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WOMEN TRANSFORM THE MAINSTREAM

18 Case Studies of Women Activists Challenging Industry, Demanding Clean Water and Calling for Gender Equality in Sustainable Development.

Introduction

Clean, accessible water -- aqua vita -- is essential to the existence of our planet and to the health and livelihoods of human beings and other forms of life. The Universal Declaration of Human Rights and other international instruments have recognized the rights of everyone to a standard of living adequate for their health and well-being, including food and medical care, housing and the necessary social services. So do human beings have a right to safe water? If so, how do they realize this right? Is water simply another commodity? If so, how will the market price be determined and how will the product be allocated? What is the public sector role and responsibility in ensuring universal access to safe water?

At every UN conference from Rio to Rome, governments agreed to ensure universal access to safe drinking water in sufficient quantities by the year 2000. Yet, the world's water resources are under siege, from contemporary predators who despoil and exploit seas, rivers, lakes and land for profit in the name of technological progress.

According to the 1996 WHO/UNICEF Water Supply and Sanitation Sector Monitoring Report, one billion people lack ready access to safe water supplies, and two billion live without sanitation facilities. Unfortunately, no data is available for over 70 countries so the real extent of the problem is unknown. Other UN sources estimate that one-quarter of the world's 5.9 billion people have no access to clean drinking water. Industrialized countries are assumed to provide more than 90% of their populations with access to safe water.

As water quality is declining in many industrialized countries, the market has responded. Entrepreneurs have been quick to capitalize on the profit-earning potential in cleaning up environmental disasters. Increasing numbers of private firms have entered the market to supply bottled water as a consumer product. The market share for bottled waters of all kinds -- mineral, spring, flavored, etc.-- has virtually exploded in the last two decades. Bottled water is now regularly exported and imported by a growing number of countries.

The market for water filtration devices has also increased dramatically over the last decade as consumer confidence in the quality of publicly provided tap water has declined. A majority of the people in industrialized countries, particularly those with low incomes, continue to rely on the public sector to provide safe drinking water piped into their homes and places of work. The majority of people in developing countries still rely on shallow and deep tubewells as well as low-cost means of purifying surface water.

What are the public policy implications resulting from the commodification of water? The 84 countries attending the March 1998 international conference on water and sustainable development held in Paris discussed this very question. Government delegates appealed to market forces to manage the world's water supplies. Governments agreed that water should be paid for as a commodity rather than treated as an essential staple to be supplied free of cost. Delegates concluded that costs of water should remain "low" and that "the poor must be assured of access," but they did not construct a formula to find this delicate balance between the capacity of each category of user to pay for access.

The World Bank and International Monetary Fund have been promoting the concept of user fees for social services as part of their market-oriented, structural adjustment reforms. Indeed the market is extremely useful in determining the consumer's willingness to pay for goods and services. Unfortunately, there are many market "externalities" and "imperfections." Inequalities and injustices abound.

The UN estimates that some 80 countries, comprising 40% of the world's population, are suffering from serious water shortages and that, in many cases, the scarcity of water resources has become the limiting factor in economic and social development. Only 0.3% of the total fresh water reserves on earth are found in rivers and lakes, which along with ground water form the bulk of the water for drinking (10%), industry (21%) and agriculture (69%).

While many industries pollute and pillage water resources for private gain, countless women around the world work in their local environments to protect and preserve water sources for their families, communities and regions. In their traditional and modern roles in society, workplaces and communities, most women have a strong interest in conserving and utilizing water resources. Of necessity, most women develop their own methods to purify and manage scarce water supplies and often serve as "environmental educators" for their families and the community at large to better manage water supplies. In the context of fresh water management, women also bear the greatest impacts of water misuse, water contamination, and water scarcity. Most

importantly, women, as critical stakeholders in deciding courses of action, are constantly overlooked by policy-makers.

While women's participation and representation in governments around the world has been increasing in many countries, there is still a serious participatory democracy deficit. Gender-inequitable governance and decision-making structures do not produce the most effective and sustainable solutions to the water crisis and other critical problems.

In the 1992 Earth Summit Agenda 21 and subsequent international conference agreements, including the comprehensive 1995 Women's Conference Platform for Action, governments have agreed on the need for gender analysis to reflect the differential impact that policies and programs have on both women and men. Beyond this rhetoric, "mainstreaming a gender perspective into policy-making" and acceptance of women as equal partners in decision-making remain largely unrealized. However, as we near the 21st century, women's participation is increasingly being recognized as the key to sustainable development and a healthy, equitable and peaceful planet.

Disparities between the ways in which men and women use and control natural resources are a key indicator of gender inequality. Traditionally, women have been responsible for managing basic resources because of gender-based roles that assign women responsibility for household care. Of the basic resources, water has been crucial for survival. But water is increasingly a scarce resource, and difficult choices are being made regarding its use among industry and agriculture, personal health and development opportunities. These are political questions. The trade-offs are choices that governments are making by their action or inaction. In such situations, the lack of attention to the needs and capabilities of women in their public, economic and family roles contributes to reinforcing and increasing gender disparities.

Effective gender analysis does more than assure women's participation in creating environmentally-sound development. It reflects how resources are allocated between men and women, highlights constraints imposed by women's socially-constructed and confined roles, and proposes women-empowering policies. Failure to include gender analysis in policy-making has often resulted in recurrent crises and widespread suffering among women, men and children.

For example, the World Bank has pioneered the use of social assessments as part of its project development process. But it has not yet succeeded in having these assessments adequately use the potential power of gender disaggregated data collection and gender analysis as evidenced in the recent social assessment of the Aral Sea region. One is left

with the impression that the report is not simply gender neutral, but gender blind. Survey research teams interviewed "the adult in the household" in almost 1,000 homes but the reader has no idea whether men or women were interviewed.

Using gender analyses will provide a framework for understanding local cultures by exposing differences in the way women and men cooperate, share and control resources. Getting to know how decisions are made; who is involved in what type of activities; and the overall cultural context of a given community will influence the establishment of broader mechanisms for democratic participation.

Governments at every level should take into account women's expertise and experience to ensure environmentally-sound policies and programs. The following case studies illustrate the value of women's holistic approach in dealing with a range of environmental crises and in creating sustainable communities.

Cause of the Environmental Crisis

During the International Drinking Water Supply and Sanitation Decade of the 1980's, governments and international agencies made considerable progress to ensure safe water for billions of people. In addition to agreeing to ensure universal access to safe drinking water in the Earth Summit Agenda 21, governments highlighted the need to conserve and maintain water resources in the face of gradual destruction and pollution. Alarmingly, new threats to achieving these goals continue to emerge.

Most of the environmental hot spots highlighted in these cases are the result of serious democratic deficits, power struggles and conflicts over the direction and nature of development. Competing interests involving multiple sectors run through every story. Each story highlights debates over critical principles and asks each of us to decide what are the core principles that should guide our economic system, which is but a subset of our larger ecosystem.

In all parts of the world, expansion of industrial activity has saddled communities with multiple environmental problems, including rivers and lakes overloaded with industrial discharges, agricultural run-off and radioactive wastes, resulting in poisoned drinking water supplies. Progressive encroachment of incompatible activities is one of the main challenges in water planning and management.

The following compilation of case studies illustrates the multiple effect of increasing globalization of the economy on women and their families. As the influx of multinational corporations into previously pristine environments has occurred without regulatory

safeguards or appropriate environmental planning and management, the environment has suffered and human health has deteriorated. In three decades, from Rachael Carson's pioneering 'Silent Spring' to Theo Colburn, Dianne Dumanoski, and John Peterson Myers' powerful, 'Our Stolen Future,' we have increasing evidence that we are threatening the survival of many species, including our own, as well as the survival of life on this planet.

In many communities there are simultaneous releases of hazardous materials into the air and water leading to environmental changes so great that local populations are completely overwhelmed. In cases of water pollution, there are far reaching consequences no matter what kind of water body is involved. The case studies highlight environmental problems related to a range of water bodies that include a sea bounded by several countries, a lake, several rivers, and communities with polluted groundwater. They illustrate the multiple challenges to women in environments where complex inter-relationships exist between local economic activity, agriculture, recreation, water supply, and military and industrial activity. Industrial sources of pollution include military and non-military nuclear facilities, mining and metallurgical operations, agro-industry and the petrochemical industry. The cases document the problems resulting from discharges of both organic and inorganic effluents into rivers, which are the main drinking water sources for local communities.

Environmental contamination is often cumulative, building up incrementally over long periods of time in local ecosystems. This is clearly demonstrated in the case study of the petrochemical industry in Ogoni, Nigeria. Evidence of environmental links to cancer and damage to women's reproductive health is mounting. In most cases, multiple substances have been released by a variety of industries, often with inadequate testing and identification of releases into the environment. Three case studies, including the Mediterranean sea, Chelyabinsk in Russia and the Kelly Air Force base outside San Antonio, Texas, focus on military facilities that are sources of complex mixtures of potentially dangerous substances. Volatile organic compounds, hazardous and radioactive wastes, solvents and munitions are released from these locations, endangering regions far beyond their original source. Mining and metallurgical industries release an array of heavy metals including copper, iron, zinc and cyanide with long-term impacts on ground and surface water sources. Agro-industry, highlighted in the Aral Sea region, can be a source of dangerous pesticides, buildup of nitrogen, phosphorous and phenols as well as lead to arsenic poisoning.

Impact of the Crisis on Women and the Community

Eleven case studies provide a sampling of threats to the health of our vulnerable planet. Damage to local communities varies in degree and form. Health problems result from consumption of polluted drinking water, swimming in polluted water supplies and consumption of contaminated food and fish. Assessment and identification of the health effects has often been difficult, with a number of the cases demonstrating conflicts of interest and interpretations between official organizations and agencies and local community groups. These discrepancies may be due to difficulties in pinpointing effects of long-term cumulative buildup of pollutants from industrial facilities in the region or because the health effects are a result of multiple causes, including poverty, inadequate nutrition and diet in affected populations.

Women are disproportionately affected not only by high mortality and morbidity rates in the cases described, but also because increasing health problems in the communities place a particular burden on women given their traditional role as caregivers and healers. Communities in the Essequibo River region of Guyana, Chelyabinsk, Russia and the Black Mesa region of Arizona in the United States, faced with heavy metals and cyanide releases from the metallurgical and mining operations, report increased immune system responses, skin rashes and irritations, respiratory illnesses and elevated cancer rates. Lead contamination is shown to increase blood diseases and brain damage. Radioactive exposures in Chelyabinsk, Russia, in the Ukraine and in the Mediterranean are associated with higher birth defects, cancer increases and gene mutations. Military facilities such as the Kelly Air Force Base in Texas, where various volatile organic compounds are stored, appear to increase multiple illnesses, including neurological diseases. Ear, nose and throat irritation, and immune system, skin, digestive, respiratory and learning disorders are also on the rise. Arsenic exposures in Bangladesh from agricultural activities have lead to conjunctivitis, skin cancers, nervous system disorders and damage to internal organs.

Several case studies report multiple sources of contamination: for example, drinking water quality in the Karakalpakstan region of Uzbekistan bordering the Aral Sea was affected by toxic chemical releases from both agro-industry and by releases from chemical weapons factories. These communities show exacerbated morbidities such as increases in birth defects, infant mortality, hepatitis, kidney failure and higher levels of anemia in pregnant women. Long-term exposure to persistent organic pollutants from agro-industrial use of DDT and lindane results in chemical transmission through the food chain to mothers who in turn expose their children to risk while still in the womb and through their breast milk. Aquatic life, domestic animals and wildlife can also be harmed by pollution from these industrial activities as shown in the Ogoni region of Nigeria and the Essequibo River area of Guyana.

The cases also document changes in traditional economies and lifestyles. Depleted fish stocks and reserves are devastating for women and families heavily dependent on fishing as a source of income. Unplanned and unsustainable industrial practices have resulted in relocation and disruption of longstanding spiritual practices and tourism activities as well as shifts in traditional balances of power, in several cases to the detriment of women. The economic and class disparities among women result in primarily victimizing those who are poor and uneducated. And the breakup of the former Soviet Union has deprived large numbers of women of paid employment and inclusion in government decision-making bodies.

Women's Response to the Crisis

Each of the case studies in this report is a tribute to the creative energy of women in the face of a range of ecological disasters and difficult trade-offs about the quality of life in their community. Women in various parts of the world have responded by increasing their self-sufficiency, empowerment and capacity in the face of threats to their families and communities. Women have played an active role in mobilizing the community to become aware of the problems and respond appropriately. In some cases resistance by local authorities to conducting more comprehensive health analyses has galvanized women to mobilize their own resources for more systematic analysis of health effects.

By coming together and forming strong support systems, women have helped people affected by the crisis more effectively to: (1) identify and document the health impact, (2) interface with and put pressure on government agencies responsible for responding to the problems, and (3) educate and reach out to focus attention on the issues. Local governments and international agencies are described as slow, bureaucratic, and often ineffective in coping with such community concerns. They tend to have a more conservative approach, acting without an appropriate level of consultation with the affected communities and without incorporating the precautionary principle adapted as part of Agenda 21's statement of principles.

In response, women have used a wide variety of tactics. The organizational frameworks established have facilitated their use of lawsuits and more activist status in permit hearings. Strategic alliances with activist organizations in the country of origin of a transnational corporation have been formed and partnerships with institutions such as universities and hospitals have been useful. The activism in response to these problems has given women valuable experience and expertise in NGO and legislative activity at the local, national and international levels.

Recommendations for Action

Each of the cases described in this document proposes specific recommendations for action responsive to its particular situation. More generic suggestions, based on the lessons learned in these cases are listed below for consideration by delegates attending the Commission on Sustainable Development. Combined, these actions would serve to mainstream gender and promote gender equality, civil society participation and sustainability. But designing and making participatory decision-making processes that work effectively in different cultures and political contexts is far from simple. Many lessons can be distilled from the case studies that point us toward a new culture of working together. Among the proposed remedies:

Give women and NGOs representing affected communities in policy and decision-making at all levels more formal recognition and greater visibility.

Move away from the "top down" approaches (which continue to be used by government and international agencies) by using multi-stakeholder participatory processes, such as Local Agenda 21.

Incorporate the systematic use of gender disaggregated data collection and gender analysis into all research, problem diagnosis and formulation of solutions and actions including all social assessments.

Since the majority of all governments have honored their commitment to create a national action plan to implement the Beijing Platform for Action, the CSD should promote its use and integration into other plans.

Prevent environmental hotspots by investing in environmental education that advocates the active use of the precautionary principle, meaning a demonstrated willingness to act even without the weight of full scientific "proof" of a problem.

Women Respond To A Shrinking Aral Sea

REGION:

Karakalpakstan is a semi-autonomous republic in Uzbekistan with an area of 165,300 sq. kilometers (half the size of Italy and four times larger than the Netherlands) and a population of 1.5 million. Karakalpakstan lies in the delta area of the Amur Darya river and the Aral Sea.

CASE STUDY PREPARED BY:

Center-Perzent is an NGO based in Nukus, the capital of the semi-autonomous republic of Karakalpakstan in Uzbekistan. The goal of Perzent (a Karakalpak word meaning "progeny") is to unite the strengths of organizations and progressive people seeking to improve the status and health of women and children by empowering local women's groups.

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Women in Europe for a Common Future, an NGO based in the Netherlands, networks women working on environment and health in Western and Eastern Europe and the Newly Independent States. Its primary aims are to link European women's organizations and networks that promote sustainable development and to strengthen their decision-making power in environmental and health policies.

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Abstract

The Aral Sea, once one of the world's largest inland freshwater seas, is now a shrinking sea due to unsustainable water use. The local population used to live on fishing, commercial shipping, rice growing or cattle herding, but the ongoing Aral Sea crisis has dramatically affected the health and livelihoods of the 35 million inhabitants of the region. Doctors and NGOs in the region say that there is a strong link between the

environmental crisis and the health problems of women and children living in the region. Local women and children suffer from menstrual disorders, anemia, liver diseases, cancer and birth defects. Infant mortality is said to be the highest in the former Soviet Union (40 to 60 deaths per 1,000 live births in Karakalpakstan compared with 19 per 1,000 in Russia and between 7-12 per 1,000 in Europe). Birth defects are also on the increase (27 per 1,000 in Karakalpakstan compared with 3-5 per 1,000 in Europe). There has been a clear destruction to the region's economy. The Aral Sea has shrunk to almost half its size, which has led to the loss of livelihoods of an estimated 40,000 - 60,000 fishermen and fish-processing workers in the area. Karakalpakstan is now the poorest region in Uzbekistan and the area hardest hit by the Aral Sea crisis.

Cause of the Environmental Crisis

The arrival of Soviet developers in the 1930s heralded the destruction of the age-old system of rice-field irrigation and water pricing and the installation of a wasteful, large-scale irrigation system. Under the Soviet economic system, the entire region along the Amu Darya River (Kyrgyzstan, Turkmenistan and Uzbekistan) was designated for the production of cotton. To ensure the productivity of the cotton agro-industry, large quantities of water were needed to irrigate the fields. Thus, the Amu Darya river was dammed at several places along the river, diverting water that would have ordinarily gone into the Aral Sea, to irrigate cotton fields instead.

In the 1960s it became apparent that the dams and large-scale irrigation projects were drawing too much water from the Amu Darya river (which feeds into the Aral Sea), as the sea was beginning to dry up. The large cotton monoculture developed by the Soviet regime is the main reason for the dying of the Aral Sea.

Cotton production also led to toxic pollution of the region. Pesticides like DDT and lindane were used to maximize the total yield of cotton. Defoliants containing dioxin were used to make it possible for mechanical pickers to harvest the crop. The use of DDT and lindane has now been banned, however defoliants and other pesticides are still being used. The entire population continues to be exposed to chemicals. Often, pesticides are sprayed from airplanes, which fly over villages and cotton field workers, many of whom are women. These chemicals have entered the food chain where they bio-accumulate and are transferred from fatty foods, such as oil and milk, to women who then transfer the chemicals to their children through their womb and breast-milk.

Reports recently published by the World Bank, the Japanese International Development Agency (JICA) and UN agencies testify to the immense environmental pollution problem in the area, particularly water pollution and water mismanagement. At the UN

international meeting on Urgent Human Needs, held in Tashkent in January 1994 an Uzbek government representative observed that 150,000 tons of toxic chemicals had entered the water over the last 10 years and that these would continue to pollute soil and water supplies. The report from the 1995 UN conference on the Aral Sea states, "Once a prime source of potable water, ground water is no longer suitable for drinking in most areas."

A 1996 JICA report attributes deterioration of water quality to the discharge of mineralized water into rivers, highly contaminated with organic and inorganic substances (nitrogen, phosphorus, pesticides, phenols, etc.). The defoliants (used on the cotton fields) polluted underground and river water which was used as drinking water in the downstream areas. In addition ground water was also used for irrigation, leading to underground salt deposits, thus exacerbating the salinification of the soil. The 1996 JICA report describes increasing aridity, as salt crystallized on the dry bed of the sea and on the agricultural land due to surface water evaporation. Salt dust blown over the surrounding area, caused damage to agricultural land and adverse effects on people's health. More than 40% of cultivated land has suffered salt damage.

The inefficient irrigation system installed by the Soviets eventually caused declining cotton yields and infertile agricultural land. Furthermore, the region was affected by pollution from upstream, particularly from heavy metals used in mining and metalworking industries. In the Pamir mountains, dams and large industrial sites include chromium plants, which emit waste into the Amu Darya river and chemical and biological weapons factories in Kongrad and Muniak, two towns in Karakalpakstan, that tested their weapons in the Aral Sea. This toxic inheritance probably continues to pollute the area.

Impact of the Environmental Crisis

The Aral Sea case is a prime example of how unsustainable water management can lead to an economic and human disaster. The local people see more and more community members becoming ill or dying. They see their environment becoming increasingly hostile as salt crusts on the land thicken, fewer trees grow old, the growing season is shorter and harvests are lost. They see the places they used to swim in the sea when they were young, covered by sand. There are no more fish and the animals and plants are disappearing. They notice how they have less and less water and how bad it tastes.

It is the women of Karakalpakstan who are worst hit by the environmental crisis, because women traditionally bear the burden of caring for ill family members. Often it is the women who are wrongly blamed for the illnesses. Two studies (Crosslinks 1994,

Binnies 1996) blamed the high level of anemia, diarrhea and consequent increase of morbidity and mortality, indirectly on women for not cooking adequately for their families and not providing their children with a balanced diet and clean water. Many women in Karakalpakstan work in the kolkhozes (state farms) or are in the service sectors (doctors, nurses, schoolteachers, etc.) In their spare time women try to grow some food in their gardens, if they have them and if they can find sufficient water, which is becoming increasingly difficult.

