing countries is a matter of concern and that the impact of structural adjustment policies on women in relation both to their participation in economic development and to the support of their families is often negative,

**Convinced** that the statistical underestimation of women's work in agriculture is one of the major factors contributing to the neglect of female rural workers in many national policies,

**Recalling** that population issues continue to have both a direct and an indirect effect on the well-being and status of women,

**Noting** the conclusions of the United Nations Interregional Seminar on Women and the Economic Crisis held at Vienna from 3 to 7 October 1988,

**Recalling** Economic and Social Council resolution 1989/41 of 24 May 1989 on women and development,

**Noting** that the progress achieved in the area of disarmament might lead to the freeing of resources in this area.

1. **Urges** Governments to adopt policies that are sensitive to the relationship of economic growth and the status of women;
2. **Requests** international financial organizations to search for measures that stimulate the economies of developing countries, while avoiding adverse effects on human well-being;
3. **Calls upon** Governments and appropriate financial institutions to make greater efforts to support the establishment of co-operatives and rural banks,
4. **Urges** international agencies and donor countries to assist women to gain access to credit, revolving funds and guarantee loan schemes, specially those operating in the informal sector;
5. **Requests** Member States to make provision for specific training programmes for women in rural areas aimed at developing their technical and managerial skills.

### **United Nations Children's Fund (UNICEF)**

As mandated by the 1987 Executive Board decision 18 and the 1989 Executive Board decision 18, UNICEF continues to promote programmes which include environment-enhancing components such as water and sanitation, urban basic services, and education, while incorporating women's needs and concerns, both as a perspective and as a specific target for programme action. Thus, at country level, UNICEF activities continue to support and promote the role and advancement of women in environment and development as recommended by the Global Assembly. UNICEF advocacy and technical support has helped to achieve progress in the improvement of the legal and political status of women in several countries including Bangladesh, Bolivia, Colombia, the Dominican Republic, India, Mozambique, Namibia and Tanzania.

#### **1987 Implementation strategy for UNICEF policy on Women in Development**

The Executive Board, on the recommendation of the Programme Committee:

- (a) **Endorsed** the various actions and time-bound objectives mentioned in the implementation strategy for UNICEF policy on women in development (E/ICEF/1987/L.1) as a means to

implement the policy on women adopted by the Executive Board in 1985 and the Nairobi Forward-Looking Strategies;

(b) **Reaffirmed** the need to explore the women's and girls' dimension in all programmes and to develop appropriate programmatic actions required to eliminate all situations of discrimination and disadvantage that affect them;

(c) **Noted** that staff should be maintained at both headquarters and regional levels in order to support and monitor the activities described;

(d) **Requested** the Executive Director to submit a separate report to the Board initially on an annual basis, outlining the activities undertaken in the field of women in development and the progress made in the implementation of the strategy;

(e) **Decided** that in order to achieve effective co-ordination, an exchange of information on experience gained should take place between the Fund and other United Nations organs as well as between the Fund and member countries.



## **ORGANIZERS**

## JOAN MARTIN-BROWN

### 1981-PRESENT

Joan Martin-Brown has worked in the fields of public policy and environment for over 25 years, and served the United Nations Environment Programme (UNEP), headquartered in Nairobi, Kenya since April 1981. As Special Advisor to the Executive Director of UNEP, she concurrently heads its Washington Office. In this capacity, she is responsible for UNEP's relations with the U.S.A., including the U.S. government, business/industry (in support of UNEP's Industry and Environment Office), and the U.S. non-governmental community. In addition, she is UNEP's representative to the international and diplomatic community in Washington, D.C., including the World Bank, and serves on the Implementation Committee of the Global Environment Facility (GEF).

In 1983, Martin-Brown initiated the process leading to the first World Industry Conference on Environmental Management held in Paris, 1984. In early 1985, Martin-Brown was designated UNEP's Global Outreach Focal Point for Women and directed UNEP's activities in preparation for the 1985 World Conference to Review and Appraise the Achievements of the United Nations Decade for Women in Nairobi. Since 1985, in conjunction with UNEP's Senior Women's Advisory Group, she initiated four regional assemblies on women and the environment in Zimbabwe, Tunisia, Thailand, and Ecuador and served as Global Coordinator organizing the November 1991 "Global Assembly of Women and the Environment" in Miami, Florida. Presently, Martin-Brown co-chairs these follow-up efforts through an *ad-hoc* U.N./Financial Institutions Working Group on Women, Environment and Development organized to support Global Assembly preparations. The Working Group is presently focused on the United Nations Conference on Environment and Development (UNCED). Martin-Brown also serves as UNEP's representative to the U.N. Center for the Advancement of Women in Vienna, and the Commission on the Status of Women.

In 1992, Martin-Brown was designated UNEP's Focal point for the 1994 U.N. Year of the Family, and her office augments the GEF/Science and Technology Advisory Panel (STAP) Secretariat for the UNEP's headquarters.

### 1977-1981

Martin-Brown (formerly Nicholson) served as national Public Affairs Director for the U.S. Environmental Protection Agency, responsible for a staff of approximately 100 people and a \$4 million budget, and was in the charter class of the Senior Executive Service -(SES 5). During her tenure she launched the highly acclaimed E.P.A. Journal; established the Office of Public Awareness; developed a national constituency outreach program; developed E.P.A.'s Citizen Participation Guidelines; instigated both the national 1979 City Care Conference for urban and minority leaders, and the 1980 Global Connections Conference on environmental issues for Ambassadors accredited to Washington. Concurrently, she served as the Chair of the Interagency Regulatory Liaison Group Information Committee on Toxic Substances; chaired the White House Council of Consumer Affairs--Information Committee; and represented U.S. E.P.A. on the Federal Interagency Committee on Education.

## **1976**

Martin-Brown served as Senior Coordinator for the American Petroleum Institute (A.P.I.) on public policy issues related to the environment, non-governmental organizations, and divestiture until her recruitment to the U.S. E.P.A.

## **1970-1975**

In 1970, Martin-Brown established the Bolton Institute for a Sustainable Future, to advance environmental management through cooperative programs which cut across sectoral lines and joined diverse publics. Under her leadership the Institute designed and conducted training to promote compliance by federal agencies with the new National Environmental Protection Agency Act (NEPA); developed Careful Technology guidelines to advance sustainable economics; and engaged in corporations, federal and state agencies, foundations and educators in 14 states in energy/environmental conservation education programs for students and educators, on a state wide basis, funded by the Federal Energy Administration. The Institute also developed environmental education materials for formal and informal use; was engaged in preparations for the 1972 U.N. Conference on the Human Environment in Stockholm; and organized Community Assemblies in Vermont as the U.S. follow up to the 1974 U.N. HABITAT Conference.

## **1969**

Martin-Brown served as Executive Secretary to the National Advisory Council on Environmental Education established under U.S. Public Law 91-516-15, implemented by the Office of Environmental Education, U.S. Department of Health, Education and Welfare.

## **1962-1967**

During this period, Martin-Brown served as consultant to 1) the Office of Environmental Education, 2) the Model Schools commission and 3) the Citizen's Advocate Center on two Ford Foundation projects, one a study of the U.S. Bureau of Indian Affairs, and the other a compilation of citizen participation case studies; and in 1962 worked for the U.S. Agency for International Development.

In conjunction with her UNEP efforts, Martin-Brown organized the book translation project of "The Lorax" by Dr. Seuss resulting in text in Chinese, Arabic, Urdu, Portuguese, Farsi, Swahili, and Ewe; arranged the National Geographic Society production of the multi-media event "The World of Beauty" for UNEP's 1982 decade anniversary; introduced the concepts of "environmental refugees", "caretaking consumers", environment and women as "shadow subsidies", and financed booklets on women and the environment in French, Spanish, and English for the 1980 U.N. Women's Conference in Mexico City.

## **Board Service**

Her past and present service includes the founding of WorldWIDE (World Women and the Environment); the Ossabaw Foundation; the Center for Environmental Education; the Chevy Chase Foundation; Vice Chair of the Global Tomorrow Coalition; the Goldman Foundation; Genetic Resources Communications Systems, Inc; Renew America; The Rodale Institute; the Steering Committee of America's Clean Water Foundations; the United Nations Association of the USA; Women's Institute of American University; the U.S. Recycling Advisory Council; Environment Committee-Episcopal Diocese of Washington; the Environment Committee of the American Society of Travel Agents; The Eco-Justice Project and Network, Presbyterian Church-USA; Committee for the National Institutes for the Environment; and Concern. Martin-Brown also serves on the Advisory Boards of the World Resources Institute, U.S. Legacy International, "Earth Ethics Journal", and the Editorial Board of "International Environmental Affairs".

Past and/or present memberships include the National Press Club, the American Newspaper Women's Club, National Association of Female Executives, the Federal Executive Women's Association, and the Council on Foreign Relations.