Health effects on women and children in Karakalpakstan:

Maternal mortality rates are 3 to 4 times higher than the national average;

99% of women and 90% of children suffer from anemia;

90% of women have complications during pregnancy and deliveries;

15% of pregnant women have miscarriages;

30%of pregnant women have kidney diseases;

30% of women have a high levels of certain elements (Mn, Cr, and Cd) in their blood and placenta;

30% of women have low levels of essential elements (Fe, Zn) in their serum and have lindane and DDT in their breast milk and placenta;

Frequency of birth defects is 5 times higher than in most of Europe;

A 1995 UNDP report stated that the average infant mortality rates was 4.48%, the highest in Uzbekistan, which has an average infant mortality rate of 3%;

A 1996 JICA report found infant mortality rates to be 10% in some areas;

6.49% of children below the age of 14 years suffer from skin diseases; and

Children are prone to water borne diseases notably diarrhea, as well as acute respiratory illness.

Health effects on general population of Karakalpakstan:

Viral hepatitis has increased from 62.4% to 94.8percent in the past 19 years;

Incidence of tuberculosis is 1.5 times greater than before;

Cancer incidence has increased from .163% to .183% from 1985 to 1992; and

Skin disease is twice the national level affecting 9.83% of `the general population.
The effects of environmental pollution on people are being played down by government and international agencies. According to these agencies, the causes of health problems are lack of hygiene and poor diet, rather than environmental pollution. The population of the Aral Sea region and particularly women and children, generally suffers from poor health. Part of this is due to a breakdown in the health care infrastructure since the dissolution of the Soviet Union. There are repeated outbreaks of infectious diseases and average lifespans are declining dramatically. This phenomenon is seen in most of the newly independent states; however, Karakalpakstan and other regions bordering the Aral Sea have been particularly hard hit. Poor drinking water quality is assumed to have contributed to documented increases of certain morbidities such as hepatitis, kidney failure, birth defects and spontaneous abortions (Ataniyazova 1994, Abdirov 1993).

Anemia is often disregarded since almost 50% of the world's population suffers from it, but policy makers must examine the severity of the problem, not just the occurrence. One out of seven women in Karakalpakstan suffers from severe hemorrhage (bleeding) during pregnancy which is the main cause of maternal death (they bleed to death, so to say). A World Bank report (Binnies 1996) relates hemorrhaging directly to severe anemia. Severe anemia is also found in 99% of newborn babies. The same 1996 World Bank report relates severe anemia in newborns to increased fetal morbidity and mortality, impaired language and motor development and impaired coordination.

Frequent pregnancy and poor diet were considered to be the causes of anemia among Central Asian women. Thus, the programs designed to address anemia have been directed at regulating the number of births, proper diet and iron supplementation. However, Dr. Oral Ataniyazova's research has shown that the high frequency of anemia among women in Karakalpakstan is independent of pregnancy and age. The study reveals a high frequency of anemia in women who were not pregnant (92%), teenage girls (87%) and among newborn babies (85%). This research has shown that environmental factors such as high mineralization of drinking water have led to anemia amongst women in the Aral Sea region.

Effects on the climate and economy:

The drying up of the Aral Sea and water pollution have led to economic decline in the region, through loss of resources and productive labor. The Karakalpak tourism industry along the Aral Sea shore was abandoned in the 1980s. It is estimated that some 40-60,000 fisher people have lost their livelihoods. While fishing and related activities once provided 50% of the region's income, large fish canning industries now have hardly any fish to process. Species extinction is taking place with almost 40 fish species in the Aral Sea having become extinct. The former fish catch of 40,000 tons a year has declined to zero. The mutagenic activity of the water is 1.5 times higher than in Moscow. Great numbers of other species (i.e., mammals, birds) have also become extinct.

Under the Soviet system the entire region specialized in growing cotton, which was then exchanged for wheat and other goods from other areas of the Soviet Union. This specialization is increasingly problematic for the newly independent states of the Aral Sea Basin. The quality of Aral Sea Basin cotton is low, because it has short fibers. Although cotton exports still make up most of the country's income, cotton sales are declining and the Uzbek government has to import three million tons of wheat to feed it's people.

The greatest effects of the Aral Sea crisis are expected to hit the agricultural sector of Karakalpakstan, where local climate changes and increased salinity are starting to take their toll. The agricultural output of the region has already declined by 20-30% due to soil salinity, climate change and reduced labor productivity stemming from health problems. As a result of the shrinking Aral Sea, the Karakalpak region suffers increasingly from climate change. The climate of the Aral Sea basin used to be tempered by the moderating influence of the enormous water body. Now, temperature changes are wider and more abrupt, resulting in shorter growing seasons and higher probability of harvest loss.

Response to the Environmental Crisis

Response by Governments and International Agencies

The enormity of the ecological crisis in the Aral Sea basin became more visible following the dissolution of the Soviet Union. It also became increasingly clear that no country acting alone could stop the destruction and an interregional effort of all the riparian states - Uzbekistan, Kazakhstan, Turkmenistan, Kyrgyzstan and Tajikistan - was necessary. The Heads of State of the five riparian countries came together to form the Executive Committee of the Interstate Fund for the Aral Sea (ICAS). Each country contributed to this fund, for activities to improve the Aral Sea problems. The five countries also asked the UN and the World Bank for assistance.

In January 1994, the Aral Sea Basin Program was set up in cooperation with the World Bank, UNEP and UNDP. The objectives of the program were to:

Stabilize the environment of the Aral Sea basin;

Rehabilitate the disaster zone around the sea;

Improve the management of the international waters of the Aral Sea basin; and

Build the capacity of the regional institutions to plan and implement the above programs (ASBP progress report No. 2, p.1).

The program included seven sub-programs divided into 19 projects. The cost of implementing these planned projects was estimated at US $470 million. The money came from donor countries including Japan, Germany, the Netherlands and Kuwait (progress report No.3, p. 1).

There was a great deal of hope and optimism in 1994, it was the first time that these five newly independent states had established international relations independent of Moscow. The governments of the five countries believed that their problems were the problems of the world and that the world community would help them solve this crisis. In this state of euphoria, the heads of state of the Aral Sea riparian countries declared themselves committed to sustainable development and signed the Nukus Declaration on September 1995 at an UN International Conference on Sustainable Development of the Aral Sea Basin (ICAS) held in Nukus. The state leaders acknowledged the need to "Preserve the quality of life for our peoples, without compromising the life of future generations by encouraging and supporting initiatives aimed at improvement of health, income generation and preservation of cultural heritage" (UN ICAS final report, p.20). They also committed themselves to human development stating, "As representatives and supporters of the new democratic countries of Central Asia, we are committed to achieving the participation of our peoples and NGOs in the overall economic process and in the solution of their problems." (UN ICAS final report, p.21)

Several million dollars have already been spent on feasibility studies by the World Bank and more than 131 foreign missions and delegations have visited the Aral Sea area, discussed the problems, and published articles and reports. However, no epidemiological studies have been done to look at the links between the chemical pollution of the region and the health disorders. In 1997, several World Bank reports stated that it had been shown that there were no health problems resulting from

agrochemicals in Karakalpakstan. The World Bank bases this conclusion on the 1996 JICA study on water quality of urban drinking water reservoirs. But the JICA report only measured treated drinking water; it did not look at untreated water used in rural areas or at other sources of chemical intake such as cotton oil, used for cooking, or milk. More than half of the test sites in the JICA report are not those closest to the Aral Sea. Other measurements are also inconsistent and show major mistakes. For example, chemical tests for lindane and the DDT breakdown product DDD are indicated in milligrams per liter, or in grams per liter, whereas they probably meant to write one-millionth of a gram per liter, as these pesticides are usually measured.

The World Bank health project's final report focuses entirely on the bacteriological health problems in the region. It states that chemical pollution is not a problem and that if water was indeed chemically polluted, "experience shows that in such incidents the water usually becomes undrinkable owing to unacceptable taste, odor and appearance and is not consumed." (Aral Sea Program 5 project no. 1 Uzbekistan Water Supply Sanitation and Health Project Final Report Health Aspects, p.5). What is omitted is that when people have nothing other than polluted water to drink, they will have to drink it, and that is what is happening in Karakalpakstan. In rural areas people even use water from the irrigation drainage ditches for drinking water.

In 1997, a change in strategy occurred. It became clear that the health dimension bothered officials at the World Bank. World Bank officials wanted to get on with their work and look for economic projects that would promise a return on investment from which to start paying back the interests on the loans. The World Bank officially appeared all too willing to accept the outcomes of JICA water tests, a few fish analyzed for pollutants, and a graduate student's study on the causes of anemia. The World Bank transferred the responsibility for the program to a 2-person team in Tashkent, and decided to reduce the number of programs and to focus primarily on the agricultural program to improve cotton production. Health projects were integrated into the water supply program. After spending around US $2 million, donor countries seem uninterested in giving more funds to relieve pressing human needs. The UN agency which was supposed to focus on the human needs issues, the UNDP office in Tashkent, is busy with internal problems and is in the process of being reorganized.

In Fall 1997, the heads of state of the five riparian countries came together and, following recommendations from the World Bank, decided that the sea should be left to die since there was no longer a chance of saving it. Trying to save the Aral Sea would mean making economic sacrifices that were deemed too great. This decision was taken without any input from the affected populations. It could mean that some of the populations living closest to the Aral Sea, like the Karakalpaks, will now have to leave

their towns and villages. A representative of Doctors Without Borders in Tashkent remarks, "Isn't it just incredible that five years and $13 million dollars later we are still trying to find out what pollutants exactly occur in the drinking water of the Aral Sea region?" The region still does not have a good hospital; there is no diagnostic center to identify diseases; and no toxicological laboratory where environmental hazards can be studied.

NGO Response

In most countries, women are society's most experienced and important natural resource managers. In Karakalpakstan women do most of the agricultural work, supply water, care for the ill and try to grow sufficient food for their families. Environmental degradation has added to women's low status in society by increasing their burdens in an environmentally vulnerable region. Their children are at increased risk of disease from unsafe water, nutritional deficiencies and lack of knowledge about prevention. A 1997 UNICEF report on a children's right to sustainable development states, "Environmental problems are social problems and the time women spend each day with the ramifications of environmental decline is time lost to their own development and that of their children and the wider community. Sustainable development cannot be isolated from implementing the rights of women to sustainable livelihood and equal opportunities for education, training, technology, access to credit and decision making."

With the premise that sustainable development is not possible without the direct participation of women, the NGO Center-Perzent has initiated a number of projects in Karakalpakstan. These projects incorporate women's perspective into the research and analysis of the crisis as well as directly involve them in programs such as health education and organic food farming. The following initiatives are being undertaken by Center-Perzent in collaboration with international networks.

Research

Center-Perzent conducts research to assess the quality of environment and human health in the Aral Sea region. In collaboration with the NGO ECOLOGIA, Center-Perzent has engaged the public in monitoring water quality, made recommendations on how to improve household water quality and developed several workshops with local authorities and physicians on water quality and health problems.

In collaboration with the Institute of Ecology and Evolution at the Russian Scientific Center of Obstetrics and Gynecology, Center-Perzent is investigating the epidemiology of reproductive pathology and reproductive toxicity. Working with Women in Europe for

a Common Future, Center-Perzent has started an investigation of pesticides levels in the blood of Karakalpak women. In cooperation with World Resources Institute Center-Perzent is developing an investigation on reproductive health indicators. This project covers several countries including Brazil, Mexico and Uzbekistan. Center-Perzent is also receiving assistance from an international team of experts to carry out research in the Karakalpak region and to identify problem areas, thus reducing the population's exposure to contaminants.

Education and Community Awareness

There is a need for enhanced community participation, self-sufficiency, and empowerment in Karakalpakstan. Center-Perzent has chosen a strategy of education, information and training as the central components of moving towards this goal. In its first year of existence Perzent brought out a series of five booklets on women's health, providing basic information on hygiene, diet, the functioning of a woman's body, ways of contraception, the needs of pregnant women, how to take care of newborn babies etc. The booklets were printed in the Karakalpak language and distributed in hospitals. The NGO also publishes a women's newsletter, as well as booklets on "a safe childhood" and the relationship between health and environment.

Center-Perzent has an environmental education program for 200 children in Nukus schools. It organizes environmental summer camps for children and has an environmental library open to the public. In collaboration with Save the Children Fund, Center-Perzent has a program which provides water filters to kindergartens and environmental educational programs for pre-school children.

Since 1996 Center-Perzent has been running a 'women, health and environment' project with Women in Europe for a Common Future and partners in Russia and the Ukraine. As part of this project a group of 20 women from five towns in Karakalpakstan have been trained on basic health and health and environment issues. They are now conducting workshops for women in their communities and run a 'health-desk' where people can come for advice and information.

It is crucial for education and information projects to be interactive, and not to use a top-town approach. Often women have a lot of knowledge of the local environment and resources that has been handed down through the generations. The key is to revitalize that knowledge to improve the current situation.

Community Projects Build Self Sufficiency

Center-Perzent has recently set up the project 'Sustainable Chimbay,' a self-help, organic vegetable and fruit farming program to improve women's and children's diet and avoid further contamination. The local authorities in the town of Chimbay provided 20 hectares of land for the organic farm.

The goal is to use the vegetables and fruits from this farm in meals served at the school, thereby improving the health of the children. Another part of the harvest will be used to improve the women's diet, particularly pregnant women. If the harvest is good, the families of participating women will consume the surplus food and sell the rest. The income from the sales will be used for the target group's most serious needs, such as securing additional food, repairing the kindergarten's heating system, building a hand pump, filtering drinking water, obtaining medicines and syringes for the children's clinic, etc. The project also includes plans of capacity building training for women who work on the farm. The training sessions will look at methods of organic farming and methods to reduce exposure to pollution and improve personal health including hygiene, diet and water purification.

The main aim of the Sustainable Chimbay project is to show that organic farming is a viable alternative to pesticide intensive farming. It will improve the diet of children and families in Chimbay and offer income-generating opportunities for women farmers and the staff at the training center. The project will become a training and education center for surrounding farming communities. Thus the "kindergarten-farm" will gradually become a demonstration farm where local farmers and Kolkhoz directors can see how different crops can be cultivated with good yields using organic methods. Furthermore, the demonstration farm can serve as an experimental center to test new species of plants which can regenerate the soil, adapt to saline soils and require less water. Also, the cultivation of organic cotton in rotation with other crops will hopefully become a pilot project in this demonstration center.

For the last 50 years the local population has been conditioned against undertaking any individual action. All responsibility for society's well being was the domain of the state. The local population appears to think that someone will come and solve all the problems for them. The local communities need to realize that they possess the power to improve their environment and their lives. It is in this context that projects promoting self-sufficiency, like the organic farm in Chimbay, take on a greater significance.

Recommendations for Action

Based on the experience in the Aral Sea region, the following recommendations are made:

Make Women's Health a Priority
Women and children are the main victims of the Aral Sea crisis and they cannot be expected to bear the increasingly high cost of health care. Therefore, we call on donors of international aid and credit projects to create a special fund with grants to pay for health care and monitoring programs, using a gender differentiated approach with special attention to the health impact on women and children.

Make Environmental Health a Priority
The Aral Sea case shows that there is a need to create a training program for staff of the World Bank and other international agencies on the links between health and the environment. In addition and parallel to existing expertise on bacteriological health issues, expertise is needed in toxicology and epidemiology. Therefore, we call on donors of international aid and credit projects to engage environmental health experts and dedicate funds for research on environmental health effects, as well as funds for practical projects working on ways to reduce this impact.

Increase Funding to Women's NGOs
"National and local NGOs are at the cutting edge of the environmental movement and no government or international agency can afford to ignore their critical contribution," according to a 1997 UNICEF report. In countries with a history of authoritarian rule, NGOs are often the only ones trusted by communities. NGOs with strong participation of women can motivate and mobilize communities to understand the health and other harmful effects of their activities and show how this can be changed. The World Bank and other international agencies working in Uzbekistan have made some attempts at working with NGOs but the proportion of funds dedicated to working with NGOs is a fraction (0.25%) of total funds spent. Therefore, we call on donors of international aid and credit projects to set apart at least 5% of total funds for grants to community-based NGO projects, with specific attention to the participation of women.

Create an International Independent Assessment Committee
The responses to the Aral Sea problem have been marked by the misallocated expenditures of funds. To prevent further misallocation, an International Independent Assessment Committee should be created to monitor and assess the international programs on the Aral Sea, involving local and international scientists and NGO representatives.

Create a UN Fund for Ecological Disaster Zones
Environmental pollution and resource mismanagement of fresh water bodies like the Amu Darya river and Aral Sea can cause the devastation of a region and its people. The

UN should develop international agreements to avoid the devastation of one region's livelihoods by pollution from other regions. The UN has a role to play that is similar to its peace keeping function. Beyond developing international conventions, the UN needs to assist the affected people in cleaning and regenerating their region. How can such regions repay loans if their resources have been severely damaged and are increasingly unproductive? We call on the UN to create a fund for grants to pay for clean-up, resource regeneration and health care in ecological catastrophe areas like the Aral Sea Region.

Integrate Agricultural, Environmental and Health Policies
After five years and such high expenditures, there still has not been any scientific analysis of the contaminants in the air, soil, water and food of the Aral Sea region. The World Bank and UNDP need to integrate their research, for example, the agricultural department has data which the health department has not looked at. Governments must ensure that policies and programs to fulfill people's basic needs such as clean water and their right to know what is harmful to their health. It is inappropriate to place trust in a trickle-down approach and more attention must be given to UNICEF's recommendations and utilizing a bottom-up approach that involves women's NGOs.

Humanitarian Aid
International agencies, including the World Bank, UNDP and UN, need to create a fund for humanitarian aid to this region. Above all, international agencies need to treat the Aral Sea Basin with the same urgency that they would treat a war or earthquake zone. The Aral Sea region is an environmental disaster area in need of immediate assistance.

Mediterranean Sea Under Siege by Military and Industrial Abuse

REGION:

Countries bordering the Mediterranean Sea include Malta, Italy, Cyprus, Lebanon, Palestine, Israel, Morocco, Tunisia and former Yugoslavia. The Maltese Islands lie in the center of the Mediterranean Sea and support some 360,000 native inhabitants and 600,000 visitors a year.

CASE STUDY PREPARED BY:

The Association of Women of the Mediterranean Region (AWMR), founded in 1992, developed from Malta's Women for Peace and Equality network of women who shared a concern for the cumulative and chronic contamination of the Mediterranean Sea. Committed to regional and world peace and sustainable development, AWMR's aim is

to formulate and initiate common action to achieve a Mediterranean region free of pollution; to halt wanton ecological destruction; and to safeguard not only our sea, but also our air, water and soil. The Association believes in the fundamental right of all peoples, irrespective of gender, race, creed or class, to fresh water and clean seas.

Association of Women of the Mediterranean Region

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Abstract

Oil spills, military exercises and toxic trade increasingly threaten the Mediterranean Sea. The growing degradation of the marine environment poses threats to the region's economy as well as to the health of people in the region. Women activists from all countries bordering the Mediterranean have joined together to work on strategies to educate and mobilize international action in response to the worsening problem.

Cause of the Environmental Crisis

The World Health Organization estimated in 1992 that one-third of the children swimming in the Mediterranean Sea would subsequently fall ill within two weeks. What used to be called flotsam and jetsam is now large-scale dumping of toxic chemicals. The oil tankers plying the Mediterranean spill or leak an amount of oil 17 times the size of the Exxon Valdez catastrophe every year, according to a 1992 report in 'The Economist.' They do so with complete immunity.

In addition, constant military exercises and the increasing number of hostilities in the Mediterranean area lead to residues of gasoline, solvents, weapons, and munitions which find their way into the sea. Worse, where the U.S. sixth fleet houses nuclear-powered submarines at ports in Sardinia and Crete, there has been so much radioactive waste that the sea is considered dead in that area. According to the Attorney General of Reggio, Guido Neri, the Neapolitan Mafia or "Ndrangheta" is responsible for the mysterious sinking of 25 ships, each full of radioactive waste, around the coast of Italy between 1992 and 1993. One ringleader, Georgio Comerio, is not in jail for dumping 5,000 tons of lethal waste in our seas but instead "enjoys the support of banks,

institutions, and influential people in business and politics," according to Neri. This waste will have toxic and carcinogenic effects on millions of people. A warning sign is the rise in leukemia rates among children and adult inhabitants of nearby fishing ports.

The recent history of violence in the Mediterranean, especially the Israeli-Arab wars, the 1974 Turkish occupation of one third of the island of Cyprus, the war in former Yugoslavia and continued violence in Algeria have all taken a serious toll on the physical and psychological health of the Mediterranean people. Wars and war games not only destroy the environment with toxic and radioactive contamination and increase the incidence of violent behavior in society, they also increase the scarcity of essential resources such as clean drinking water, safe and hygienic living conditions and nutritious food.

Mediterranean countries officially engage in toxic trade. The Italian government shipped some 16,000 barrels containing over 24,000 tons of hazardous waste from Italy to Beirut between 1987 and 1988. "The barrels of solid waste with chlorinated substances and toxic heavy metals are ecological time bombs in Lebanon's soil and waters," according to GFouad Hamdan of Greenpeace Mediterranean.