A member of Kappa Kappa Gamma, Martin-Brown graduated in 1962 from Allegheny College with a B.A. in Political Science/International Relations, fulfilled requirements to teach at the Secondary Level in New York State, completed the Senior Managers in Government (SMG) programme, Harvard-JFK School, 1980; was nominated by U.S. E.P.A. to participate in the Brookings Institute Corporate/Government Seminar program; and is currently a Master's Degree candidate at Georgetown University for June 1993. In addition, she has served as adjunct faculty at the American University-School of Law.

## **Articles include:**

"Rethinking Technology in the Future" 1992.

"Converging Worlds: The Implications of Environmental Events for the Free Market and Foreign Policy Developments, The Environmentalist, 4-1984.

"Toxic Substances, Science, and Public Responsibility: A Comment", Environmental Assessment, 1979.

"Public Awareness", Business and Society Journal, 1979.

"The U.S. Private Sector and the Environment" published by Center for the Study of Foreign Affairs, Foreign Service Institute, U.S. Department of State, 1979.

"The Need for a Well-Informed Citizenry", EPA Journal, 1979.

"Seeking Solutions for World Housing Needs and the Environment-An Overview", American University Publication, 1979.

"The Three E's, Economics, Energy, Environment", EPA Journal, April 1978.

"Highway-The Bulldozer and 1968", OEO Citizen Participation Manual of Case Studies

"The New Look in Environmental Preservation", Futurist, 1974.

"Young Institute-A Catalyst", Catalyst Magazine, 1974.

Martin-Brown is married, with a grown son and married daughter, and proud to be a grandmother.



## Biography

### **Ms. Waafas Ofosu-Amaah** **Project Director, Global Assembly Project** **WorldWIDE Network**

Energy, environment and law are not new issues to Waafas Ofosu-Amaah. Ms. Ofosu-Amaah, a Ghanaian, received her Masters Degree in Law (L.L.M) in 1975 from the University of London and was admitted to the Bar of England in 1976. By 1977, she was in Rome engaged in a research program funded by the United Nations Environment Programme (UNEP) which focused on pollution control in the Mediterranean Sea as a component of the Barcelona Convention.

In 1980, she joined the International Institute for Environment and Development (IIED) in Washington, D.C. where she conducted a study, sponsored by the U. S. Agency for International Development (USAID), on the legislative, regulatory and institutional capacities of developing nations to manage their natural resources. This work focused on Ghana, Malaysia and the Sudan. She continued her analytical work on environmental policy and law as a consultant to UNEP and the World Health Organization. In addition, as a member of the Board since 1983, she became heavily involved in the work of WorldWIDE Network -- an NGO dedicated to advancing women in environmental management.

From 1986 through July 1990, Ofosu-Amaah dealt with energy, economic and regulatory issues affecting industry as a member of the staff of the Resource Dynamics Corporation in the Washington area.

In 1989, she served as a participant and rapporteur at the first African Regional Assembly on Women and the Environment in Zimbabwe and was instrumental in editing the Assembly's final report. She has testified before the U.S. Congress on women as environmental managers in the context of food and energy self-sufficiency in Africa. She has edited, and prepared for publication, the reports of the Arab, Asian/Pacific and Latin American/Caribbean Regional Assemblies.

In 1990, UNEP invited WorldWIDE Network to implement the Global Assembly of Women and the Environment and Ofosu-Amaah became the Project Director.

As Project Director, Waafas Ofosu-Amaah is responsible for implementing the Assembly under the direction of the Global Assembly Coordinator. This involves supervising staff, coordinating the identification, review, validation and selection of success stories, overseeing the expenditure of funds, reviewing all logistical arrangements, making presentations on the vital linkages between women and the environment in many forums and supporting the *ad-hoc* UN/Financial Institutions Working Group on Women, Environment and Development. In addition, Ms. Ofosu-Amaah serves as Managing Director of WorldWIDE Network.

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## **APPENDICES**



# AN ALLIANCE WITH NATURE “WOMEN AND THE EARTH’S TRADITIONS”

STATEMENT

BY

DR. MOSTAFA KAMAL TOLBA  
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TO

THE WORLD CONFERENCE TO REVIEW AND APPRAISE THE ACHIEVEMENTS  
OF THE UNITED NATIONS DECADE FOR WOMEN:  
EQUALITY, DEVELOPMENT AND PEACE

Nairobi, Kenya, 15-24 July 1985



We have come together here, in Nairobi, at a time of tragedy for Africa. Many of you have witnessed, at first hand or in pictures and words, the terrible suffering of your fellow human beings.