The dumping of toxic wastes in the Mediterranean Sea is in direct violation of the Barcelona Convention signed by all Mediterranean States in 1975. But oil spilled daily by multinational oil companies and military pollution, are not covered by the terms of this regional pact. The UN must address these abuses.

The complete lack of education about the hazards of these international and local practices is shocking. In fact, many Mediterranean farmers are officially encouraged to use dangerous pesticides and many local governments allow untreated sewage and industrial effluence to flow straight into coastal waters.

Impact of the Environmental Crisis

According to a 1995 AWMR report, in just three countries of the Southern Mediterranean - Algeria, Morocco and Egypt - over 39 million people have no basic sanitation and, as a result, 550,000 children died before the age of five in 1990 alone. The lack of good nutrition, clean water and sanitary facilities means maternal mortality rates are 200 to 300 per 100,000 live births in the South compared to an average of 10 per 100,000 in the Northern Mediterranean. Resources have been diverted to military expansion instead of sustainable development, and fighting poverty and unsanitary conditions. This has encouraged the reemergence of tuberculosis and other acute

infectious respiratory diseases in Algeria and Bosnia in the 1990s. In Bosnia, cancers of the stomach and colon have also increased among people of all ages.

The French nuclear tests in the Sahara began with an above ground explosion at Reggane on February 16, 1960 and continued until the test site was moved to French Polynesia in 1996. Radioactive clouds from the Algerian Sahara tests traveled over Libya and around the Mediterranean. The negative effects on health and development in downwind Mediterranean countries are suggested by the epidemic rise in cancer rates in subsequent decades. "Nothing is known of the extinct Tuareg tribes that once roamed the region. Their camels and cattle died soon after the tests. No survey has been done of the surviving workers at the sites. Testimonies gathered in 1992 speak of sterile women, cancers, of whole tribes having disappeared, of dying camels and other animals," according to Solange Fernex of AWMR.

The Mediterranean island of Cyprus has suffered a phenomenal increase of over 1000% in the incidence of cancers between 1960 and 1990 (3 new cases per 10,000 people in 1960 compared to 2000 new cases of cancer diagnosed in 1990). The Maltese Islands, that lie northeast of Algeria, are affected by the sirocco wind from the Sahara desert. The total number of cancer deaths per 1000 of the population rose by over 73% in the 1960-1993 period. Female breast cancer mortality rates increased by 150% in just two decades. By the end of the 1980s Malta had the highest female breast cancer mortality rate in the world (California Journal for Clinicians, 1989). A phenomenal increase in skin cancer deaths also occurred in the 1960s in Malta (Maltese Society 1994:195). Today, one in four deaths in Malta are due to cancer.

The Mediterranean Sea is so contaminated that it is hard to find a bay which is clean enough to swim in. Apart from ear and throat infections suffered by swimmers, there are increasing numbers of people with immune system disorders, chronic fatigue, diarrhea, hearing loss, and increased susceptibility to every passing infection. Meanwhile, the incidence of deadly cancers has been rising in the region.

The toll is not limited to the people who swim in the Mediterranean Sea. Prevalence of health problems has affected income from tourism in many places. The variety, quantity, and quality of fish, which is a staple for many households and a source of income for others, have diminished, often with disastrous multiplier effects. Marsaxlokk used to be the most prosperous fishing port in Malta, now it struggles with depleted fishing reserves and pollution from a new oil-fired power station.

The full negative impact of sea pollution on drinking water, salt and fish from the Mediterranean Sea has yet to be measured. The cumulative toxic and radioactive wastes

are entering the food chain to the detriment of all, especially the young, elderly, and those already weakened by sickness.

Response to the Environmental Crisis

Women of the Mediterranean region share a vital concern about the health and welfare of their families. They are concerned about commercial and state practices that harm their livelihoods and contaminate their water. Apart from joining the occasional demonstration, many women feel powerless to prevent what they term "regress" or maldevelopment. Local governments tend to be slow, bureaucratic and ineffective. Industry is notoriously negligent if not criminal in its hazardous waste practices especially where environmental legislation is weak or poorly implemented. The United Nations Development Programme and United Nations Environmental Programme Mediterranean Action Plan based in Greece have not made any measurable impact in addressing this ecological disaster.

"I have come here to regain my childhood," said Mona Selmy of Egypt at the founding conference of AWMR. She had grown up on the shores of the Mediterranean near Alexandria and has seen a healthy sea become polluted and sick. We have all similarly lost our ancient maritime heritage, and many have lost their health. Association members, through educational and activist work on these issues, have become powerful forces for progressive change in many Mediterranean countries such as Malta, Italy, Cyprus, Lebanon, Palestine, Israel, Morocco, Tunisia and the countries of former Yugoslavia.

At every local meeting and regional conference of the Association, the devastating effects of the military/ industry, wars, and embargoes on the environment, natural resources, and health have been exposed. The primary aims of the organization are "to work toward the peaceful resolution of conflicts and to demilitarize and denuclearize the Mediterranean Region while fostering the health and wellbeing of the most vulnerable among us and ending all forms of discrimination and poverty." The Association's newsletters, books, conferences, solidarity actions and international interventions have served to educate on the issues of industrial and governmental malpractices and the fundamental right to clean seas and fresh water. The prosperity and cleanliness of the Mediterranean Sea, on which the personal and economic health of so many depends, are the determinants and the gauge of our movement's success.

Representatives of the association participated in the International Conference on Health at Miami in 1991 and the UN Conference on Human Settlements at Istanbul in 1996. They have held annual regional conferences for women activists and writers,

inviting international experts to speak on such issues as community health, environmental contamination, and military-industrial practices. The association is educating local communities on the illnesses caused by toxic exposures and encouraging community health studies.

Recommendations for Action

At the 1995 AWMR conference on Health in the Mediterranean participants voted for a pro-active position on alternative energy. Women from 17 countries, approved the following resolution, addressed to the November 1995 Mediterranean and Sustainable Development conference:

Considering the steps taken by states in favor of sustainable development in Rio in 1992; Considering the conclusions of the Climate Summit in Berlin, in Spring 1995; Considering the Chernobyl disaster, and the damage done to health and the environment; Considering the constant risk of similar accidents; and considering the unsolved problem of nuclear waste; We request that the states participating in the Barcelona conference prepare to:

Launch a multi-media information campaign on the conservation of energy, economy, and renewable sources of energy which would enable the replacement of fossil fuel and nuclear energy sources;

Launch effective and courageous policies of energy conversion to utilize renewable energy, solar panels, photo-voltaic energy, wind, biomass, etc., and begin equipping buildings and public installations;

Subsidize investments of private installations which conserve energy and utilize renewable energy sources;

Impose a tariff on electricity distributors that correctly reflects the cost of production, favoring decentralized and renewable sources of energy, in a way that will stimulate public and private investments in this area;

Present the results of these political measures in the field of energy conservation and utilization to the international community.

Additional recommendations include the need for all governments with military presence in the region to reduce military expenditures and interventions and prevent the deleterious effects on natural resources such as water and health.

The value of women's activism and importance of women's concerns have yet to be recognized by many official bodies. Representatives from women's NGOs should be invited to participate in all relevant forums and their recommendations must be seriously considered and implemented.

Forty Years of Nuclear Contamination in Chelyabinsk, Russia

REGION:
Chelyabinsk, the capital of the Chelyabinsk province in Russia, is located at the eastern foot of the Ural mountains and has a population of 1.3 million. The province has a land area of 90,000 sq. km and a population of 3.6 million.

CASE STUDY PREPARED BY:

Movement for Nuclear Safety (MNS) was formed in 1989 by a group of Russian women who were concerned about the levels of radioactive pollution in Chelyabinsk. MNS now runs environment and health education and awareness-raising programs and actively advocates in local politics for non-nuclear energy solutions instead of investments in fast-breeder technology. MNS has more than 150 active volunteers and is supported by five million citizens from the region.

Movement for Nuclear Safety

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Email: chel@glasnet.ru Women in Europe for a Common Future (WECF), an NGO based in the Netherlands, networks women working on environment and health in Western and Eastern Europe and the Newly Independent States. Its primary aims are to link European women's organizations and networks that promote sustainable development and to strengthen their decision-making power in environmental and health policies.

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Abstract

Chelyabinsk was one of the former Soviet Union's main military production centers, which included nuclear weapons manufacturing. Accidents, nuclear waste disposal and day to day operation of the Mayak reactor and radiochemical plant contaminated a vast area of the province. In the early 1950s there were so many occurrences of death and disease from the nuclear waste dumping in the Techa river that 22 villages along the river banks in a 50 kilometers zone downstream from Mayak were evacuated. In 1957, a nuclear waste storage tank accident released radiation double the amount released by the Chernobyl accident. This accident was kept secret and 10,700 people were evacuated. The severe environmental contamination of this region led to dramatic increases in cancer rates, birth defects, and sterility. Over the past 33 years, there has been a 21% increase in the incidences of cancer, 25% increase in birth defects and 50% of the population of child bearing age are sterile.

Cause of the Environmental Crisis

During World War II, Chelyabinsk was one of the Soviet Union's major armament production centers. Entire factories on the western side of the Urals were taken apart and reconstructed on the other side of the Urals, the Chelyabinsk province. Chelyabinsk had one of the largest tank factories in the country, as well as one of the major nuclear armament plants. Due to these "strategic industries" the province was closed to visitors until 1989. Following the political and economic transformation in Russia, the tank factory now produces tractors, and the Mayak nuclear armament plant is trying to evolve into a fast breeder recycling plant for foreign spent-plutonium (nuclear wastes).

The Mayak nuclear complex was one of the Soviet Union's main military production centers. During the last fifty years this complex has contaminated the Chelyabinsk region with highly dangerous nuclear and chemical wastes. The following is a chronological listing of the practices and accidents that caused the environmental crisis:

1949 to 1956: Liquid wastes from the Mayak nuclear complex were dumped into the Techa-Iset-Tobol river system

From 1949 to 1956, medium and high-level radioactive liquid wastes were dumped into the river system Techa-Iset-Tobol. During this period about 76 million m3 of radioactive wastes were released into the Techa river. Over 124, 000 people living along the banks of the river system were exposed to radiation. Protective measures finally began in 1956 when hydrological engineering measures aimed at immobilizing deposited radioactive

substances in the upper reaches of the river were implemented. The river system is currently in the process of a natural deactivation that will take a few hundred years. The water downstream is nearly free of excess radioactive caesium, however the riverbed sediment and the riverbanks still contain high levels of caesium and strontium.

1957: Explosion of a nuclear waste storage tank at the Mayak nuclear complex

On September 29, 1957 a liquid radioactive waste storage tank exploded following a failure in the cooling system and polluted an area equal to the size of New Jersey with plutonium and strontium. The explosion formed a radioactive cloud over the provinces of Chelyabinsk, Sverdlovsk and Tyumen. A total area of 23,000 sq. kilometers was contaminated and the area is now called the East Ural Radioactive Trace, the EURT. This accident was kept secret from the outside world for military safety reasons and 10,700 people were silently evacuated. This nuclear accident released twice the amount of curies that were released by the Chernobyl accident.

1967: The Lake Karachay accident

Two self-contained natural lakes near the plant were chosen to divert waste dumping in the river-system - lake Karachay for high-level waste and lake Staroe Boloto for medium level waste. During the long, hot summer of 1967, lake Karachay dried up and radioactive waste from the exposed lake blew over an area of 2,200 sq. kilometers. Other accidents, irresponsible nuclear waste disposal and day-to-day operations of the Mayak nuclear-chemical facility have contaminated an area with a diameter of 400 km.

In addition to pollution from the nuclear complex, the metallurgical industry has heavily contaminated this region. The Ural mountains are rich in iron ore, chromium, copper and nickel and the region has an enormous metallurgical industry. The amount of lead in the air in Chelyabinsk city is equal to the total amount of lead pollution in the Netherlands (population of 15 million) in 1982, before unleaded petrol and catalytic converters were introduced. Any improvement of air quality in the Urals has been due to the economic downturn and closing of factories. Hardly any investments have been made by the government to reduce pollution levels.

Impact of the Environmental Crisis

Soon after the Mayak nuclear complex became operational, death and diseases in the region increased dramatically due to the dumping of medium and high level radioactive waste into the river system. As a result, 22 villages on the riverbanks, in a 50 km downstream zone from the complex, were evacuated. The village of Muslymova, just

outside the 50 km zone was particularly contaminated, but it was never evacuated. Muslyumova lies 45 km north west of Chelyabinsk city and has 4,000 inhabitants. The village had no wells and until recent years depended on the river Techa, for drinking water.

The villagers of Muslyumova grew increasingly ill following contamination of their water. The number of birth defects and cancer deaths soared, but the authorities refused to take remedial measures. Statistics show that gene-mutations in the villages just outside the evacuated zone were 15 times the average for the Russian Federation. The local authorities attributed the high level of birth defects among newborns and the high mortality rates to a low standard of living.

A report on the health of the people living on the banks of the Techa River was published in 1991, which showed that the incidence of leukemia increased by 41% since 1950. From 1980 to 1990, all cancers in this population rose by 21% and all diseases of the circulatory system rose by 31%. These figures are probably gross under-estimations, because local physicians were instructed to limit the number of death certificates they issued with diagnosis of cancer and other radiation-related illnesses. According to Gulfarida Galimova, a local doctor who has been keeping records in lieu of official statistics, the average life span for women in Muslyumovo in 1993 was 47, compared to the country average of 72. The average life span of Muslyumovo men was 45 compared to 69 for the entire country.

Chelyabinsk regional hospitals were not allowed to treat the villagers and they were sent to the Ural Centre for Radiation Medicine. The medical data of the UCRM was classified until 1990. Records of the UCRM chart the decline in health of 28,000 people along the Techa and all of them are classed as seriously irradiated. Since the 1960s, these people have been examined regularly by public health officials.

According to the head of the UCRM clinical department the rate of leukemia has doubled in the last two decades. Skin cancers have quadrupled over the last 33 years. The total number of people suffering from cancer has risen by 21%. The number of people suffering from vascular diseases has risen 31%. Birth defects have increased by 25%. Kosenko carried out a small epidemiological study of 100 people selected at random. From this group 96% had at least five chronic diseases (heart diseases, high blood pressure, arthritis and asthma), 30% had as many as ten chronic conditions. Local doctors estimate that half the men and women at child bearing age are sterile.

Even today, the local population still does not know the actual levels of radioisotopes in its home grown products. German scientists who did a field study in Muslumova in 1996

have measured some food samples in the villages and found astonishing levels of radioactivity, 17,000 becquerrel per kg in fish, and 8,000 per kg in vegetables (in Europe, products with more than 600 bequerrel are taken off the market). Only since 1989, the villagers have started to get information about the dangers of the radioactive contamination of their river.

After the 1957 storage tank accident, 10,700 people were permanently evacuated from the EURT. Half of these people were evacuated eight months after the accident. These people had been consuming contaminated food without restriction, since the accident and until their evacuation. The Karachay accident from 1967 affected 63 populated areas with a population of 41,500 with 3.7 kBq/sq m (0.1Ci/sq km) The 4800 residents nearest to the lake received an average dose of 13mSv. At the time of the Karachay accident, the International Commission for Radiological Protection (ICRP) had set the safe limit on radiation at 5mSv per year. At present, the ICRP standard is 1mSv per year.

According to the Russian Scientific Centre Kurchatov and the Obninsk Institute of Radiology, a total of 437,000 people have been affected by the three accidents at Mayak. Of the total 437,000 people affected, very few were ever evacuated from the area. Very often the evacuees were moved to areas not far from the contaminated zone and the people continued to use their gardens within the contaminated areas.

Other people exposed to elevated levels of radiation in Chelyabinsk region are workers of Mayak, people living in the districts in the vicinity of Mayak and participants during cleanup and restoration activities. At the beginning of operation of Mayak, the average annual exposures for reactor workers and chemical plant workers was 940 mSv and 1,130mSv respectively. (At present, the ICRP safety standard is 1mSv per year.) The workers from Mayak lived in Chelyabinsk-65 and Chelyabinsk-70, both closed cities situated about 80 km from Chelyabinsk city, and close to the Mayak complex. Chelyabinsk-65 and -70 were nicknamed chocolate city, because these cities were among the few cities in USSR where chocolate was available in abundance.

In the early 1990s, Ivan Druzhko, a Mayak plant official, told reporters from a US television show that he believed nearly 8,000 Mayak workers were exposed to doses exceeding 1,000mSv. L.A. Buldakov, deputy director of the institute of biophysics in Moscow presented data on a conference in Paris in 1991 that showed a total of 1,812 Mayak workers were exposed to least 2,450mSv over the period 1949-1954 and another 1,286 people were exposed to at least 1,220mSv. These exposure levels are horrifying when you compare these levels with the ICRP's present safety standard, which is 1mSv per year. In the 1980s, Ural Medical Radiation Center started registering diseases caused by radiation. In 1989 a booklet was published stating that 935 workers at the Mayak

complex were suffering from chronic radiation syndrome. This number later came down to 66 but was changed back to the former figure after campaigns by local organizations.

While the rural communities in Chelyabinsk suffer from the effects of radioactive contamination, the urban populations face the effects of the chemical and metallurgical industries. In 1994 the Chelyabinsk Provincial Institute for Public Health and Environment did a survey on non-infectious diseases in the cities of Karabash, Magnitogorsk, Chelyabinsk, Zlatoust, Kopeisk and Miass. The survey showed considerable increases of various diseases in the Chelyabinsk region. The results from Karabash and Magnitogorsk were so bad that the provincial Ministry for the Environment classified these cities as ecological disaster zones. (SOE rep. P. 195) Children from Karabash were found to be considerably smaller than children from the control group; they had 3.5 times more birth defects; 2.7 times more skin diseases; streptodermia 10 times more, and 2.1 times more diseases of the digestive organs.

Cancer rates in the metallurgical district of Chelyabinsk are four to five times higher than the Russian average. Children's morbidity and mortality rates in the metallurgical district are three times higher than the average for the city. Lead intoxication from the metallurgical factories causes blood diseases and brain damage. Chromium is another major pollutant. U.S. studies have shown that the incidences of lung cancer for chromium factory workers are 28 times than the average rates. Workers barely survive until their retirement age and male life expectancy has gone down to 57.

Statistics from the neighboring province of Ekaterinaburg show that in the early 1990s the number of women workers in the metallurgical and electrical engineering industry doubled, and their numbers in light industry tripled. statistics in Chelyabinsk, if available, would probably show the same trend. After the Soviet Union dissolved in 1991, unemployment soared and Russia's social security system became more and more insecure. Today, most women cannot afford to lose their jobs and will keep on working as long as possible. The women work even though the working conditions badly affect their own health and their children's health. Maternity leave with pay was well taken care for under the Soviet system but now for fear of losing their jobs, women keep silent about their pregnancy as long as possible. Many women work more than one job. Apart from working under very unfavorable conditions women also have to take care of their families. Wages are low and poverty is increasing.

Even in the "workers paradise", as the former Soviet Union was called, working conditions were not always favorable. In the late 1980's, 20-50% of workplaces did not meet Soviet standards. By the end of the Soviet era, 14.5 million women worked in industry and 3.4 million, about one-fifth of them, worked under hazardous conditions

such as toxic fumes, extreme high or low temperatures, and excessive noise and vibrations.

Chelyabinsk has long been a region of strategic military importance and has a history of secrecy. Even today it is not easy to obtain environment or health information. Obtaining information from independent sources is even more difficult.

Response to the Environmental Crisis

In 1992, Movement for Nuclear Safety (MNS), in co-operation with local authorities, organized an international conference on the consequences of nuclear industry in the South Urals. This was the first time that the public gained access to classified information concerning the health of the population affected by radionucleides from the nuclear military complex, Mayak. In the same year MNS began campaigns to register people affected by nuclear contamination in Muslyumovo. By the end of 1993 the democratic process was interrupted and the co-operation with authorities became less effective. By then, however, MNS had obtained a large group of voluntary workers and support from the local population.

During the 1995 UN Fourth World Conference on Women in Beijing, Natalya Mironova of MNS met with Women in Europe for a Common Future and partners in Uzbekistan and the Ukraine and discussed setting up a joint project on women, health and environment. In 1996, a project entitled Women Join Forces for Health and Environment, was launched to better understand the health effects of the environmental contamination in the Chelyabinsk region, particularly effects on women and children. MNS offered courses to women on healthy living and on strengthening their immune system. The NGO also sponsored seminars on how to reduce the effects of contamination of the human body caused by bioaccumulation of radionucleides. Women received information from a dietician and were taught how to cook to retain vitamins.

MNS also started publishing a series of brochures titled 'Simple Answers to Complicated Questions,' on the immune system and healthy food in a region contaminated with radionucleides. The brochures were widely distributed among the villages just outside the evacuated area near Mayak.