Today, the world is struggling to save the lives of millions of refugees from denuded land. Many voices warn that immediate aid is not enough and that we have to strike at the roots of the tragedy lest we risk perpetuating and widening the cycle of famine and resource destruction.

The plight of Africa has been labelled “drought” and “famine” and “natural disaster”, but at bottom it is an environmental disaster and, unless we alter how people think about Africa and its plight, we shall be revisited by the grim visions that have stirred the world’s conscience and compassion.

The lesson we are learning from this African crisis is that we should be looking for more sound alternative

patterns of development, new patterns which use the natural resources of the earth; our land, our trees, our soil, our air, our water; more rationally for the benefit of human kind.

Solutions are at hand. You, my dear friends, are potential architects, and agents of change in generating more solutions. Two themes of this conference — development and peace — are primary concerns of UNEP.

In the environmental movement, we have long recognized that the hardships of people will be alleviated only by development. Development and human welfare are inseparable. Development means agricultural technology, industry, housing, production of all kinds that will supply jobs and amenities for growing numbers of people. But poorly executed development can also lead to over-cropping of lands, over-dependence on cash crops, pollution of water and air,

deforestation, desertification and the squandering of energy. Therefore our constant emphasis, no matter what the environmental context, has been on “sustainable development”, or development that will preserve — not exhaust — the resources on which it feeds.

We have come far enough, in the short, 12-year history of the United Nations Environment Programme, to believe that we have at least some of the answers, that we have workable methods of communicating those answers, and that we have successes and failures that can guide us in the future. What we lack, sadly, is a manifestation of the political will and foresight that is the key to seeing the concept of sustainable development affixed in the minds and entrenched in the policies of those who lead us.

I look to you, women from all walks of life, to join us in defining and, most crucially, redirecting the course of

development to prevent further environmental catastrophes. The burden of environmental degradation and crises has always fallen and is still falling on women, especially in the developing countries. I am speaking of the women in Africa who labour long and hard in the fields to produce more than half the food for the continent; I am speaking of the women of the Sahel who keep a night-long vigil by their wells to glean a few drops of water and the women of the Himalayas who — it has been reported — have been driven to suicide because they could no longer tolerate the burden of the firewood crisis.

Women who are in positions of influence have a special duty to represent those at the sharp end of the environmental crisis. More and more women now occupy positions of influence. Women are teachers, lawyers, engineers, parliamentarians, heads of state, scientists, law-makers, industrialists — and environmentalists. Women are, by tradition, managers of finite resources, whether it is the limits prescribed by a pay cheque or the limits of firewood, food and water to meet family needs.

We can simply look into the workings of our private lives, and the structure of families and communities down through the centuries, to shed some light on how you have nurtured finite resources. Woman's traditional role as manager of the individual household, is a script for improved management of our global household.

I am not speaking of the role of women as a fixed one in modern society: their social and political equality is long overdue and sadly, still has far to go. I am speaking, rather, of an awareness born of centuries of experience.

Perhaps it is this tradition that has led to what many perceive as a greater awareness on the part of women of the need to preserve, protect, and equitably share the dwindling resources of our global environment. In diverse circumstances, women have often been the first to lead the protests against chemical, water and air pollution, and they have been leaders in environmental education and citizen action leading to political action.

This leadership is highlighted by two important environmental initiatives, both initiated by women in the developing world. One of these, the Green Belt Movement, is a project of the Council of Women of our host country. Kenya is a country where 90 per cent of the population live in rural areas, and where more than 85 per cent of energy comes from fuelwood. And it is the women of Kenya — and every other African country — who are the firewood collectors. They are therefore in the front line against soil erosion. The Green Belt Movement is a grass-roots tree-planting movement, footed in the local communities, where women and young people set up

nurseries and then supervise the planting and care for the seedlings. There are more than 60 nurseries in Kenya already, producing millions of seedlings.

The "Chipko" movement in the central Himalayas is another example of women in action to prevent irrevocable loss of their resources. Angered by the selling off of their trees by the menfolk to timber companies, they took non-violent action to protect the hillside tree cover. Drawing their inspiration from the Bhistons — women of Rajasthan who centuries before were killed while protecting their trees — the Chipko movement has spread throughout the Himalayas and is now a powerful force promoting the right of local people to retain control over their resources.

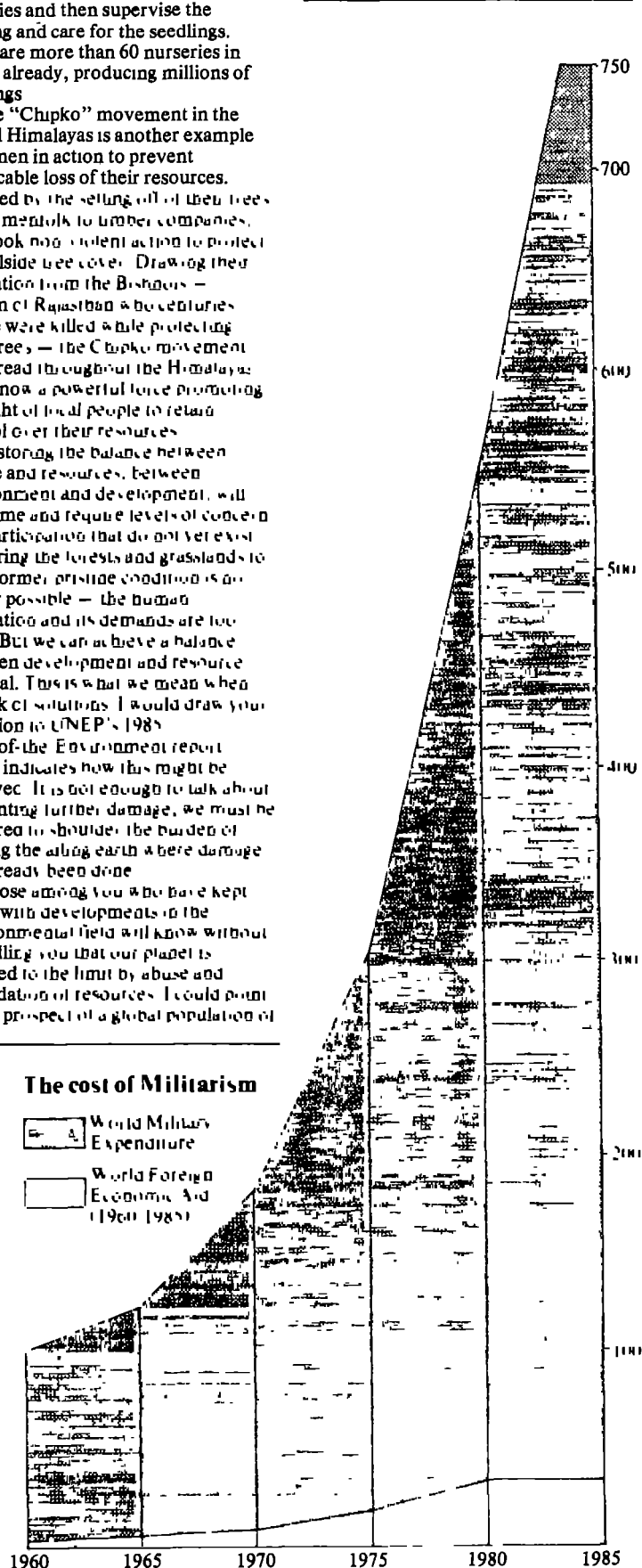
Restoring the balance between people and resources, between environment and development, will take time and require levels of concern and participation that do not yet exist. Restoring the forests and grasslands to their former pristine condition is no longer possible — the human population and its demands are too great. But we can achieve a balance between development and resource renewal. This is what we mean when we talk of solutions. I would draw your attention to UNEP's 1985

State-of-the-Environment report which indicates how this might be achieved. It is not enough to talk about preventing further damage, we must be prepared to shoulder the burden of healing the ailing earth where damage has already been done.

Those among you who have kept pace with developments in the environmental field will know without my telling you that our planet is strained to the limit by abuse and degradation of resources. I could point to the prospect of a global population of

### The cost of Militarism

World Military Expenditure  
World Foreign Economic Aid (1960-1985)



Source: "Gaia: an Atlas of Planet Management", 1984

10 and a half billion in little more than one hundred years, and go on to describe the obvious strains of so many mouths to feed, so many crops to grow, so many homes to build, so much fuel and firewood to be consumed. Or I could state that acid rain has killed off life in thousands of lakes in Scandinavia and Canada, while forests in central Europe are being ravaged by acidic fallout. Or I could note the tragedy of the world's fresh-water systems: the term "fresh" hardly applies to much of the world's drinking-water supply, and two thirds of the world's rural population have no access to clean water. Or I could refer to the migration to the cities in the developing world, where the new arrivals encounter cramped squalor, discrimination and new health hazards, not least from industrial catastrophe. We do not forget the Bhopal and Mexico City tragedies.