Together with other NGOs, MNS has been campaigning for resettlement of the village of Muslyumovo. In 1997 these actions finally became effective: the province administration decided to resettle the village. It is still unclear, however, when this will happen and where the villagers will go. MNS is also active in local politics and has been

campaigning against the development of plutonium recycling facilities at Mayak to treat imported plutonium waste from abroad, particularly from Germany and the U.S.A. MNS promotes sustainable economic alternatives including energy-saving, alternative energy sources and organic farming.

Recommendations for Action

Most of the information about plutonium contamination and plutonium impacts is still classified, although plutonium contamination has affected a geographical area 10 times larger and 100 times more intensely than expected. Despite this, the local administration is eagerly looking at potential revenues from plutonium recycling. Plutonium recycling is not a sustainable solution. Chelyabinsk needs assistance from the international community to identify viable alternatives to polluting industries.

When the Cold War ended Russian women wrote letters to the UN asking for assistance and tried to force the Russian authorities to listen to the voices of the NGO community. The international community can support the fight for a healthy and sustainable future by endorsing our demands to:

Set up an international institution to set new health standards for radiation protection, because 1950 standards are no longer adequate or relevant;

Disseminate information about the health effects of the nuclear industry;

Support the Comprehensive Nuclear Test Ban Treaty and make sure that victims get adequate compensation;

Stop the export of nuclear waste;

Collect data on environmental health problems;

Promote research and development of medical detoxification methods and promote the exchange of knowledge on successful methods;

Fund long-term epidemiological research in regions adversely affected by environmental pollution; and Establish health care and health monitoring programs for victims of environmental pollution and people living in hazardous zones.

Gold Mine Destroys Guyana's Essequibo River Area

REGION:

The Essequibo River is the largest river in Guyana, a country situated on the north coast of South America. The upper Essequibo region is located between the boundaries of the Omai River and the Atlantic Ocean.

CASE STUDY PREPARED BY:

The Guyana Society for the Protection and Preservation of the Environment was established in 1996 to impel the authorities to re-think the way in which they monitor mining operations in Guyana and to determine more appropriate measures to protect the environment from damage and provide a vehicle for creating changes in the way companies that work with dangerous chemicals are regulated.

The Guyana Society for the Protection and Preservation of the Environment

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Abstract

This case focuses on the environmental destruction of the Essequibo river as a result of gold mining activities. In 1995, rupture of a tailings dam at the Omai gold mind caused huge quantities of cyanide laced mining effluent to spill into the Essequibo river. This spill turned the river water black in color and resulted in the death of the local flora and fauna. The Essequibo river was the primary source of potable water prior to the spill. After the cyanide spill an indefinite ban was placed on the sale and consumption of all fish from this river, together with a ban on bathing, drinking, cooking and other domestic uses of water from this source. Water supplies have been discontinued in areas where tap water piped from this river used to be available for domestic consumption. The economic impact on the region has been severe. Women have been mobilizing action against the company responsible for the spill and drawing international attention to the case.

Cause of the Environmental Crisis

On August 19, 1995, the Omai gold mine in central Guyana experienced an enormous spill of mining waste containing cyanide and heavy metals, including copper, iron, zinc

and lead. The incident involved approximately 3.2 billion liters of effluent, according to the estimate of the mine's managing company and largest shareholder, Montreal-based Cambior Ltd. (company press release, August 24, 1995). The spill occurred when the earthen (saprolite clay) dam, serving to contain the gold mine's tailings pond, experienced a "massive failure" at its core. The effluent, along with large amounts of saprolite from the dam, flowed into a nearby creek, then into the slightly larger Omai River, and then into the massive Essequibo River, which serves as Guyana's largest source of potable water.

The approximate distance from the mine site to the Essequibo River is 4 km. The total cyanide concentration in the tailings pond was between 25 to 30 parts per million (ppm), according to Cambior Ltd. According to the government of Guyana, the highest recorded concentration of cyanide was 16.56 ppm in the Omai River. That reading was obtained on August 21, two days after the dam broke. The red plume from the dissolved saprolite of the dam could be seen as far downstream as 100 km from the spill. Shortly after the spill, Guyana's President Cheddi Jagan declared the Omai and Essequibo Rivers environmental disaster zones.

Cambior Ltd. holds a 65% stake in Omai Gold Mines Ltd. (OGML) and effectively manages and controls it. The other two shareholders are Denver-based Golden Star Ltd. with 30% and the government of Guyana with 5%. It is important to recognize, in light of comments below concerning the Guyanese government's commission of inquiry into the spill, that the Omai mine contributes about one-quarter of Guyana's Gross Domestic Product, according to Guyana's Ministry of Finance. The mine began operating in March 1992, and was processing 12 tons of low-grade ore (approximately 1.6 grams of gold per ton) per day at the time of the spill.

The spill occurred due to a massive failure of the tailings pond dam, although experts who have reviewed the situation disagree on the exact precipitating cause of the failure. Nonetheless, a government-sponsored panel of mining engineers found two physical defects which could have allowed the core failure to occur,: filter incompatibility between the sand and rockfill zones (seepage due to excessive disparity between particle sizes of materials in the two zones) and an uncompleted diversion conduit. The panel noted: "Both were produced by known or suspected deficiencies in design, construction, or construction inspection, either singularly or in combination. Moreover, defects related to filter incompatibility and the diversion conduit may not be mutually exclusive, and may have interacted in complementary ways not yet fully understood." (Preliminary report of the dam review team submitted to Guyana Geology and Mines Commission, November 16, 1995)

Impact of the Environmental Crisis

The Essequibo River serves as the primary source of water for drinking, cooking, bathing, livestock and agriculture for residents in the area. The exact number of residents in the affected area is unknown, but estimates in news releases ranged between 5,000 and 20,000. The largest community is located approximately 116 km downstream from the confluence of the Omai and Essequibo Rivers. Population estimates of Bartica vary between 8,000 and 16,000.

An early report by the Pan American Health Organization (PAHO) estimated that only between 100 and 200 people along the first 40 km of the Essequibo River were exposed to an environmental health risk from the spill. This estimate is questionable, however, since PAHO relied only on sampling data provided by the gold mine company, data that PAHO itself considered questionable. Specifically, only a single surface sample was taken near shore at different sites and at depths of less than one metre during the first round of sampling just after the spill. Additionally, it does not appear that concentrations of cyanide and heavy metals in the deposited tailings, soil, or in groundwater were sampled. That such testing is still needed was emphasized in a report by Phil Hocker of the Mineral Policy Center to a committee established by the Guyanese government last fall to review the gold extraction and tailings/effluent treatment processes of the Omai Mine. Mr. Hocker sat on the Process Review Committee but submitted a separate report, noting that there was insufficient time for all members of his committee to reach a group position.

The Omai river, located very close to the mine site, experienced the greatest impact. PAHO noted that its aquatic life "was completely destroyed in the spill." The Omai river is only about five meters wide and there appear to be very few residents using the Omai river since most of it is located on company property.

Health impacts such as skin rashes, diarrhea and vomiting cannot be empirically linked to water contamination, due to lack of data from a neutral source. No testing has been done by a neutral party so validity of the available data is suspect.

Ninety-five percent of the men in the area work in the gold mine while the remainder work in fishing and farming. Women are the primary farmers and thus their livelihood has been most affected by contamination of the water.

Response to the Environmental Crisis

The government of Guyana appointed a Commission of Inquiry on October 7, 1995. The Commission was composed primarily of government employees or other professionals who had been formerly employed by the government, though its three investigatory committees (the Dam Review Committee, the Process Review Committee and the Environmental Audit and Socio-Economic Committee) did include a number of experts from outside the country. Unfortunately, not all committees produced final reports and preliminary reports have been available thus far.

The Commission accepted written memoranda and conducted public hearings from mid-October to the end of December. A final 60-page report was published January 5, 1996. The Commission concluded, among other things, that the gold mining company was responsible for bringing the noxious substance (i.e., cyanide) on their "property," and they would be liable for all damage that directly resulted from the escape of that substance (p. 55).

The government issued a ban on drinking water from the Essequibo for 10 days and the mining company provided bottled water. While there have been numerous reports of skin rashes and irritations, burning and peeling of the skin, chest pains, redness of the mouth and other disorders, the Commission of Inquiry in its final report concluded that these complaints "were all non-specific and not suggestive of cyanide poisoning." Information obtained from sources such as the International Institute of Concern for Public Health in Toronto indicate that the symptoms reported are indeed among those that would be expected from cyanide poisoning. An indefinite ban has been placed on the sale and consumption of all fish from this river, together with a ban on bathing, drinking, cooking and other domestic uses of water from this source. Water supplies have been discontinued in areas where tap water piped from this river used to be available for domestic consumption.

The cyanide spill has been not only an ecological nightmare, but a psychological one as well. Two and a half years later, people on the Essequibo River still complain of rashes that don't seem to heal well whenever they go into the river (e.g., to wash clothes). The disaster has thrown into turmoil the lives of the people of this rural community as they battle to cope with this incident and the ensuing problems, particularly lack of potable supplies of water for daily consumption and domestic use.

The region is also home to many rare and threatened species of wildlife, including the Arapaima fish that is believed to be the largest species of river fish in the world. A number of wild animals, including the jaguar, the agouti and the caiman, all frequent this river and drink from and bathe in it. Since the incident, a number of dead animals

have been found washed up on the banks of the river. Domestic chickens that were fed with water from this river perished.

The Essequibo River water remains pinkish brown two-and-a-half years after the spill. The river was a major source of fish and potable water for the surrounding communities, and continues to be the only source of income for the region's fishing community. The fisherfolk are now without an adequate source of income to maintain their families. This is further compounded by the fact that many of the river communities are made up of Amerindians for whom the river is the main source of sustenance as they rely on it for food and water, and for contact with the outside world.

After initially challenging OGML on its lack of emergency response and clean up, the late President Jagan changed his approach and seemingly accepted the paltry $150 per person that the company paid out as compensation for 10 days of lost income when locals were told to stop fishing and using river water for agriculture.

Several local women whose incomes were cut 75% by the disaster banded together to seek international support for a precedent-setting class action suit they are currently filing. This is being done in conjunction with a Canadian-based NGO, Recherches Internationales Quebec. The suit is asking for $65 million in damages for local people affected by the spill. If they are successful in the Canadian courts, in being recognized as a class suit against a corporation in home courts for human rights and environmental violations abroad, this will open the door to potentially dozens of similar suits from local communities fighting multinational corporations.

Recommendations for Action

One of the reasons for bringing this case to an international forum is to seek the assistance of international NGOs who may be able to provide technical assistance and support in putting the people's case to the world at large.

The community also seeks international support in pressuring the government of Guyana to take immediate and appropriate measures to deal with this crisis and implement tough sanctions against companies that fail to take adequate precautions to prevent such serious damage to the environment.

Many of the experts providing technical assistance to the government are from non-governmental organizations. As a democratically elected body, the government appears to be torn between its duty to care for the people and the country and its responsibilities (or, as the case may be, its liabilities) as a company shareholder. This

conflict of interest is believed to be a factor in its decision not to impose substantial and punitive fines on the company in March 1995 when a "minor" incident of cyanide leaking into the river occurred.

Compensation claims in the courts have become a long drawn-out war of attrition. Multinational corporations can effectively insulate themselves from accountability in both host and home countries. There remains no international forum for securing their accountability. Furthermore, the proposed OECD Multilateral Agreement on Investment seeks to place such corporations above the law and grant them an immunity hitherto enjoyed only by sovereign states.

The UN and its member states must work with utmost urgency to devise effective means of holding multinational corporations accountable. Failure to do so will result, over time, in the eventual abandonment of the Earth Summit's Agenda 21 objectives;

Organizations should set up trust funds that monitor short and long-term effects of a disaster such as this and compensate people for consequences to their health;

A national code of practices for mining operations should be established in Guyana based on international standards and the best practice for the handling, transportation, storage, usage and disposal of hazardous chemicals/waste;

An independent regulatory body should be set up to act as an environmental watchdog with the power to impose substantial fines and sanctions against any group/individual who fails to operate within the established codes.

Statistical disagreements cannot overshadow the reality of Guyanese children returning from a swim and crying because of the burning pain on their skin and in their eyes, or the photographic evidence of children with open sores. From both legal and humanitarian standpoints, it is essential that the multinational corporations responsible for the Essequibo River disaster pay full compensation for the harm and pain caused and take all remedial measures possible.

Innu Women Respond To Industrial Development In Nitassinan, Canada

REGION:

Special of Women at CSD-6
New York, 20 April - 1 May 1998

The Nitassinan region in Canada is the territory of the Innu. It is an area of approximately 700,000 sq. kilometers that covers most of eastern Quebec and Labrador. About 14,000 Innu inhabit Nitassinan.

CASE STUDY PREPARED BY: Innu women have always played a major role in their society and the regrouping of women is an Innu tradition. In 1993, when the Ste-Marguerite River hydroelectric dam, (SM3) construction was announced, the group focused on opposing and protesting the destruction of the river. Unfortunately the effort of Regroupement des Femmes/Nitassinan failed to stop construction of the dam.

Regroupement des Femmes/Nitassinan

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Abstract

Nitassinan is the territory of the Innu. The Innu are nomadic hunter-gatherers who were forced to relocate in the 1960s. This region has been severely affected by the development of resource intensive industries by transnational corporations. These industries include hydroelectric power, mining, and forestry. Military activity in the region, particularly, low-level flight training has also had an adverse affect on this region. These activities were conducted without consultation, consent or compensation for the Innu. The negative impacts of these developments on the Nitassinan environment have led to the undermining of Innu culture and identity. In response to the threats to their way of life, Innu women mobilized to prevent further industrial exploitation of Nitassinan.

Cause of the Environmental Crisis

The Innu have lived in Nitassinan for over 7,000 years. Prior to western colonization, these indigenous people lived as nomadic hunter-gatherers. The Innu are no longer nomadic, due to the forced relocation of Innu communities in the 1950's and the imposition of western educational and religious institutions. In the late 1970's the Innu lobbied for and obtained programs to enable harvest skills, knowledge of the land, and oral traditions to be passed onto younger generations. The Innu language and culture was introduced into the school curriculum. The Innu have been assuming increasing control of their lives by managing many elements of public administration, municipal services, and local government. Families continue to live most of the year hunting caribou and relying on the land for most of their needs. Consequently, the welfare and

cultural survival of Innu communities is very dependent on the long-term sustainability of the environment in Nitassinan.

For the past 50 years there has been a steady encroachment on Nitassinan. Although, the Innu never signed any treaties or ceded their territory, this region has been targeted for development by transnational corporations, the Federal government of Canada, and the governments of Labrador, and Quebec. The natural environment of Nitassinan has been severely affected by the development of resource intensive industries such as hydroelectric power, mining, and forestry. This region has also been compromised by military activity, particularly, low-level flight training.

Hydroelectricity

Ste-Marguerite Project

On the Ste-Marguerite River in Nitassinan, two dams were built and put into operation in 1953 to supply electricity to the Iron Ore Company and the pulp mill in nearby Clark City. These dams were built without consultation, consent or compensation for the Innu. Early in 1994, Hydro-Quebec began the construction of a third dam known as the Ste-Marguerite 3 (SM3). The flooding of this gorge is scheduled to begin on April 1, 1998; this will create a reservoir of 452 sq. km with a depth of 407 meters. The SM3 will have a peak generating capacity of 882 MW, its average production would be below 50% of peak capacity. To increase production the generating plant is built with additional turbines to accommodate the diverted waters from the Carheil and Aux Pekans Rivers. These are two tributaries and headwaters of the neighboring Moisie River, a critical spawning area for the Atlantic salmon. The diversion of these rivers would severely reduce the flow of the Moisie.

In June 1993, the Bureau d'Audiences Publiques sur l'Environment (BAPE) conceded that the damming of the St-Marguerite River, without any diversion of the Moisie tributaries, could be an acceptable solution. This Government Commission concluded hat the rerouting of the water from the Moisie basin for hydroelectric production is an unacceptable proposal that must be rejected. Nevertheless, the Quebec government approved the project and Hydro-Quebec has put it in the fastest track with the cooperation of the Band Council of Uashat-Maliotenam led by the Chief Elie Jacques Jourdain.

Bersmis and Aux Outardes Projects

Hydroelectric complexes were constructed on the Bersmis and Aux Outardes Rivers in Nitassinan, over a period of thirty years from the early 1950s to the late 1980s. Hydro-Quebec operates the Bersimis and Aux Outardes complexes, which are located in the region north of Baie Comeau. The complexes have the capacity to produce 8,600 MW of power. Construction of Bersimis and Aux Outardes complexes resulted in the flooding of what had previously been the intersection of waterways in the region. The largest of the reservoirs is about 2,000 sq. km. The Innu were not consulted or compensated. In 1997, Hydro-Quebec announced plans to divert the Portneuf, Manouane, Sault-aux-Cochons, and Boucher Rivers into the existing dams of Bersimis and Aux Outardes complexes.

In his testimony before a parliamentary committee in April 1997, Hydro-Quebec's CEO Andre Caille failed to mention that Hydro-Quebec had already submitted detailed plans to the Quebec Government, concerning this project. The information has since emerged via the Quebec Access to Information Act, that all four proposals filed earlier state explicitly that the additional energy is "to take advantage of the growing opportunity of the American export market". This marks the first time that Hydro-Quebec has justified adverse environmental impacts for the sole purpose of exports. The completion date of the project is 2002.

Churchill Falls Project

In 1974, the Churchill Falls hydroelectric project was completed. The massive Smallwood Reservoir created by the dam engulfed many lakes in the region. This 6,700 sq. km reservoir flooded Innu hunting, gathering and trapping land, as well as burial sites, sacred site and prehistoric sites. An Environmental Impact Statement (EIS) was not undertaken prior to the development of Churchill Falls project. Serious archeological surveys were not conducted, and no remedial action was taken to excavate archeological sites or move cemeteries.

Almost all of the5,500 MW generated at Churchill Falls is committed to Quebec until 2041, and the hydroelectric power generated is sold at a fraction of its value. Hydro-Quebec resells much of the power generated by Churchill Falls to the US. This export of power accounts for a large percentage of Hydro-Quebec's export revenue. The Innu have not been consulted by Hydro-Quebec nor have they received any form of compensation.

On March 9, 1998, after negotiations that excluded the Innu, the Premiers of Labrador and Quebec announced a new 4,000 MW mega project. It would expand the Churchill Falls plant by partially diverting the St. Jean and Romaine rivers into the Smallwood Reservoir to provide enough water for the two additional turbines that are to be added.

A new dam is to be built at the Gull Island rapids, 200 km downstream. A feasibility study to develop an 800 MW generator at Muskrat Falls just west of Goose Bay was also announced.

Mining

Most potential mining sites have yet to be discovered in Nitassinan. The Shefferville mines were exploited until their depletion in the 1960's and abandoned in favor of larger deposits in Labrador City and Wabush. Since the 1994 discovery of vast deposits of nickel, cobalt, and copper in the Voisey's Bay area, more than 280,000 mining claims have been granted by the Newfoundland government. The site is the single largest deposit of nickel in the world. Diamond Fields, Inc., the initial stakeholder has already sold its mineral rights in the Voisey's Bay Nickel Company to Inco for more than $4.5 billion. Inco has adopted the stance that land claims, and aboriginal rights are unrelated to economic pursuits. Inco is attempting to thwart an agreement between Canada, Newfoundland, the Innu and the Inuit on how the project should be assessed and is seeking to initiate infrastructure developments before the recently initiated Environmental Impact Statement is completed. On September 26, 1997 the Innu and Inuit won a temporary victory in their fight. The Newfoundland Court of Appeal has ruled that construction must stop pending the appeal of a court decision allowing the company to begin building a "temporary" road and airstrip.

On September 4 1996, the Quebec government allowed mining interests to stake their claim in an 800 sq. km zone in the area surrounding a lake in Nitassinan called Nipisso Lake, 60 km north of Sept-Isles. The 550 prospectors with their 35 helicopters staked 1,5000 claims to develop the nickel, copper and cobalt that had been found a few days earlier on August 29. The Quebec government claimed 32 sq. km for itself. The site's proximity to Sept-Isles' port and the nearby railroad made this location very attractive to mining companies such as Inco, Vior, Virginia Gold, and Kennecott. In early January 1997 a local family (McKenzie) filed for an injunction in Quebec Superior Court to block these mining projects. They were able to do so because of a designated family hunting and fishing plot allocation that had been authorized in the 1950's. The court's decision is still pending.

Forestry

Much of the forested areas in Nitassinan are boreal forests: very fragile slow growing forest, with mostly black spruce trees that need 100 to 200 years to grow to full maturity. The Innu and the wildlife depend on these forests. World prices for wood are high and the regrowth does not keep up with the clear-cutting that has been taking

place. NAFTA obliges and facilitates the forest product industry. The forestry lobby has succeeded in manipulating legal avenues that would allow a citizen to pursue an industrial abuser. Canada has become the world's top exporter of forestry products, mostly due to logging in Quebec. There are plans to cut every "commercially viable" forest in the Innu territory without consultation, consent or compensation. In locations where there are new dams to be built by Hydro-Quebec, the lumber companies are waiting for the opening of the new roads to access areas to be clear-cut.

Military Activity

The Goose Bay airstrip in Nitassinan has been used by the military since its construction in 1941. For the past 28 years it has been used as a base for low-level flights training. The purpose of flying as low as 120 feet is to avoid detection by radar. The Innu first voiced concern about the potential environmental impact in 1980. Since this time, the number of low-level flights over Innu territory has escalated. In 1996, Canada and other NATO countries signed a new multinational Memorandum of Understanding (MOU) to increase flight training at Goose Bay.

Impact of the Environmental Crisis

In Nitassinan, as elsewhere, society has been left to grapple with the deleterious, and at times tragic, effects of unbridled development on the health and security of its residents and upon the environment. The experience of over-exploitation in Nitassinan bears stark witness to the consequences of the impact that the pace of humankind's activities, especially those driven by economic forces, can have.

The Churchill Falls hydroelectric project had an incredible impact on the Innu. Many families lost important hunting and trapping territories to the flooding, along with canoes and cached supplies. Burial grounds, sacred sites and important gathering locations were destroyed by the floodwaters or by subsequent ice scouring.

The flooding of marshland forest and other terrain from the Churchill Falls hydroelectric dam project resulted in mercury contamination of fish, making their consumption a health risk. When flooded, plant material decays and stimulates the growth of certain bacteria that cause mercury to react with the sediment and/or the atmosphere and produces methylmercury. Fish from the reservoir continued to be consumed by the Innu until a 1977 survey of mercury level in the Sheshatshiu Innu population showed elevated mercury level in 37% of the individuals surveyed. The developing nervous system of a fetus is susceptible to methylmercury. Mercury passes through the placenta

and can accumulate in the brain. Infants can also be exposed to high levels of mercury in breast milk.

Innu elders describe a caribou calving ground for the George River caribou herd north of Tshiashkunish (former Kasheshibaw Lake) which was destroyed by the flooding. They say that the George River caribou herd changed calving areas as a result of this loss of habitat. Important nesting areas for ducks and geese were also lost. Approximately 1,400 sq. km of waterfowl habitat was lost in the flooding.

Low-level training flights are concentrated in lake areas, marshes and river valleys and overlap extensively with important Innu hunting territory and prime habitat for waterfowl, birds of prey, moose, and other species. The Innu have provided the government with information on the locations of their camp on several occasions, yet flights continue.

As primary caregivers for their families and communities, women end up coping with the results and effects of development decisions and bear the brunt of their impacts. Women, particularly aboriginal women, stand to gain the least and lose the most from irresponsible development. Negative impacts on the Nitassinan environment led to the undermining of Innu culture and identity. The Innu women relied on land use activities including berry-picking, small game hunting and fishing. These land use activities have been curtailed by the encroachment of hydroelectric, forestry, mining and tourism activities into Nitassinan.

Furthermore, male-biased land claims and development processes have led to problems in gender relations, including but not limited to Innu women's illiteracy and marginalization. "We can expect the same problems in a community with mining developments that are seen with other industrial developments" said Rose Gregorie, a Child Welfare worker with the Social Services in Sheshatshiu. "You get a large male population passing through and that spells trouble for women and families." The resulting problems include increased violence against women and children, unwanted pregnancies from transient relationships, family break-ups and sexually transmitted diseases.

Response to the Environmental Crisis

The political realities of two provincial boundaries(Quebec and Labrador) and the land rights negotiations process led to the creation of three regional organizations which collectively represent the Innu. Within these three regions, there are nine band councils in Quebec and two in Labrador. The band councils play the role of the administrative

governments of the Innu. The Band Council of Uashat-Maliotenam, has nine elected members and a chief. Uashat is a suburb of Sept-Isles with a population of 1,1000; Mani-Utenam is a village of 1,600 people, 14 kilometers away from Uashat. (It is important to note that the spelling of Mani-Utenam is the correct phonetic transcription of Innu language. Maliotenam is the incorrect designation made by of the missionaries and has remained the official version.) The residents of Mani-Utenam had attempted to secede from the Uashat-Maliotenam Band Council after it had approved the proposed SM3 dam. The timing of the case as well as the legal expenses made this goal impossible.

The women of Mani-Utenam were at the heart of opposition to construction of the SM3. There were strategy meetings, letter writing campaigns, petitions and press conferences opposing this new dam. In May-June 1993, a barricade and an encampment were erected for 17 days on the access road under construction to the future dam; all 25 participants were arrested. The trial date following this action had been postponed by the court for three years, thus intimidating participants from further actions against SM3. In May 1996, the court decided on fines and probation. The leaders of the opposition to SM3 were imprisoned for many months.

A referendum was created and funded with $420,00 from Hydro-Quebec, and in partnership with the Band Council. Following this referendum, the agreement for the SM3 was signed between the two parties on July 14, 1994. On this occasion, a group from the village walked a funeral march of 22 km to the office of Hydro-Quebec in Sept-Isles with a banner that read: "La Terre N'Est Pas A Vendre" (The Land IS Not For Sale). Meanwhile, allegations surfaced about cash misappropriations and conflict of interest by the Band Council Chief Elie Jacques Jourdain, his family, and friends. On December 18, 1994, the Band Council issued a $100 check as a gift, to every woman, man, and child in Mani-Utenam. Residents of Mani-Utenam stapled $10,000 of these refused checks onto a banner and brought it to the Band Council chief's office.

After the failure to stop SM3 construction, women felt tricked and betrayed, and decided to change tactics. Women found it necessary to take the time and effort to reinvigorate the movement, and they are now directing energy into empowering themselves. The Innu People are sick from many modern illnesses, particularly, in their spirits. The Innu women organized meetings between women from different communities to talk together and share in the spirit of the protection of Mother Earth. This past summer, around a hundred women from all the communities of Nitassinan mobilized to plan and strategize during a weeklong discussion. Women are organizing to rebuild the spirit of the Innu so that we all will be completely engaged in the protection of Mother Earth.

To the Innu, the land is their history, their culture, and their future. It is like a bank, a storehouse of wildlife, that has sustained them for generations, and which, they hope, will continue to provide for them in future years. The Innu believe that they have a special custodial responsibility towards the territory and its resources, which is why environmental protection features so strongly in the Innu Nation's response to resource exploitation on their lands.

Recommendations for Action

Consultation with the Innu must be a prerequisite included mechanism prior to any decisions pertaining to industrial projects in Innu territory. Governments must take immediate action to force industrial companies to do archeological surveys before undertaking any activity that would disrupt and/or destroy the culturally significant sites. The Federal governments of Canada, as well as governments of Newfoundland and Quebec, must allow free access to all government information pertaining to all industrial projects.

One of the initiatives taken by the governments to rationalize economic activity with environmental imperatives, has been the enactment of statutes providing for environmental assessment. These measures have been aimed at moving away from correcting environmental problems ex post facto, towards preventing them from occurring ab initio or, at least, assuring that they are contained at tolerable levels.

However, limited and impoverished information gathering for the environmental assessment will result in inadequate mitigative and monitoring programs. Detailed gender analysis must be part of all aspects of the Environmental Assessment Review Processes. There is a need for gender analysis of the impacts of the development on the Innu culture and its subsistence economy, and the social problems that accompany rapid social and cultural change. If there are to be positive changes for women in Innu communities, they must be able to voice their own perceptions about what life is like for them and demand full participation in the planning, decision-making and evaluating process.

In order for environmental policies to be effective, there should be gender-differentiated information regarding Innu culture including social relations, social structures, spirituality, seasonal patterns of camping and other land-based activities. Preventative strategies must be developed to deal with anticipated impacts on Innu women before the fact.

This is just the beginning as far as the Innu are concerned. They look forward to the day when their history in, and rights to, the territory are properly recognized, and when they will be equal partners in all decisions that affect their land and wildlife.

Dineh People in Arizona Undermined by Coal Mining Interests

REGION:

Black Mesa is located in northeastern Arizona and includes the Dineh (Navajo) and Hopi Reservations. The region spans 3,000 sq miles and has a population of 3,000 indigenous people.

CASE STUDY PREPARED BY: The goal of the Sovereign Dineh Nation (SDN) is to ensure that the traditional Dineh are honored, respected and protected, and that they are able to remain on their land and continue their traditional way of life. SDN was founded ten years ago by a Council of Elders, with Roberta Blackgoat, an elder matriarch, the spiritual leader and chairperson of the organization. A SDN New York Support Group was created to interface and advocate for them with various agencies and NGOs. This group identifies institutional frameworks that can be used to combat industrial practices that constitute violations of the Surface Mining Coal Reclamation Act (SMCRA). It helps to facilitate the filing of formal complaints to the UN Commission on Human Rights and other UN forums.

Sovereign Dineh Nation New York Support Group

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Abstract

The Black Mesa region in Arizona, USA is home to the indigenous communities of the Dineh (Navajo) and Hopi peoples. This region also contains major deposits of coal which are being extracted by North America's largest strip mining operation. The coal mines have had a major impact on families in the region. Local water sources have been poisoned, resulting in the death of livestock. Homes near the mines suffer from blasting damage. The coal dust is pervasive, as well as smoke from frequent fires in the

stockpiles. Not coincidentally, the people in the area have an unusually high incidence of kidney and respiratory disease.

The Dineh (otherwise known as Navajo) were stripped of all land title and forced to relocate. Their land was turned over to the coal companies without making any provisions to protect the burial or sacred sites that would be destroyed by the mines. People whose lives were based in their deep spiritual and life-giving relationship with the land were relocated into cities, often without compensation, forbidden to return to the land that their families had occupied for generations. People became homeless with significant increases in alcoholism, suicide, family break up, emotional abuse and death.

Cause of the Environmental Crisis

In the 1930's, the U.S. government tried to replace the traditional governing mechanisms on the reservations with Western-style governments, but these institutions quickly collapsed from lack of support by the inhabitants. In the 1950s, vast coal deposits were discovered in Black Mesa. Because no government existed with the power to issue leases to the mining companies, white attorneys with strong ties to the mining industry used legal provisions dating back to the 1930's to create new tribal governments. The people on the Hopi reservation did not recognize the validity of the government or of the coal leases, and filed a suit in the U.S. courts to overthrow the leases, on the grounds that coal mining violated the Hopi religion. U.S. courts dismissed the suit, stating that the industry-created tribal council was a sovereign power, and the Hopi people could not use the U.S. courts to appeal its actions.

In 1974, the mining industry played a major role in passage of the Navajo-Hopi Settlement Act of 1974. This crucial piece of legislation resulted in the largest relocation of Native American people since the 1860's. The relocation effort has been a disaster. More than 12,000 people have been relocated over the past 22 years. Some were sent to cities where, unable to speak English or relate to a non-traditional economy, they quickly lost the small sums of money they were given at the time of the relocation. The rest were sent to the "New Lands", an Environmental Protection Agency (EPA) Superfund site contaminated by the nation's worst nuclear spill. But many families resisted orders to relocate, and 23 years later, several thousand still remain on their traditional homesites. This relocation has cost the U.S. taxpayers over $350 million.

The people affected by the legislation were never directly informed of its adoption, never allowed to testify in any Congressional hearing and never allowed to be represented in any way through the process. All the decisions that led to partition of

their land were carried out and enacted by newly created male-dominated tribal councils located 100 miles away from the directly affected people.

With assistance from the U.S. government, the mining industry has supported a new faction on the reservations consisting of businessmen who profit from mining, large-scale cattle ranching, and other non-traditional economic activities. This faction controls the tribal governments and rejects traditional religious views about the sacredness of the land. It views the traditional Dineh living on the land as obstacles to the success of its business ventures. This faction is considered to be the sole legitimate voice of all the people and has been granted sovereign powers which deprive the people of fundamental civil rights.

Impact Of the Environmental Crisis

The mines threaten the sole source of water for the communities in the region. Ancient natural springs, washes and wells in the region are contaminated and have run dry, others have only a few years left. Mine soils, spoil and coal stockpiles are affecting surface water used for human consumption, as well as worsening potential plant and soil toxicity due to fugitive dust and airborne particulate from the stockpiles. The coal from the Black Mesa mine is transported to the Mojave Power plant through a slurry line that requires pumping 3 million gallons of water each day from the Navajo aquifer. The slurry line operates without any permit from the EPA. In a region where water is extremely scarce, the use of such a precious resource just to transport coal is a tragic waste.

Coal strip mining and the burning of fossil fuels is one of the most unsustainable ways of land and resource management. The operations of Peabody Coal have destroyed countless sites that are sacred to the Dineh. Stripping the land years in advance of the planned mining operations has degraded the biota and caused displacement of the Dineh people, causing disruptions to their family life and health. Local residents living in the mining permit area have been told that they and the livestock upon which they are dependent for their survival can no longer drink from traditional water sources. Environmental degradation continues as multi-colored toxics seep onto their land. Some herbs used in traditional medicine were only available at places that have been destroyed by mining, rendering the herbs now unavailable. Since traditional medicine is closely interlinked with religion, this interferes with religious practice. Contaminated surface water discharge and elevated levels of selenium is causing livestock poisoning in the adjacent leaseholds. This has also threatened the livestock used for human consumption.

Unlined coal stockpiles and fugitive dust blown from mining and reclamation activities have increased the incidence of respiratory illnesses. Coal-fired power plants in the region generate over 10% of the nation's electricity, and are the largest point-source of greenhouse gasses in a country that leads the world in their production. The plants (exempt from all environmental laws by grandfather clauses dating back to the 1960s) operate without scrubbers or other emission controls and emit 350 tons of sulfur compounds and 250 tons of nitrogen compounds into the atmosphere each day. The incredible volume of these pollutants reduces visibility in an area of thousands of square miles, including a 50% reduction of visibility in the Grand Canyon in the last 15 years, and causes desertification, and acidification of rain and surface water in the region. The Mohave Generating Station burning Peabody Coal Company's Black Mesa coal stands out as one of the worst offenders because of its large scale, lack of pollution controls, and excessive emissions due to burning of moistured coal.

The current laws deny the Dineh families who remain on their land a fundamental constitutional right enjoyed by other citizens of the U.S. They are not allowed to vote or in any way to participate in the government which controls their lives. They are not allowed to participate in the legal system other than as defendants. They have no right to appeal any police or government action. Mining company security personnel, harass and intimidate elders, threatening them with imprisonment if they try to protect their homes, property and burial sites from Peabody Coal's bulldozers. They can be arbitrarily thrown in jail for resisting actions by the mining company. People and their livestock are given trespass notices. Ceremonial hogans, houses, sacred sites and graveyards are bulldozed. Armed rangers visit elders at their homes and threaten and harass them and confiscate their livestock at the government's discretion. They are denied access to water, their water wells are fenced, capped off and dismantled.

The struggle in Black Mesa is between two divergent viewpoints on the relationship between humans and their environment. One group, led by male-dominated mining corporations and tribal councils, views land as property that title-holders should exploit for the maximum profits regardless of the impact on the land or on people who currently inhabit the land. The other group, whose leaders are grandmothers in the matriarchal traditional Dineh culture, believe that the land is sacred and should not be violated by a strip mine. They believe that they must remain upon their lands, where their families have lived for countless generations and protect it from destruction.

The Dineh grandmothers represent a different set of values. The earth is a mother who gives life and must be respected and protected in turn. And while they want to be able to continue their traditional way of life they are also open to exploring other sustainable technologies, such as solar energy or alternative organic agricultural methods.

The grandmothers and other indigenous people in the area need a mechanism to participate in the policies affecting their community that is independent of the completely male-dominated, industry-established tribal governments. The coal strip mines do not represent a permanent solution to the economic problems of the Dineh and Hopi tribes. The coal-fired power plants in the Four Corners region are the largest single point source of greenhouse gases in North America. The enterprise for which the fundamental human rights of the Dineh families are being sacrificed is but a doomed scheme to make quick money.

The UN Conference on Environment and Development recognized in Agenda 21 that "women have an essential role to play in the development of sustainable and ecologically sound consumption and production patterns and approaches to natural resource management." It is essential to recognize the value of the Dineh grandmothers and the sacrifices that they have made to protect their land from destruction.

Women in Dineh society play the pivotal role, culturally and religiously. It is women's primal role as protectors of the land that is traditionally responsible for their religion, government and economy. Women were mainly responsible for income produced through sheep herding and weaving. In contrast, the impact of mining has created a transition to a male-dominated set of institutions in society. Jobs that have arisen from the mining industry all go to men. The traditional self-sufficient economy has been undermined by coal mining jobs that have created a new society run by men. Royalties generated from coal mining go to male-controlled tribal councils, both Hopi and Dineh, and women have never been chiefs of either executive institution. Women who have historically been protectors of the earth now face male-dominated institutions that view the earth as a resource.

Response to the Environmental Crisis

In 1996, Congress passed a law endorsing a 75-year lease arrangement that would allow a few of the families to remain as tenants on the land. The law sanctions the relocation of families not eligible for these leases and forces the families who sign the leases to live without benefit of civil and religious rights exercised by other Americans. In April 1997, when all efforts to obtain justice in the U.S. judicial system failed, and in order to get the relocation laws repealed, the Dineh filed a formal request for the United Nations Commission on Human Rights to conduct an investigation of human rights violations against them by the U.S. government. Several visits to New York by Dineh helped create an Inter-faith coalition of faith-based Non-Governmental Organizations (NGOs). A delegation of NGOs traveled to Black Mesa to witness the historic meeting between the

traditional Dineh and Hopi people and Mr. Abdelfattah Amor, Special Rapporteur on Religious Intolerance of the United Nations Commission on Human Rights. Mr. Amor traveled to Black Mesa in early February 1998 to investigate charges of human rights violations by the U.S. government. This is the first time the U.S. is being formally investigated by the United Nations for violations of the right to freedom of religion or belief. It is the hope of the Dineh people that the UN will cite the U.S. for violations of International Human Rights law.

"The forcible relocation of over 10,000 Navajo people is a tragedy of genocide and injustice that will be a blot on the conscience of this country for many generations."

-- Leon Berger, Executive Director, Navajo-Hopi Indian Relocation Commission upon resignation.

"I feel that in relocating these elderly people, we are as bad as the Nazis that ran the concentration camps in World War II."

-- Roger Lewis, federally appointed Relocation Commissioner upon resignation

"I believe that the forced relocation of Navajo and Hopi people that followed from the passage in 1974 of Public Law 93-531 is a major violation of these people's human rights. Indeed this forced relocation of over 12,000 Native Americans is one of the worst cases of involuntary community resettlement that I have studied throughout the world over the past 40 years."

-- Thayer Scudder, Professor of Anthropology, California Institute of Technology in a letter to Mr. Abdelfattah Amor, UN Special Rapporteur on Religious Intolerance

The International Peoples Tribunal on Human Rights and the Environment, stated that the Dineh case along with 12 other cases presented in June 1997, demonstrated the globalization of unsustainable development particularly involving the exploration and extraction of fossil fuels. The United Nations Framework Convention on Climate Change, which aims to reduce the production of carbon dioxide through limiting the use of fossil fuels was signed at Rio. The Convention on Elimination of All Forms of Discrimination Against Women (CEDAW) is the second-most widely ratified international human rights instrument. Women, both in their own right and as mothers and heads of households, have borne the heaviest burden of policies of globalization. Women have also suffered from unsustainable development and or developmental violence. At the UN World Conference on Human Rights in Vienna, women finally gained unequivocal recognition that women's rights are human rights. The Beijing Platform of Action of the UN

Conference on Women and Development sets out an agenda to make those rights a reality. Both CEDAW and the Beijing Declaration are crucial if women are to reverse the conditions they face as a result of unsustainable development practices.

Dineh matriarchs have been active, traveling to Washington, DC, New York, California and Geneva, Switzerland. They have submitted hundreds of testimonies to the U.S. Congress but still they are denied access to water, the right to fix their homes, and protection of their land and livelihood. Over 100 Citizens Complaints have been submitted to the U.S. Department of the Interior's Office of Surface Mining. This has resulted in federal regulatory inspections and numerous citations against Peabody Coal Company. Solar operated seismograph machines are now visible next to some traditional hogans. Nighttime blasting and some other practices have ceased. The Black Mesa issue is the first case of environmental justice brought by Native people to the executive branch of the U.S. government since President Clinton signed Executive Order 12898 on Environmental Justice in February 1994.

The grandmothers request the human right to full and equal participation for all persons in environmental decision-making and development planning and in shaping decisions and policies affecting their community on the local national and international levels. When a government denies certain communities fundamental rights, it places the rights of all its citizens in jeopardy.

Other obstacles include the fact that most of the women do not speak, read or write English and are unfamiliar with western society and U.S. governmental structure. They can't afford to buy computers, fax machines, pay for copying or finance activism. Outreach is difficult since they live in a vast remote region without paved roads, electricity, telephones and running water.