The human species has reached a stage which I would hesitate to call the point of no return — for we take heart in past successes even in the face of continuing degradation of the environment — but the facts are before us and are sufficiently alarming to provoke dismay in the face of so much apathy, so much avarice, so much short-sightedness on the part of those who could lead us out of the environmental traps we have set for ourselves.

The second theme of your Conference is Peace. As has often been

said, peace means more than the absence of war. Is the world at peace when 40 per cent of its population have no effective medical services? Is the world at peace when 3,000 million people lack access to safe drinking-water? Is the world at peace when 750,000 die each month from water-borne diseases? And is the world more secure for the fact that military expenditure will surpass 1000 billion dollars annually by the year 2000? Even now, military research and development drains scientific and technological capabilities ten times that available to all the developing countries put together.

We must take inspiration from the peace movements which refuse to accept the inevitability of the arms race. Significantly, it is women who are spearheading many of the campaigns; it is women who are saying that this insanity must stop.

To arm to the teeth and squander resources in preparation for wars without winners cannot represent meaningful security. In the meantime, environmental resources are squandered, resources which support human welfare, and human health.

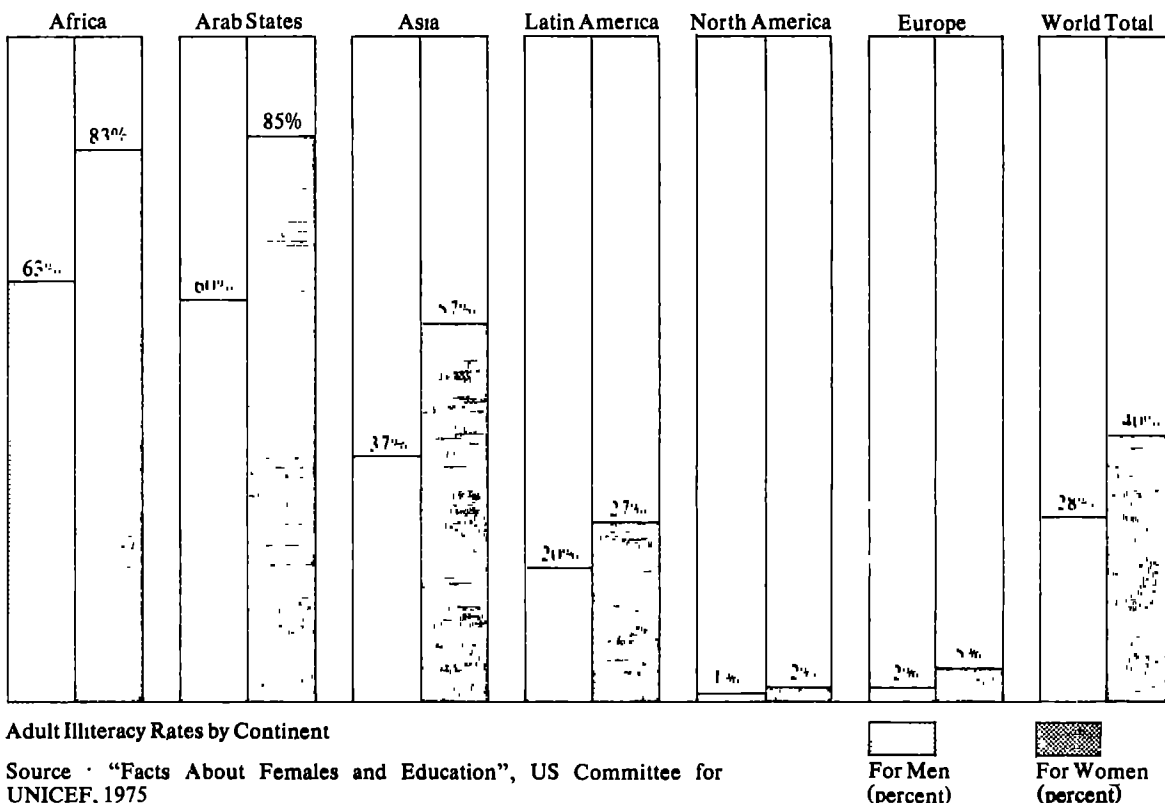
Women must use their hard-won responsibilities and social positions in order not to succumb to the *status quo* that has left the planet in such perilous circumstances. They must press for the kinds of national and international actions that will bring about change for the better. No region of the planet is

exempt from environmental bankruptcy. In developed countries, air and water pollution persist and new problems of chemical contamination loom, as industry produces increasing quantities and varieties of new compounds.