Recommendations for Action

The Dineh people would like to see a future for their communities that is not tied to a unsustainable industry. They would like a future that is in harmony with the earth and which provides them the opportunity to pursue their traditional religion and values. It is their most fundamental human right to practice their religion, continue their culture, including the right to own, use and protect their land. It is this non-recognition of their rights to their ancestral territories and the resources found therein that perpetuates ethnocide and genocide against them. The distinct identity of the Dineh people is crucially linked to the lands they have occupied since time immemorial. Displacement from these territories means death, destruction of Dineh identity, culture and way of

life. It will only be with the participation of women in the decision-making processes that their voices will be fully heard.

U.S. government actions contradict paragraph 256 of the Beijing Platform for Action, which states among other things that all governments should:

Integrate women, including indigenous women, their perspectives and knowledge in decision making regarding sustainable resource management and the development of policies and programs for sustainable development, including in particular those designed to address and prevent environmental degradation of the land;

Evaluate priorities and programs in terms of women's equal access to and use of natural resources.

NGOs must advocate that women's human rights cannot be denied and should take precedence over national sovereignty -- whether it be the sovereignty of independent nations or the dependent sovereign status accorded to tribal governments. A strong statement to this effect would educate many people as to the nature of the struggle faced by indigenous women and would give encouragement to people and institutions who are hesitant about extending support in these circumstances.

Concerns about development policies and their economic and ecological impact are human rights issues. Governments must reaffirm the universal right of every woman, man and youth to ecologically sound development, in marking the fiftieth anniversary of the Universal Declaration of Human Rights. International human rights covenants and other human rights treaties and declarations are powerful tools necessary for implementing Agenda 21 and the commitments made in Rio.

The goals of the matriarchs from the communities in the Dineh nation can be summarized as truth, participation, and sustainability. They would like to be given an opportunity to present testimony to an independent body that would look at the overall situation -- that would be open to information about the past so that it could understand the dynamics of the present and that would listen to the voices of the women and the indigenous families and not just the voices of the government lawyers. They would like direct participation in the decisions which affect their lives. The people have never had an opportunity to vote in any referendum on any of the issues that have devastated their communities.

Political Persecution Exacerbates Environmental Destruction in Nigeria

Special of Women at CSD-6
New York, 20 April - 1 May 1998

REGION:

The Ogoni are the main tribal group in the Niger Delta region, located in the southern part of Nigeria on the equator, along the eastern coast of Nigeria. The Ogoni region has a population of 500,000 and a land area of 104 sq. miles.

CASE STUDY PREPARED BY:

The Federation of Ogoni women Association was formed in September 1990. It is a branch of the Movement for the Survival of the Ogoni People (MOSOP) and was formed in response to the problems of environmental pollution in the region. The Association's membership is made up of 85% of the Ogoni women and is led by a group of 30 women. They conduct a wide variety of activities to mobilize women in the local community including rallies, protest demonstrations, meetings, and workshops. The group works with women in various communities throughout the region.

Movement for the Survival of the Ogoni People (MOSOP)

Federation of Ogoni Women Association

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Abstract

For over 30 years, Shell Dutch Oil Company, and other transnational companies have been extracting oil from the rich deposits in the Ogoni region, in the Niger Delta. Oil production activities have led to the contamination of the local freshwater sources, loss of wildlife, and reduction in soil fertility. Environmental degradation has devastated the regional economy, and health of the Ogoni people. There has been a 75% decline in agricultural productivity, which has caused 25% of the population to be severely affected by malnutrition. Other health effects include increases in the mortality rate, and greater incidences of cancer, heart disease, and skin infections. In response to the problems of the region, the Ogoni women have come together to demand their right to a clean and safe environment.

Cause of the Environmental Crisis

The Ogoni community is part of the lush Delta region of Nigeria, in what has been described as "one of the most fragile ecosystems in the world." The area is a coastal ecosystem drained by an extensive network of rivers which inundate the region. The local economy is based on both farming and fishing. More than 30 years ago foreign companies, particularly Shell Oil Co., moved into the community to extract oil from the deposits in the Ogoni region. They arrived in 1956, starting their main operations in 1958. Now, more than 90% of Nigeria's revenues are from oil and about $30 billion worth of petroleum has been extracted from the Ogoni region. The extensive oil facilities employ hundreds of foreigners but continue to operate without any benefits, such as increased employment, to the local population .

The main town in the Ogoni area is Bori, with a population of 100,000. The oil refinery is in the heart of the Ogoni land, approximately three to five kilometers from the outskirts of the main town. Residences run up to the border of the area where ten large predominantly US petrochemical companies produce oil, fertilizers, and various types of petrochemical products. The pipes that connect the oil deposits to these companies run below the residential areas. The production of oil has had severe impacts on the regional economy and environment in the Ogoni region and environmental degradation has been increasing in recent years.

"Of the 110 countries in which Shell operated from 1982-1992, nearly 40% of the company's oil spills and leakages occurred in Nigeria." (Sierra Club, 1996)

Impact of the Environmental Crisis

Pollution has resulted from the gas flares that produce soot, which is then deposited on neighboring communities. When it rains, the soot is washed off and the contaminated water flows into the community land. In addition, because old above-ground pipes are used to transport oil, pipe explosions have led to effluents spewing onto land and surface water. It is estimated that 75% of spills are the result of pipe corrosion. (Sierra Club, 1996) Other problems have come from oil waste dumping, oil spills, and construction of infrastructure. Natural ecosystems have been severely affected by the reduction in fertility of the local soil, loss of wildlife and biodiversity, and pollution of water sources. The tropical mangroves and rain forests in the Delta have been damaged as a result of off-shore operations and the building of port facilities.

Local drinking water comes from wells which have been dug on residential properties. When the oil pipes burst, the oil inundates the wells and inhabitants consume polluted water. The community has traditionally had a large number of fishermen, and fish has

been a primary source of food. Local fish catches are now polluted with chemicals, and there have been increasing numbers of fish kills. Local people frequently see dead fish floating on the water.

Women in the Ogoni community are the traditional farmers. They farm cassava, yams, bananas, maize, and local vegetables. Most of the farming is done for local consumption. As a result of the oil spills from Shell installations, food productivity has declined dramatically. Minerals have been extracted from the soils, so it is not rich enough for optimum productivity. According to the women in the community, there has been a 75% decline in agricultural productivity. Nigeria is not importing sufficient food to make up for the local decline in productivity and as a result about 25% of the population is severely malnourished. This is in the context of a situation where mining and oil exploration leases are granted without consultation with the people because local people have no formal land rights.

According to women activists, the community health is declining as a result of deteriorating nutrition and increasing pollution. While there has been no formal health assessment of the problem, their observations are that the overall death rate has increased. Incidences of heart attacks and high blood pressure are increasing. There are higher levels of skin diseases, cancer, and infections. There has been a statistical increase in the number of stomach complaints and diarrhea as a result of the polluted drinking the water. Children have increasing levels of malnutrition due to depleted agricultural and fishing production. Access to medical facilities is difficult as there is no hospital in the area.

Another important concern of women is that incidences of rape have increased significantly since the oil companies have begun to operate. Since 1990, there have been five deaths just as a result of rapes. According to the women in the area, one in ten of them have been raped by oil company workers or army officials. There is no process of prosecution for these cases and women are not allowed to mention these assaults and have no rights in these cases. While laws are in place, they are not implemented. These claims have been substantiated in the report by the World Council of Churches. ("Ogoni-The Struggle Continues" Report of the World Council of Churches, Jan. 1997)

Response to the Environmental Crisis

In response to the multitude of environmental, economic, social and health problems caused by the oil industry, the Ogoni women began meeting together in 1990. At the first meeting about 55% of the women in the community participated. They began to

meet more frequently and did outreach work to educate people in the area about the issues. The membership of the Federation of Ogoni Women has grown so rapidly that 85% of Ogoni women are now participating. They have developed several strategies for action including rallies and campaigns to educate women about the issues. They have also organized protest demonstrations in the main towns.

The response of the Nigerian government to the campaign has been a systematic pattern of repression and violence. The government has sent an army into the area to repress organizing efforts and women have been jailed, killed and injured. 10 women were killed on January 4, 1993. This was in the context of a protest of 300,000 Ogoni who organized a demonstration against Shell Oil activities. Subsequent developments have included the detention of the chairman of the Movement for the Survival of the Ogoni People. In spite of that, the women continued to rally each January 4, which is Indigenous Day. The movement leaders have been identified by government officials and systematically arrested. Two or three women are currently being detained by the government without trial. Some have been in detention for long periods of time just as result of talking and mobilizing on these issues. A number of women leaders cannot go back to their homes or communities because of the lack of democracy.

This campaign of repression has been occurring since 1990. The women's group has not been allowed to meet with Shell company officials. The women have made numerous requests and written letters to the company but have received no response. Even though Shell has done extensive environmental impact analysis and mitigation strategies in other countries where its oil installations are located, there has been no similar process in Nigeria, particularly with regards to community consultation. (Trade and Environment Database "Nigeria Petroleum Pollution in the Ogoni Region, James Kee, American University, March 19, 1998) The company has employed strategies such as bribery to insure that the powerful members of the community do not complain about the problems.

The Ogoni women sent a delegation to the United Nations and testified at the Peoples Tribunal. Repression and harassment has now been extended to church leaders in the community. The UN sent a delegation to the area to assess the problems. Even though meetings took place with government officials, according to community women they did not reveal the details of the problem in the region. The UN delegation did not meet with the local residents. As a result they were insulated from the true effects of the crisis. The international community has published some of these facts through the World Council of Churches. A number of environmental groups including the Environmental Defense Fund, Friends of the Earth, Amnesty International and Greenpeace, have also been involved.

Recommendations for Action

The Ogoni women are demanding protection of women environmental activists. They are also advocating a mechanism to protect the rights of women in terms of sexual abuses and are demanding a program of educational development for women. Because of the adverse impact of the oil activities on the economy, women often do not have funds for clothing for school or to conduct activities. They want a program of agricultural development to enhance productivity. They would like to have a women's health center built in the community. Job opportunities for women are crucial to the survival of the community, particularly employment in the transnational companies which have come to the area. Some systems of welfare and social support to help with economic declines in the region are key. The people are requesting formal land rights. They have been cut off from traditional areas of farming and fishing as a result of the installations of the multinational corporations.

The Ogoni women make the following recommendations:

Nigeria must be returned to a genuine democracy. The practices of repression, roadblocks and intimidation must end. The government needs to work cooperatively with the people to solve the problems.

All laws denying women their fundamental human rights must be dropped from the Constitution.

Environment and human rights must be observed according to international standards. The government needs to accept the Bill of Rights that was presented to the government in 1990.

Proper compensation must be paid to the Ogoni people for their destroyed environment and for oil resources which have been expropriated for 35 years.

An institution for women's training should be established in the Ogoni region to assist them in being more involved in education and decision making.

The UN should set up a study group to access the environmental destruction and human rights abuses in Ogoni land and undertake a restoration of the area for the welfare of women in the community. They need to work to insure clean-up of the Ogoni lands by the multinational companies operating in the region.

While the UN has assisted several Ogonis who became refugees as a result of the environmental war imposed upon them by Shell and the military dictatorship in the country, the UN and its member countries have not gone far enough. The UN needs to impose total sanctions and an embargo on the military dictatorship in Nigeria that will force them to respect environmental and human rights in the country.

The Ogoni women are appealing to international organizations to help in addressing these problems, provide financial assistance and support to the organizations working on these issues.

Ukraine's Drinking Water Grossly Polluted

REGION:

Ukraine has a population of 50.9 million and a total land area of 603,700 sq. km. The five cities featured in this case study were Artyomivsk (Population 90,000); Kalush (Population 136,000); Pripiat (Population 49,000); Chernobyl (Population 12,500) and Kiev (Population 2.6 million)

CASE STUDY PREPARED BY:

MAMA-86, a women's ecological organization, was founded in 1990, with the objective of raising awareness of the importance of sustainable development for the health of the people of Ukraine. MAMA-86 monitors women's rights, sustainable development, health, democratic choice, consumer choice and prophylactic environmental strategies.

MAMA-86

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Extensive pollution of surface and groundwater in the Ukraine has had a severe impact on the drinking water supply of the country. Deteriorated, centralized water pipeline systems, disastrous sewage systems and excessive agricultural drainage have led to the gross contamination of Ukraine's drinking water. The poor quality of drinking water has led to a wide variety of diseases in the country including hepatitis, oncological diseases, metabolic disorders, allergies and skin diseases, endocrine dysfunction and others.

Periodic acute epidemics of intestine infections, cholera, and hepatitis A can also be traced to the poor quality of drinking water.

Cause of the Environmental Crisis

Drinking water in Ukrainian cities comes from surface water and groundwater sources. Although it is well known that surface water is extremely polluted, the quality of artesian water has yet to be investigated. There is data that proves that the level of drinking water contamination is very high. Major contaminants include DDT, lindane, and other pesticides which were officially prohibited in Ukraine many years ago. Even though pesticide use has decreased due to the current economic crisis, there are residual pesticides stored in plots in the countryside that are unknown to the general public. These persistent organic pollutants have been leaking into the soil and groundwater.

While world wide attention has focussed on the massive environmental crisis of the Chernobyl disaster, there are also other significant environmental threats to the region. According to the Ministry for Environmental Protection and Nuclear Safety of Ukraine, in 1995, ambient air in Ukrainian cities contained 36 pollutants. The major share of registered contamination (about 60%) was represented by common contaminants: sulfur dioxide, carbon monoxide and nitrogen dioxide. In the case of specific hazardous substances monitored in cities, average annual concentrations exceeded environmental norms: formaldehyde (3 times); benz(a)pyrene (1.9 times), phenol (1.5 times), ammonia (1.36 times). The poor condition of water mains and sewage treatment facilities, frequent accidents at these facilities, lack of disinfection and poor distribution networks have resulted in drinking water quality that is below the set standard. Quality monitoring of surface water shows contamination by untreated municipal and industrial wastewater, sewage and parasitic agents.

The town of Tatarbunary, located in the Bessarabiya steppe area, has been suffering from shortage of water for centuries. Under the Soviet regime, the Black Sea bay Sassyk was partly desalinated and converted into a fresh water lake. The purpose of desalination was to build up a fresh water reservoir for irrigation. The use of water from Sassyk caused soil salinization (approximately 30 thousand hectares of land), salinization of natural sources of drinking water and the loss of recreation of the area. Artesian drill-holes and wells became mineralized beyond the maximum allowable level (MAL). Due to the absence of a centralized water supply system in the area, people are forced to consume processed water from water tanks.

In the city of Odessa, the condition of water pipelines is extremely poor. The population of the city is supplied with drinking water only twice a day. Independent experts claim that the quality of tap water and immediately purified water at the water treatment works outlet differs greatly. The major concern of NGO's is that deteriorated pipeline systems lead to a dramatic change between the quality of drinking water from centralized water supply systems and tap water actually consumed. The Odessa region has a constant shortage of water as do all other southern areas of Ukraine. Analysis of the drinking water of one city in the Odessa region (Luzanovskiy) has shown an excess of residual active chlorine, which indicates that the water is hyper-chlorinated.

In Kalush, there is a centralized water supply and 72 artesian wells. Water turbidity has recently increased to 11mg/dm3, well-above the standard, 1mg/dm3. Though chlorination is the only way to disinfect drinking water at present, hyper-chlorination has resulted from the disinfection process. Local experts claim that the drinking water supply is being monitored. However, in rural areas, there is no monitoring system in place. The regional public health station has no data on the chemical composition of the well-water in 39 villages.

Kiev, the largest city in Ukraine, has high levels of air and water pollution. The length of the water pipeline network is extremely long, exceeding 3,500 km, and there are sections which have not been replaced since 1900. The renovation of pipelines is done only in emergencies. The problem of hyper-chlorination is also very acute, particularly during flowering period in natural reservoirs, when the maximum allowable level (MAL) of chlorine is exceeded by several times. Artesian water from drillholes in Kiev is extremely popular. At present there are 36 drillholes operating throughout the city and people regularly stand in long lines to fill up their buckets, jars, and containers. This reflects people's concern over the quality of tap water and their health.

Ukraine occupies one third of the overall territory of Central European countries and contains almost 40% of the world's most productive terrestrial soil. Yet, only 27.4% of land is virgin territory. There are only 163,900 sq. km (25% of Ukraine's territory) suitable for human habitation of which 14,800 sq. km is moderately contaminated and 49,100 sq. km is conventionally clean.

Impact of the Environmental Crisis

There are a wide variety of diseases that could be connected to drinking water: hepatitis, oncological diseases, metabolic disorders, allergies and all sorts of skin diseases (including dermatoses, eczema), endocrine dysfunction and others. Periodic

acute epidemics of intestine infections, cholera, and hepatitis A are caused by the poor quality of drinking water.

Contemporary Ukraine is part of the group of European countries with the lowest birth rates (along with Spain, Italy, Germany, Bulgaria and Russia), mainly because of the catastrophically bad state of the women's reproductive health. Medical research shows that 70% of pregnant women today have extragenital and obstetrics disorders. Among them 27.9% suffer from anemia, 8.1% from late toxicosis, 5% from cardiovascular disorders and 7.6% from urogenital diseases.

Consuming processed water in the area of Tartarbunary (instead of drinking water) causes many diseases among children and pregnant women including metabolic diseases, nephritis, polyarthritis, scoleosis and pregnancy-related illness.

In the Luzanovskiya area of Odessa, excessive residual active chlorine, had led to intestinal diseases (dysentery, virus hepatitis), measles, whooping cough, meningitis, and diphtheria. The population of the district suffers mainly from endocrine and urinary system diseases, blood diseases and oncological diseases. Results of the population poll in the district showed that only 4.8% of respondents estimated their health as "good" and 51.7% of respondents characterized their health as "bad and very bad." People complain of frequent headaches, eyes pains, nervousness, coughing, nasal bleeding, pain in the abdomen, nausea, vomiting, heart pains and palpitation. A number of other contaminating sources (disastrous sewerage system and railway cleaning branch) located in this district, influence air quality as well.

In the town of Artyomivsk (population: 90,000) located in the heavily polluted industrial and mining area, tap water is highly contaminated and has dark coloring. The water supply comes from an artesian drillhole and the Severskiy Donets-Donbass channel water. Research showed that groundwater closest to surface layers is heavily polluted. Relatively clean groundwater can be found only in non-industrial areas, namely in the northern and western parts of the Donetsk region. In the industrial Artyomivsk-Horlivka-Yenakyevo center of the region, groundwater is polluted with mercury (15-20 times the MAL), nitrates (4-5 times the MAL) and zinc (2 times the MAL). Water is also polluted in the Donetsk-Makiyivka area by nitrates (12-31 times the MAL), fluorine (2.5 times the MAL), mercury (6 times the MAL) and arsenic (up to 24 times the MAL).

In the industrial Artyomivsk-Horlivka-Yenakyevo center of the region, local experts claim that there is a direct correlation between groundwater pollution and incidences of disease among the population. Heavy metals, halogens, pesticides, and nitrates are major pollutants that cause the non-infection illnesses. In the industrial areas of the

region it is very common to find people who suffer from gastro-intestinal, respiratory diseases, blood exchange disorders, and oncological diseases. The high level of mineralization has also been shown to be a problem for dry residue excess-1821mg/dm3 (MAL-1000mg/dm3) and sulphates-805mg/dm3 (MAL-500mg/dm3).

Response to the Environmental Crisis

MAMA-86 is a solution-oriented organization that works on the issues of preventive health care. MAMA-86 activities include preventive health care advice and conscious parenthood counseling. The NGO also organizes summer camps for children and mothers. For several years, MAMA-86 has had an in-house clinic where 4,000 children are examined. MAMA-86 has recently set up a new clinic for preventive health care for mothers and children. The organization also has a "hot-line" where concerned consumers can obtain information about contamination of food products (radiation levels, additives, water pollution) and a newsletter on environment and health issues.

The goals of MAMA-86's Drinking Water Project are:

To clarify the situation with drinking water in Ukraine, i.e. to define the main sources of water supply;

To find the alternatives of the centralized drinking water supply;

To investigate changes in drinking water quality over the last three years;

To determine the difference between water immediately purified at the water treatment works and tap water consumed by people;

To determine the influence of drinking water quality on public health in five cities and towns of Ukraine (Odessa; Tatarbunary, Odessa region/Southern Ukraine; Artyomivsk, Donetsk region; Kalush, Ivano-Frankivsk region; Kiev);

To widely inform people at the grass-root level of the situation with water, increase their awareness of the drinking water problems and its connection to health problems; and

To facilitate public participation in the decision-making process on the issue and to stimulate personal initiative to improve the state of things.

The final report on the project will be compiled and issued in November 1998 and distributed to partner organizations, including those involved in the inquiry, to be disseminated in the regions among the citizens to raise public awareness on the issue.

Recommendations for Action

Based on the experiences with the drinking water supply system in Ukraine, the following recommendations are made by MAMA-86 to improve policies and programs carried out in the region:

Women's health must be a priority

The Ukrainian women are the worst hit by the drinking water crisis in Ukraine. Ukraine is in a state of 'depopulation' mainly because of the extremely bad state of women's reproductive health. It is unnacceptable that the consumption of processed water should cause diseases among children and pregnant women. In order for new policies on water to be effective, women's health and women's needs must be addressed.

A safe environment is a human right

According to Ukraine's Environment Protection Law "every citizen has the right to a safe environment, considering his or her life and health." In 1996 this right was approved by new Ukrainian Constitution (Articles 3, 13, 50). According to Article 16 of the Ukrainian Constitution, the government must provide environmental safety and stability and Article 49 guarantees free medical service. MAMA-86 calls upon international agencies and international NGO's to put pressure on the Ukrainian government to fulfill its promises and duties.

Safe drinking water must be provided

NGOs are concerned that the Ukrainian government does not adequately address the problem of public health and drinking water supply. The situation with drinking water in different regions of Ukraine is critical. Notwithstanding the current economic crisis, it is imperative that the Ukranian government take immediate action to improve the drinking water situation.

Bangladeshi Women Expose Arsenic Poisoning of Ground Water

REGION:

Special of Women at CSD-6
New York, 20 April - 1 May 1998

Bangladesh has a total population of 210 million. 34 of the 64 districts in Bangladesh are at risk from arsenic contamination of the groundwater. Total area of these 34 districts is 65,000 sq. km with 51 million inhabitants, roughly 25% of the country's population.

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Abstract

Rural women have played a key role in uncovering the negative health impact on their community from arsenic contaminated water in Bangladesh. The source of the contamination is still in question. However, most experts have concluded that unsustainable agricultural practices have drained so much water out of the surface wells that leeched, exposed minerals are oxidizing and releasing arsenic which enters the remaining water tables in poisonous proportions. National and international NGOs have played an instrumental role in working with communities to survey and monitor the

effects, generating media attention and mobilizing government and international development officials to respond. Arsenic is toxic and carcinogenic. It is a naturally occurring poison that can be fatal in large doses. Chronic exposure to contaminated drinking water typically produces skin diseases including pigmentation disorders, hyperkeratosis and skin cancer. It can also produce gangrene, bladder and lung cancer. Chronic exposure can cause nervous system disorders, and renal, gastrointestinal, neurological, hematological, cardiovascular and respiratory symptoms. The only remedy is access to arsenic-free water.

Cause of the Environmental Crisis

Arsenic poisoning in Bangladesh (and West Bengal, India) has reached contaminant levels in water wells 200 times the maximum limit allowed by the World Health Organization. The WHO Guidelines on the Quality of Drinking Water set a threshold limit of 10 micrograms of arsenic per liter of drinking water with a maximum of 50 micrograms per liter. Arsenic pollution of ground water in Bangladesh was first reported in 1993 on the border areas of the Baraghoria and Nawabganj districts. Since then, 34 of the 64 districts in Bangladesh are now suspected of having arsenic-contaminated groundwater, the principal source of drinking water. Some non-border districts, (for example, Noakhali, Faridpur, and Narayanganj), are also highly affected areas. The Occupational and Environmental Health Department of the National Institute of Prevention and Social Medicine (NIPSOM), the agency responsible for monitoring public health, reported a total of 838 cases of arsenicosis as of December 1996. The highest incidence of 119 cases was from Nawabganj. The areas of reported signs of arsenic pollution are not uniformly spread throughout affected districts or the country. Both northern and southern districts are affected. Bangladesh is not alone. Well-documented cases of chronic arsenic poisoning have been found in West Bengal, India as well as China, southern Taiwan, Argentina and Mexico.

Arsenic is a naturally occurring element that is tasteless and odorless. It exists in the earth's crust at average levels between two and five thousand micrograms per liter. As a component of underground rock and soil, arsenic works its way into groundwater and enters the food chain through drinking water or edible plants that have absorbed the mineral.

Arsenic is particularly concentrated in sulfide minerals. Oxidation of sulfide minerals is known to have the potential for release of large quantities of arsenic into solution. As a result, many high-arsenic waters are found in mineralized areas, particularly in areas of mining activity.

Arsenic concentrations may also be high in groundwater from pyrite-rich sedimentary aquifers. Such areas commonly experience an arsenic problem if overpumping of groundwater has taken place, since falling water levels can introduce oxygen to the water-bearing strata and induce oxidation.

In the case of Bangladesh and West Bengal, overpumping of groundwater for agricultural and household functions is the likely cause of the health crisis. With the fall of groundwater levels due to ever-increasing use of deep tubewells for irrigation, the sedimentary layers containing arsenic come into contact with oxygen. This alters the pH value and in the resulting oxidizing environment, arsenic is leached into the pure water.

Impact of the Environmental Crisis

Humans normally have some arsenic in their bodies. However, daily consumption of water with greater than 50 micrograms per liter of arsenic -- less than one percent of the fatal dose -- can lead to problems with the skin and circulatory and nervous systems. If arsenic builds up to higher toxic levels, organ cancers, neural disorders and often fatal organ damage -- often fatal -- can result. The impact on the food chain and agricultural products such as the national staple, rice, and vegetables is still uncertain.

As many as 51 million people in Bangladesh and millions in West Bengal, India reportedly have clinical manifestations of arsenic poisoning. The basic treatment for arsenic-caused diseases is to immediately provide arsenic-free water and monitor the patient to ensure that s/he remains unexposed to further arsenic contamination. Hyperpigmentation, the first stage of arsenic poisoning, is reversible if the patient is given arsenic-free water. While the majority of the population is poor, the problem disproportionately affects the health of women and children, who are malnourished and least likely to receive medical care. If women and children do receive medical attention, poor diagnosis often results in the wrong treatment.

Experts confirm that those with poor nutrition are affected by arsenic poisoning first. The hot climate is another exacerbating factor because it necessitates the intake of considerable quantities of water (5 to 6 liters per day). The first signs of arsenic poisoning are skin disorders. The blackened skin and lesions often lead to feelings of shame and embarrassment among females socialized to measure their self-worth by their beauty. Many girls reportedly try to hide their lesions with red nail varnish. In time, the raised bumps merge into unsightly yellow-brown crust on hands and feet. Unfortunately, many villagers assume that these people have leprosy and the victims of arsenic poisoning are shunned by family members and neighbors alike. Such forms of cultural prejudice remove the individual's support system and may result in complete

destitution. The social impact of arsenic poisoning illnesses on people has been similar to those infected by HIV/AIDS. Until large numbers of people in the village are affected, social ostracism will remain.

Widespread fear has increased among the rural populations. Government or international agencies have not mounted any comprehensive effort to disseminate information to explain the situation. The local media has played an important role in drawing attention to the crisis. Local newspapers have reported a sharp increase in dead fish and fish with wounds and lesions in the southern districts of the country.

Response to the Environmental Crisis

The response to this crisis has been painfully slow. Women are often, as in this case, at a pivotal point between agricultural/industrial contamination and health issues. Having the primary responsibility to nurture the health and development of their families, women are often more aware of negative impacts on family and community health. Their individual testimonies, organizing, educating and caretaking skills, as well as dedication are crucial to the success of the movement for sustainable development.

During the early 1990s women living in these districts realized that their children's health was being seriously affected. They were uncertain of the source of the contaminants, as skin disorders were common. Through the dynamic organizing skill of local volunteers, as well as local and national NGOs supported by international agencies, informal community health surveys were carried out. A high incidence of arsenic-induced illness was found. But the majority of cases and deaths from arsenic poisoning went unreported to government agencies.

The Dhaka Community Hospital (DCH) sent out a fact-finding mission in October 1996 composed of three skin specialists and three other senior doctors to make an initial assessment of the situation. DCH reported that arsenic contamination had occurred in 20 districts. From December 1996 to January 1997, DCH conducted a second survey, headed by Dr. Dipankar Chakraborty, director of the School of Environmental Studies, Jadavpur University in Calcutta. Unfortunately, they did not report gender-dissaggregated data on the samples of fingernails, hair, skin, and urine. Oxfam and the Disaster Forum of NGOs supported this mission. Dr. Gulshan Ara also presented a paper on DCH arsenic research at a seminar in Dhaka in January 1997 organized by DCH and the Disaster Forum.

The Bangladeshi media has widely publicized the groundwater calamity, but the story was largely ignored outside the country. Within the country, women's organizations

have not yet been not able take up this issue since they are overburdened with campaigns against violence, customary law and securing equal rights. However, some Bangladeshi women activists raised the issue with WEDO to request help in mobilizing support. They persuasively argued that this environmental health issue was a critical women's issue.

In April 1997 at a UN Commission on Sustainable Development meeting, the Women's Caucus raised the issue of the arsenic case to increase international attention to the problem. In June 1997 at the UN Special Session of the General Assembly for Rio + 5, the Women's Caucus called for action by the international community. The Bangladesh Ambassador to the UN also took a strong interest in mobilizing government and international attention.

The government has been slow to respond even though the arsenic problem in West Bengal has been publicized since the 1980s. Experts in Calcutta advised the military government in 1990 that millions of its people could be at risk. The government remained silent to avoid a panic and because it was ill-equipped to deal with a problem that overlaps various fields, medicine, engineering, geology, public education and social services.

Finally, in 1994 the government established a National Council on Arsenic but it resulted in very little action. Aminuddin Ahmed, the chief public health engineer and a member of the national council, heads a department charged with providing clean drinking water. As of May 1997, he had taken on no new staff and so far only a third of the 600 tainted tubewells have been replaced. He admitted that Bangladesh cannot afford to supply drinking water by tanker to remote areas.

The current government, is fully aware of the extent and the serious nature of the situation. It has also begun to act in concert with international agencies such as UNICEF and a host of NGOs. Their steps include the following initiatives:

The Arsenic Technical Committee of the Ministry of Health and Family Welfare is assessing the extent of the problem and has three technical sub-committees for (a) determination of the health hazard, (b) water analysis and alternate water supply; and (c) detection of the source of contamination.

NIPSOM is organizing a training program for doctors and health workers for diagnosis of cases of arsenic poisoning.

The Department of Public Health Engineering (DPHE) is monitoring the tubewell waters from various parts of the country.

The Atomic Energy Commission laboratory is using Atomic Absorption Spectrophotometric methods to determine arsenic levels.

The Department of Geology and Mining of the University of Rajshahi in collaboration with the School of Environmental Studies, Jadavpur University in India, had more than 600 water samples from different parts of Bangladesh tested for arsenic.

The Netherlands is supporting a water supply programme in the arsenic affected districts and has invited plans to build an arsenic removal treatment plant in the town of Meherpur.

A major conference was held in February 1998 in Dhaka that resulted in a World Bank-led consortium of aid donors supporting a special project to respond to the arsenic problem. Led by a civil society activist, the focus is on finding low-cost community-based solutions.

WHO also brought together an expert panel in Delhi to review the world's worst epidemic of arsenic poisoning in West Bengal and Bangladesh. Some 220,000 people are estimated to be suffering from arsenic-related diseases. More than a million people regularly drink arsenic-contaminated water. Even government rural water supply schemes are tainted.

Recommendations for Action

Access to safe water is a basic human right. Access, distribution and the cost of water is a highly political issue with numerous economic, social and environmental implications. There are also ethical issues given the disproportionate impact of this crisis on the poor and gender dimensions given the traditional burden on women and girls to provide adequate quantities of water for household needs.

Many NGOs, including BRAC, Proshika, CARE and the Grameen Bank, have long been involved in organizing landless groups of men and women to provide irrigation services to farmers in rural Bangladesh. The management of deep and shallow tubewells has generally been considered male work although several women's groups have broken the gender barrier to become water sellers. NGOs were also involved in large-scale promotion of shallow, handpump tubewells in village homes to provide safe and clean drinking water. Tragically, it is these hand pumps that are most susceptible to arsenic

poisoning. This calamity can be brought under control only if groundwater withdrawal is restricted.

To maximize the chances of long-term success, government's should work with NGOs and the international community to immediately rectify this situation and:

Create gender-balanced councils, training teams and spokespersons. Men are the overwhelming majority of government officials and NGO leaders involved in the development, formulation, oversight and implementation of the arsenic response action plan.This initiative should become part of the country's national action plan to implement the Beijing Platform for Action.

Seal tubewells pumping out arsenic polluted water and identify and provide alternative sources of drinking water.

Make available adequate, reliable supplies of free, purified, arsenic-free drinking water.

Finance short-term strategies to alleviate the problem such as sound watershed management and rainwater harvesting. Unfortunately, there are few affordable options. Broad municipal treatment is unaffordable for both Bangladesh and India and even the least expensive solution is out of reach for most of the at-risk population, given current levels of poverty. The only alternative for most people now is reverting to surface water sources, which are already polluted with biological pathogens. Boiling, filtering and treating surface water is an essential step.

Close collaboration with NGOs and women's groups is needed to test and disseminate filter-tablet system to remove arsenic developed by the School for Environmental Studies in Calcutta and the Council for Scientific and Industrial Research.

Give special attention to appropriate outreach methods to women in the household. People at risk must be persuaded to use purified surface water for drinking purposes instead of tubewell water. All NGOs will need to be mobilized to integrate the agreed-upon plan into their regular work. Appropriate educational messages should be integrated into other health and water related outreach.

Make available adequate and reliable water testing laboratories for regular testing of tubewell water samples throughout the country. Women should be trained to test water quality and run sample-testing services.

Ensure comprehensive health monitoring by establishing community health centers with doctors and nurses trained in the diagnosis, cure and care of victims of arsenic and other environmental contamination, disseminating information on how hazardous substances migrate in soil, air and water, and providing free access to all information concerning past and present contamination as soon as possible.

Eco-hot spots should be monitored annually by the CSD, WHO, UNICEF, UNDP, UNEP and the World Bank, in addition to other relevant agencies, possibly through the UN inter-agency Earth Watch system. They should be invited by the Commission on Sustainable Development to meet with all countries affected by this problem and share information. They should be asked to prepare a list of potential countries and locations that may be at risk and prepare prevention strategies.

First-Ever Study on Rural Women's Water Use in Egypt

REGION:

Egypt has a total population of 65 million people and a land area of 1 million sq. km. Thirty seven million people living in the rural areas of Egypt are at risk due the poor quality of potable water.

CASE STUDY PREPARED BY:

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Abstract

Women scientists in Egypt, working closely with rural women, played a key role in uncovering the negative health impact of contaminated water on their community. Most water systems in the Nile Delta were established after 1952. Potable water comes

from groundwater sources which have been over-exploited, leading to increased salinity and hardness of water. This poor water quality has undermined people's health. Health effects include water-borne diseases such as gastrointestinal diseases, skin and eye infections, parasitic diseases including amoebiasis, ascaris, and bilharzia. Local women had many ideas to improve the situation and overcome the health problems, however, most women felt that the responsible bodies would never listen to their suggestions since it was "beyond women's domain." This case highlights the pressing need to address and tackle all existing environmental, health, and behavioral patterns relating to water handling and sanitation in a holistic manner, using gender analysis, to reach a higher standard of health.

Cause of the Environmental Crisis

In the early 1980s, a research study was conducted on contamination of stored water in rural areas in Egypt. This was the first-ever study of women's use of water in Egypt. The study was conducted in the Kafr Shanwan and Babil villages in the Menoufia region. The two villages were similar except for access to tap water inside homes. Both villages had similar negative health impacts since the water supplied from the public tap was of the same poor quality.

The research team investigated women's use of water for personal hygiene, household use and sanitation. An environmental assessment was conducted on the household behaviors in using water at home and at the canals where women washed clothes. The team found that women knew canal water was not safe for drinking but still used it for cooking special items such as dried peas, beans, etc. Village women also used canal water for washing, as the tap water did not lather due to its high salinity and hardness.

The research team developed a gender-balanced task force which involved all the key stakeholders in a process that led to appropriate solutions to the water problem. This study presented descriptive material regarding behavioral patterns related to the handling and utilizing of water for household purposes, by women, and described the environmental conditions under which village people live and work.

The study tried to outline factors that appeared to influence the behavior in the two Menoufla villages, and charted ways in which behavioral patterns and disease transmission may be interrelated. A key lesson from this case is that behavioral patterns relating to water and sanitation cannot be changed in isolation from other environmental aspects which are interrelated including sewage, solid and sullage waste collection systems, and hygienic septic tank evacuation.

The following findings were drawn from this research study :

Women believe that piped water is pure, and they disregard the fact that water use may contribute to contamination.

Water analysis indicated that canal water had a higher bacterial count, while pumped and piped water was harder in content and polluted during the summer months.

Bringing tap water into households exacerbates the problem of disposal of sullage and septage.

Women generally use the canals to dispose of wastes because there is no other system for waste disposal.

Respondents assume that since canal water is constantly flowing, it is not polluted nor harmful to health

Most adobe houses have lower hygienic standards due to poor ventilation, humidity, lack of a septic system, poorly kept latrines, and no drainage system. Adobe houses are breeding grounds for disease causing microbes.

Despite the fact that women recognize the unsatisfactory conditions resulting from the standpipes, they feel that maintaining the standpipe is "the business of the government."

Latrines have the lowest priority with regard to upkeep and cleanliness.

The making and use of dung cakes is widely practiced in both villages. No hygienic measures were taken with respect to the processing or storing of dung cakes.

Hand washing prior to food handling, infant feeding, or after defecating was not performed by most women as a regular practice in everyday life.

There is no specified area for cooking in most houses regardless of type of house. Cooking generally takes place on the floor close to animals and the feces of children.

Impact of the Environmental Crisis

Lack of safe water that meets the needs of all household members in a community often results in unnecessary health problems. While not as dramatic as many ecological

disasters, this dormant problem may be more costly in the long run. Government investment in water projects that do not pay sufficient attention to water quality and gender analysis may undermine the original objectives. The incidence of disease in these two villages was attributed to behavior related to water and sanitation.

Although the research was not intended to be disease-oriented, the team could not overlook the fact that human behavior and environmental conditions were found to be associated with some of the pressing health problems within the two villages studied.

The major health problems encountered were diseases related directly to water use and disposal, such as gastrointestinal diseases, infections of skin and eyes, parasitic diseases e.g., amoebiasis, ascaris, and bilharzia. Other diseases not directly related to water use, included measles, respiratory diseases, and tetanus.

Unfortunately, in these villages as in most developing countries, the government supplies new services but does not simultaneously provide awareness programs for the local users. In particular, women are overlooked and not trained to maintain and service water pumps. All too often, in time, the whole system collapses.

Response to the Environmental Crisis

To carry out the project, the team had to get the permission and involve Ministry of Health officials and the village local authorities responsible for water, sewage, septic tanks, etc. in project design.The team had several group meetings and held talks with both respondents and informal leaders. The majority of women in both villages were aware of and had expressed their dissatisfaction with the existing poor environmental sanitary conditions. They even suggested what might be feasible and immediate solutions by which to improve environmental conditions, while a few expressed their willingness to cooperate. However, the main constraint for community participation, as expressed by most women, was that they felt that responsible bodies would never listen to their complaints or suggestions since it is "beyond the women's domain."

In Babil, women indicated two problems:

1) There is no solid waste disposal system. Respondents stressed the importance of creating a reliable and regular collection system;

2) Standpipes are inadequate and areas surrounding them are muddy, which requires up-keep and maintenance.

In Kafr Shanawan, women also stressed two issues:

1) Disposal of sullage and solid waste creates a basic problem, hence, a reliable disposal system is highly desired;

2) The high ground water table causes tremendous problems, hence, there is a need for a simple sewage system.

As a result of the research, Canada's International Development Research Centre (IDRC) financed a three-year project to supply hand pumps for water. Because these pumps were shallow, the villagers had access to improved water quality that met their needs for cooking and washing. For the second village, they prepared a special drainage system for waste water to reduce mosquito infestation from standing water. There were also special awareness and training programs for all villagers on personal and community hygiene and for pump repair and maintenance.

Generally in rural Egypt, educated women are appointed as social workers by the local authority to give advice to the villagers, especially women, on everything-from making jam, economic activities, immunization of children, family planning, all things-to working directly with the health unit in the village. The team used these educated social workers in the awareness program. The team trained the social workers to train the women and children in each village.

Women social workers do not constitute a voice for local village women. The local assemblies generally do not have women representatives and women are not allowed to be head of the village. While midwives play a very important role in the village, they are not professionally trained. The research team trained the midwives and girls who finished secondary school and were still at home to help out to act as "messengers" for the project.

By the end of the second project for water supply, the team got together all the decision-makers responsible for environment and water in the political jurisdiction. They published guidelines on how to train people who work in rural areas and on how to deal with water, sanitation, manure, solid waste, agriculture residues, and other related issues.

One of the villages developed a recycling program. They had a collection system for garbage and sorting and selling plastic and paper for recycling. As a result of this program, streets became cleaner, and insects and pests were reduced.

One of the unique features of this research project was the gender-balanced task force. People from the community and government, ministry, scientists, e.g., were asked their opinion on what the team did and what else should be done to improve environmental health. The participatory task force was one of the most innovative and effective aspects of this initiative. Unfortunately, no resources were available to document improved health from these interventions although efforts have been made to assess the impact of the awareness program.