And what should be the role of women in Asia, and Latin America — regions experiencing unprecedented industrial growth? Women have a crucial role to play in fighting regressive terms of trade, punitive land tenure systems, wasteful consumption patterns and the other "invisible" forces that cause environmental despoliation. Lamenting the loss of forests, pollution and so on, is not good enough. You must turn your attention to the decision-making processes which cause that destruction. With your help we can turn environment into a major decision-making priority.

The objective is sustainable development. Shortages of water, food, wood, and fuel are just as much threats to stability and security as are political or ideological differences. All these natural resources shortages can be overcome through environmentally-sound development planning and implementation. You have to educate others and educate the generations that will inherit this earth. We are appealing to you to teach your children and your community that there are no permanent technological fixes in nature. We men have pretended for too long that we can

### The Illiteracy Gap

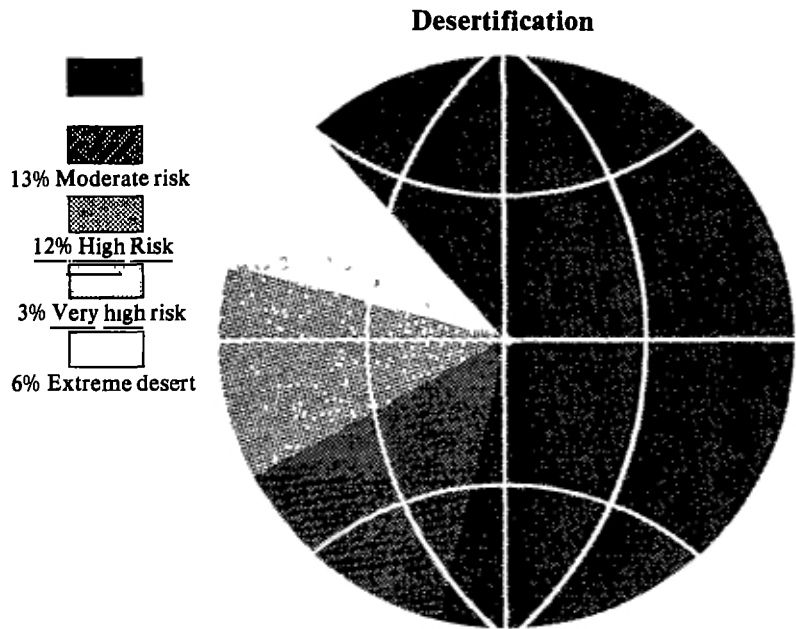


conquer nature, when the most we can hope for is to live in harmony with the Earth, within nature's natural limits.

Every vocation carries with it environmental responsibilities: biology, engineering, agriculture, political science, or economics. Students of these disciplines must see the imperative of environmental considerations in the real world. The environment, our Earth, is not something to be conquered, it is something to be protected as we protect our own children. Women from all over the world can find, as a bridge to each other, the salvation of the Earth, whether in movements such as the peace campaigns, Chipko and Green Belt: or in the service of parliaments, corporations, universities and citizen groups. People, not Governments, have brought us thus far in the environmental movement. It is *people*, through protest or concerted action, who compel industrial or agricultural development in their countries to consider the environmental consequences. You, as more than one half of the human race, must mobilize. You, who often suffer first and are consulted last; you, who must live with the consequences of decisions without having a forum to voice your objections; you must join with us.

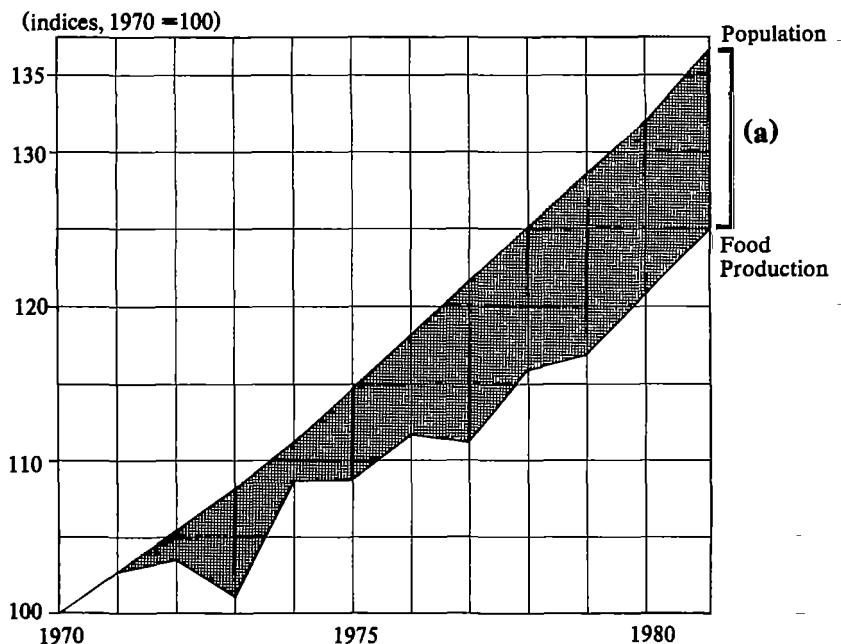
In our search for workable solutions to these tangled issues, UNEP has seen the potential as well as the limitations of international actions on environmental issues. Whether it is the threat to the ozone layer, the protection of coastal waters, the conservation of endangered species or the responsibilities of industry in the preservation of resources, there is a growing awareness. But it is not enough, and it will not suffice if local residents do not have rights or a voice in their future; if they cannot say "No" to development schemes that are short-sighted, overlooking environmental considerations; if they cannot say "No" to astronomical arms expenditures or say "No" to industries that callously disregard the effects of their pollution on distant lakes and forests.

The human commitment needed to heal the world — a world in which every citizen and every Government plays a role in preserving the Earth for future generations — is surely not lacking among the women assembled here. The quest for women's rights, too often denied or suppressed, has brought you into the realm of politics, both global and regional, and has taught you that the *status quo* is not monolithic and is susceptible to reason. Industry can be shown that prevention of environmental degradation pays, and pays now. Whole regions can be shown that co-operation on environmental issues can lead to co-operation on other fronts. The energy and sheer force of will that has brought the global women's



Percentages of the Earth's Ice-Free Land Area at Risk from Desertification  
Source: UNEP

### Food Versus Population in Africa



The Growing Gap Between Food Production and Population Growth in Africa (1970-1981)

Source: FAO

movement so far, so fast is desperately needed by the environment and development movement, and is needed now, whether you work in local communities or in the corridors of conventional power. You must join each other to reclaim your future.

If there must be war, let it be a war against environmental contamination, nuclear contamination, chemical contamination, against the bankruptcy

of soil and water systems; against the driving of people away from their lands as environmental refugees. If there must be war, let it be against those who assault people and other forms of life by profiteering at the expense of nature's capacity to support life. If there must be war, let the weapons be your healing hands, the hands of the world's women, in defense of the environment. Let your call to battle be a song for the Earth.





## **"The Task Before Us"**

**Joan Martin-Brown\***

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# The task before us

by Joan Martin-Brown



**W**OMEN and the environment both provide societies with shadow subsidies; each is an undervalued resource. Yet after all these years we are still talking about the difficulty of putting dollar signs on the value of nature and female labour.

In many communities civic concern about the environment is the "Trojan Horse" for citizen participation in local decision-making, and many of the most courageous actors are women. In many nations their commitment to live in harmony with nature and to respect its capacity to support life means questioning 300 years or more of the compartmentalization of knowledge and its separation from values. The process has gone so far that today we try to divide urban from rural policy and national from global realities.

Throughout history women have been the integrators, the thread linking children and the elderly, home and the resources of the community, the fruits of the field and the products people use. If we are to survive the twenty-first century and beyond, we must draw on their skill

to reconnect many disciplines the better to perceive the relationships between them. We need to share the countrywoman's knowledge of food-stuffs, of flora and of fauna with the botanist, the genetic expert, the technologist, the pharmacist, the agricultural expert, and the engineer who builds roads and dams in rural areas. We need woman's voice in the design of habitats, whether urban or rural, for around the world she is the primary dweller. Male perceptions of social priorities and approaches to solving environmental problems need to be enlightened and augmented by the perceptions of women. By their inclusion, the prospects for human development may be doubled.

In recent times, many cultures and nations have striven to dominate nature, to act as if they are not part of it. Concurrently men and women have found themselves increasingly cut off from their children and communities. This is the exact opposite of the situation in traditional cultures and agrarian societies. We are the first generation

**"Those who are in positions of leadership have a special duty to support people in the front lines of environmental crises. They must raise their voices for the voiceless."**  
Below, women and children near Rosso in Mauritania.















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