Recommendations for Action

These and many other observations made in this study deserve careful review in other villages and whenever improvements are planned.

Behavioral patterns relating to water and sanitation cannot be changed in isolation from other environmental aspects which are interrelated, e.g. sewage system, solid and sullage waste collection systems, hygienic septic tank evacuation. There is a pressing need, therefore, to address and tackle all existing environmental, health, and behavioral patterns relating to water handling and sanitation in a holistic manner, using a gender analysis, in order to be able eventually to reach a higher standard of health for villagers, and for children in particular.

Findings of this study indicate that when respondents lack scientific understanding about health hazards that are directly related to the use of polluted water; they make distinctions based on their own perceptions and judgments. It is therefore necessary to inform women of the role of polluted water and poor hygiene in spreading diseases. In doing so, several points should be considered. Women in both villages are busy most of the day, attending to their housework. In their free time, they prefer to visit friends or watch television. Even if the women have some time to spare, they are usually exhausted from the day's work and would prefer to rest than to listen to discussions or attend meetings. Furthermore, rural women are not accustomed to attending meetings. Therefore, it is best to reach them in their informal setting, i.e. at the different water sources, within their neighborhood close to home, or at the health units where they go for children's immunization.

These suggested modifications and improvements should be backed by an intensive outreach program, emphasizing personal and domestic hygiene and sanitation. The realistic needs of the community should be taken into consideration, as well as the villagers' cultural framework and outlook. This, in turn, can serve as a model for similar projects in other parts of Egypt, with caution, since consideration should be given to local differences and situations.

General recommendations:

A gender-based methodology should be used to consult with all communities involved in water supply and sanitation projects.

Community members must take part and share in developing the project so they feel ownership of it to ensure it is maintained. Participation can be in-kind work or paying money. Special effort may be required to create gender-balanced mechanisms for community participation.

Educating women in the community is most important. It is easier to raise the awareness of educated women and to then engage them in outreach with women who are not literate to get a multiplier impact.

Mechanisms must be created to ensure that rural communities in Egypt have a forum to voice their concerns.

Women in Texas Address Military Contamination of Community Water

REGION:

Kelly Air Force Base is located in North Kelley Gardens in San Antonio, Texas. The 4,000 acre military-industrial complex has a population of approximately 2,000 people.

CASE STUDY PREPARED BY:

The Resource Center for Community Health Environmental Justice was created in the late 1980s by local women to respond to the health impact arising from environmental damage caused by pollutant emissions from the Kelly Air Force Base. Yolanda Johnson, resident of NKG since 1965 and a mother of five, decided, with the help of local activists in the Southwest Public Workers Union (SPWU), to organize a local Committee for Environmental Justice Action. The organization now has approximately 100 members.

Resource Center for Community Health Environmental Justice

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Special of Women at CSD-6
New York, 20 April - 1 May 1998

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Abstract

Local women activists in San Antonio, Texas have played a key role in organizing community residents to recognize the connections between the Kelly military installation and environmental health impacts on the community by monitoring those impacts and negotiating with government and Air Force base officials to respond to local concerns. Pollutants identified in the community include a variety of volatile organic compounds such as solvents and gasoline fumes, groundwater contaminants including benzene, chlorobenzene, and trichloroethylene, jet fuel components such as hydrocarbons, lead, toluene and soil contaminants. Health effects include neurological, developmental, respiratory, muscular, liver, and kidney disorders.

Cause of the Environmental Crisis

San Antonio, Texas is home to Kelly Air Force Base (KAFB), the first US military air installation in the state. Built in 1917, the base began its operations with military aircraft maintenance in 1954. Kelly Air Force Base in San Antonio is one of the many US military bases facing closure and conversion. It is also one of many with a history of causing widespread and long-term environmental contamination, both on and off the base. Toxic pollution seriously affects the groundwater in San Antonio even five miles from the base, and threatens the purity of the deep-water aquifer that is the sole source of drinking water for millions of people in the area.

North Kelly Gardens residents live within a few hundred feet of KAFB. For three generations this community, of mostly Mexican-Americans, has suffered environmental contamination. Contaminated groundwater flows below their homes, and air pollution and soil contamination also has been extensive. An open-air hazardous waste pit just a few hundred feet from their homes was used to dump solvents, spent jet fuels, and pesticides, and the community also lies downwind from a 13-acre jet fuel storage tank area located at the northern perimeter of the base. In 1993, one of the local wells was found to be seriously contaminated with the toxic metal thallium, a by-product of metal plating. This well was subsequently closed.

KAFB is a 4000-acre military-industrial complex at which military aircraft, jet engines, gas turbine engines, accessory components and chemical weapons are stored, maintained, repaired or modified. Large inventories of materials and equipment are warehoused at the base for worldwide distribution. There are four hazardous waste dumps and 56 solid waste management units in the base.

Kelly officially generated 282,000 tons of hazardous wastes this year. Nuclear missile parts are dismantled here before being shipped to Pantex. Kelly is also the major source of volatile organic compound emissions in the San Antonio area. Proposed re-development of KAFB, which is scheduled to close in July 2001, may expose more residents to potentially hazardous materials and wastes. In performing their duties, maintenance personnel used a variety of chemical handling and waste disposal procedures considered acceptable at the time but now known to be hazardous. Toxic waste dumping, in an open pit just inside the base perimeter, has led to groundwater and soil contamination. A 13-acre jet fuel storage tank area still contaminates the air. During heavy rains, flood water flows from the pit and fuel tank area into the neighborhood, carrying contaminated sediments. North Kelly residents also live in the flight path of Air Force jet planes.

Impact of the Environmental Crisis

"Kelly Syndrome," the name used to identify those affected by pollutants from the Kelly Air Force Base, is widespread among residents of North Kelly Gardens (NKG). It is characterized by neurological, developmental, respiratory, muscular, liver and kidney disorders, and a drastic deterioration in quality of life. First, second, and third generations are suffering from these ailments.

The following is an inventory of pollutants that have been identified in the community:

Airborne Pollutants: Residents of North Kelly Gardens are particularly exposed to airborne pollution, as the wind direction is mainly south/ south-easterly. Volatile organic compounds such as solvents and gasoline fumes are major emissions. Radioactive uranium dust was cleared from dummy nuclear warheads.

"I remember when I was four years old, we used to play in the dirt opposite our home near the base. We used to dig holes and play in them, completely unaware of the contamination. We would run up to the base fence line and watchmen all dressed up in white suits dumping waste in the S-1 pit. When I was seven, my sister and I had such bad bone deformities that we had to sleep in casts. At Winston Elementary, I often could not breathe normally due to the air pollution," David John former NKG resident.

Groundwater Contaminants: Benzene causes dizziness, confusion and headaches; anemia and blood cell failure; bleeding of gums, nose, and skin; kidney congestion; liver and bone marrow damage; leukemia; reduced fetal weight and skeletal damage. Chlorobenzene causes eye and skin irritation, liver and kidney disorders.

Trichloroethylene (TCE) causes brain, optic and facial nerve effects; liver and kidney disorders. Tetrachloroethane (PCE) causes headaches, nausea, and effects on the CNS, skin, mucous membranes, eyes, lungs, liver and kidneys.

"Since moving to North Kelly Gardens, just a few hundred feet from the fuel storage tank area and hazardous waste pit on K-AFB, I have developed arthritis, diabetes, high blood pressure, asthma, deterioration of bones, immune system disorders, hormone imbalances, bleeding gums with jaw bone loss, headaches followed by dizziness, constant sore muscles and coughs, nose bleeds, fatigue and depression, loss of motor functions, and hearing loss," Dominga Adames, NKG resident.

Jet Fuel Components: Hydrocarbons cause neuropathy, skin, blood and liver disorders. Lead destroys red blood cells and affects kidneys, bones, reproductive organs and the nervous system. Benzene targets the fetus, infants and children (see above). Toluene causes coughing spasms, chest tightness, nausea, headaches, eye and skin irritation, muscular weakness and heart disorders. Xylene causes headaches, dizziness and coma; skin and respiratory tract disorders; kidney and liver damage; reduced fetal weight, and impaired development.

Soil Contaminants: Lead causes irreversible damage to the brain and nervous system. "Exposure to lead is more dangerous for young and unborn children." (US Agency for Toxic Substance and Disease Registry, April 1993) Arsenic irritates the skin, eyes, nose, throat or gastrointestinal tract, and damages nerves causing numbness and weakness of arms and legs, liver damage, and skin lesions; skin and lung cancer. Barium irritates the eyes, nose, throat and lungs, causes coughing, excessive salivation, abdominal pains, and irregular heartbeat.

"Concentrations of arsenic, barium, and-lead are significantly higher in the samples from the neighborhood than in the background samples," comments George Rice, hydrologist (Community Health Survey). "These chemicals, especially with low-level chronic exposure, can affect almost every organ in the body, " Dr. M. Legator, Toxicologist, University of Texas, Galveston.

Response to the Environmental Crisis

Women are often, as shown in this case, at a pivotal point between industrial contamination and health issues. Having the primary responsibility to nurture the health and development of their families, women are often more aware of the negative impact on community health and environmental justice. Their individual testimonies and organizing skills, their bravery and dedication are crucial to the success of the

movement for sustainable development. Our guiding principle should be "the victims are the experts."

During the 1980s and early 1990s women living in the NKG area realized that their children's health was being seriously affected by exposure to environmental contaminants. Swollen thyroids, respiratory disorders, ear, nose and throat infections, muscle and bone, and central nervous system disorders were common.

To understand how KAFB contamination was affecting the health of families living in the area, volunteers undertook their first community health survey in 1994, visiting 91 houses in the immediate area. A high incidence of allergies, dizziness, coughs, headaches, nosebleeds and asthma was found. The results were not taken seriously by KAFB and local officials; so community leaders and residents agreed on a clear list of demands that included conducting a comprehensive community health survey, and providing free medical assistance and compensation for negative effects on health and property.

Women in the community came together and formed the local Committee for Environmental Justice Action (CEJA). Regular meetings were held at the homes of concerned residents and the number of CEJA members and activists increased. They gained representation on the Restoration Advisory Board in order to initiate a dialogue with KAFB officials, the local and federal regulatory bodies (Texas Natural Resources Conservation Commission and Environmental Protection Agency), the health department and city officials; and to elicit a response to their concerns about environmental racism and injustice.

The Resource Center for Community Health and Environmental Justice is working toward comprehensive health monitoring of the neighbors of KAFB, establishment of community health centers with doctors and nurses trained in the diagnosis, cure and care of victims of environmental contamination, information on how hazardous substances migrate in soil, air and water, and free access to all information concerning past and present contamination.

The adoption of environmental laws in the 1970s and 1980s prompted the KAFB authorities to begin investigating the problem in 1982. It soon became clear that high concentrations of benzene, chlorobenzene, trichloroethylene, tetrachlorethylene and vinyl chloride were present in off-base groundwater. However, due to the military policy of denial of widespread contamination and delays in implementing effective anti-pollution measures, little "clean-up" was achieved. Instead, the community felt there was a cover-up. One ill-conceived action that angered the community was the stocking

of bookshelves at the San Antonio Library with expensive, well-presented reports on groundwater contamination which were practically inaccessible because they were not indexed.

For years, citizens could not get clear answers to their questions. After CEJA won plaintiff status on a hazardous waste and ground water contamination permit, further evidence of deep aquifer drinking water contamination was found through the legal disclosure process. Community representatives continue to charge that the public is being denied access to information and effective regulation because the responsibility for regulating and enforcing "clean-up" lies with a Federal Facilities unit within the Texas Natural Resources Conservation Commission which is financed by the Department of Defense.

In 1995, CEJA President Yolanda Johnson and representatives from the Southwest Public Workers Union met with Yana Mintoff Bland, Ph.D., a health economist working with the Foundation for a Compassionate Society, a women's non-governmental organization based in Austin, and agreed on plans for a comprehensive community health survey including supplemental tests. A grant was obtained to bring together a multi-disciplinary group of scientists to work with community leaders and residents on a comprehensive community health study in the area of North Kelly Gardens downwind of a jet-fuel storage facility and directly above contaminated plumes of groundwater.

Training for interviewers on the Symptom Survey Questionnaire took place at the University of Texas Medical Branch. The survey covered specific disorders of twelve biological systems in fine detail and included 1,111 questions. Interviewers were taught how to conduct impartial, comfortable interviews to obtain personal health histories.

CEJA and SPWU members learned about the main toxins, sources, routes of transmission and adverse health effects. Training sessions were held and fact sheets disbursed in adjacent communities. Questions arose on the extent and migration of water-borne and air-borne contamination. The US Agency for Toxic Substance and Disease Registry in Atlanta, Georgia, was approached for information, and a local politician requested that the agency undertake a health study, although this has yet to be done.

The North Kelly Gardens comprehensive health survey involved visits to 143 households in the community. Interviews with 107 adults and 48 children were conducted. Results of the North Kelly Gardens comprehensive community health survey were published in a free report in November 1996. Its findings are a grave cause for concern about public health and environmental justice in the area.

The study found that 91% of adults are suffering from multiple illnesses. Approximately 81% of adults have central nervous system disorders, such as loss of sensory powers, fatigue, headaches and dizziness. These neurological deficits are the same as those linked to chemical exposure of Gulf War veterans. Ear, nose and throat, immune system, skin, muscle and bone, cardiovascular, digestive and respiratory system disorders are also widespread, affecting from 41% to 72% of those surveyed. Clinical evaluations of lung function tests on a sub-population from NKG showed that nearly half the children and two-thirds of adults tested abnormal. Seventy-nine per cent of children are suffering multiple illnesses, severely hampering normal development. Ear, nose and throat, digestive, immune, respiratory, nervous system, muscle and bone disorders affect 57% to 41%.

In addition, nearly one-third of children reported learning disorders. Over the period 1991-96, only 28% of non-special education students at Kennedy High School met minimum expectations compared to 43% in Texas as a whole, at Brentwood Middle School the rate was 36.5% compared to 53.5% in Texas, at Winston Elementary the rate was 41% compared to 63%. Factors such as race do not significantly affect the results. Constant exposure to neurotoxins could explain the lower grades in the North Kelly area, as compared to the rest of the state. Research shows that the younger the child, the more harmful are the affects of contamination. Local high school students under-performed by 15% while younger students under-performed by 22% compared to the state average.

The study also documented these pollution problems in the community:

soil contamination with dangerous toxic metals - lead, arsenic and barium - found at significantly higher levels in the neighborhood of the base off-base groundwater contamination causing property devaluation and quality of life deterioration;

migration of groundwater pollutants to the deeper Edwards Aquifer which is the primary source of drinking water for millions of people;

The official response to the community health survey has been slow, although all the stakeholders (the Pentagon, the Kelly AFB, the San Antonio city government, San Antonio Metropolitan Health District, the TNRCC, and local politicians) were given copies of the report.

The community health team decided to meet more often with the press, to continue local education and demonstrations for environmental justice, to widen its network of

scientists, thereby making additions to the health survey, and (as mentioned above) to challenge the restrictive permit procedure under the Texas Administrative Procedure Act. The group also applied for and won an Environmental Protection Agency Environmental Justice Small Grant to further its work and employ two community outreach workers.

Later in 1997, the Alamo City Council approved the work of the Community Health Environmental Justice, military toxins project. The Greater Kelly Development Council called for removal of the jet-fuel tanks, and a group of commissioners requested that public hearings be held on Kelly AFB contamination. CEJA began to get more coverage of water contamination and health risks in the local San Antonio Express news and television networks. On every occasion possible, the local women demand that the results of the health study be promulgated and explained to the community. The number of individuals prepared to give public testimonies of their experiences has increased along with public awareness efforts.

Recommendations for Action

The Committee for Environmental Justice Action has formulated a list of concrete demands. The next steps include making progress on the community's agenda:

The immediate shutdown of the fuel storage facilities and removal of the tanks from the residential neighborhood or other environmentally sensitive areas.

The immediate clean up of North Kelly Gardens soil and groundwater contamination and steps to ensure safe air and drinking water.

Free medical assistance to current and former residents

Financial compensation for residents with health problems related to Kelly Air Force Base contamination.

Relocation to an acceptable location or financial compensation for property owners whose property has been devalued as a result of the contamination.

A green buffer zone between KAFB and surrounding communities.

The immediate rerouting of heavy truck transportation. Traffic arteries impact the health of residents with added emissions and particulate matter.

Special of Women at CSD-6
New York, 20 April - 1 May 1998

Women's Visions into Action: Heidelberg, Germany

REGION:

The city of Heidelberg is located in the south of Germany. The city of Heidelberg covers an area of 108.8 sq. km, of which 27.4 sq. km are developed areas. Heidelberg is the home of 131,837 citizens, 70,118 (53.2%) women and 61,719 (46.8%) men.

CASE STUDY PREPARED BY:

UNED-UK in collaboration with the Head of the City of Heidelberg's Gender Department, Doerthe Domzig, Local Agenda 21 Intiative, Mayor and City Council.

United Nations Environment and Development-UK Committee

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Abstract

The Future Workshops methodology is proposed as a strategy to improve public participation and foster women's involvement in designing the city of Heidelberg with a gender perspective. This methodology was used to formulate the "City Development Plan 2010- Guidelines and Goals," Heidelberg's gender-sensitive plan of action and assessment.

Women's Participation in Local Agenda 21

Green politics have a relatively long history in Heidelberg , a city know for outstanding efforts and success stories with regard to environmentally sound policies. These policies

cover energy, traffic and transport, waste management and educational issues. Environmental policies in Heidelberg have incorporated participatory approaches to defining problem areas and developing solutions.

The "City Development Plan 2010- Guidelines and Goals, " published in February 1997, highlights sustainability as a central goal of city development and identifies four core aspects of sustainability relevant to city politics; inter-generational justice regarding natural resources; social justice; protection of the environment; and public participation.

Preparation of the city development plan involved setting up a special committee which, inter alia, managed public discussion and public participation, e.g. gathering 360 proposals and amendments stemming from participatory processes and incorporating them into the plan. The process did not end with publishing the city-wide development plan but continued on a borough level to develop plans for each of the boroughs.

Women's groups have been an integral part of these participatory processes. When it became clear that existing approaches did not sufficiently encourage women's participation, the city's gender department suggested implementing the Future Workshop methodology to enhance women's participation.

A typical Future Workshop is at minimum, a one-day seminar made up of three major phases: 1) Critique, 2) Utopia,

3) Realization.

The first phase, critique, involves small group discussions to identify critical issues and reflect on what has to be changed and why. During the second phase utopia, participants are encouraged to develop a vision of an ideal city and borough which clearly defines what they believe is needed to feel safe, healthy and happy. The moderator encourages participants to gather ideas before considering their advantages and disadvantages. In phase three, realization, ideas from previous phases are discussed with regard to their practical application. To structure the discussion, ideas are rated and the most promising are discussed first. Participants are asked to cite examples of where these ideas have been implemented to discuss the possibilities of transferring specific measures to their own boroughs. If there are no examples at hand, participants are encouraged to discuss advantages and disadvantages on the basis of their knowledge and experience. The core aspect of the realization phase is to plan implementation of ideas in the fullest detail to ensure realization. Finally, projects and

measures are rated to decide which will be implemented first. A successful Future Workshop results in a detailed plan of action.

Fourteen seminars using the Future Workshops Methodology were conducted. One hundred seventeen women from 14 boroughs between the ages of 25 and 50 participated in these workshops. In 11 boroughs, participants organized women's groups to continue their activities after the workshop. Today, 180 women are actively engaged in the development of their boroughs. In many cases, women's groups and organizations participated in preparing for workshops and organizing women in the borough (i.e. the Women's Emergency Line, the Women's Cafe and the Women's Bookshop, the Women' s Studies Working Group from the faculty of social sciences at the university, the International Center for Cultural Exchange and Migrant Consultancy, among others).

The dates for the future workshops were chosen in accordance with women's available schedules. Professional childcare was provided throughout the workshop. The meetings were held in the boroughs, ensuring accessibility. Results of the workshops were reported back to the gender department of the city of Heidelberg and analyzed to identify suggestions to be carried out in the short term. The gender department is in charge of monitoring and providing support to women's groups. The results of these workshops were integrated into the "Women's Perspectives on City Development" report which was then incorporated into amendments for the city development plan, "City Development Plan 2010- Guidelines and Goals." The development of specific Planning Guidelines for individual boroughs is currently taking place, resulting in more detailed plans of action.

The Future Workshops led to the creation of women's groups in 11 of 14 boroughs. Currently, all of these women's groups are still active. Several gender research studies have been carried out by the social sciences faculty of the university. Research topics range from safety and security within the city, needs of young mothers in the city, and on the Future Workshop methodology itself. In some cases, active workshop members have gathered data for these studies. The research has served to incorporate useful information about women's perspectives and visions in the planning process.

The Future Workshop methodology and the participatory process provides constructive and gender-specific contributions:

Women evaluate cities on the basis how their daily needs are met. In particular, women demand facilities that support the integration of work, family, social, and community roles and responsibilities.

Women demand democratic structures and procedures, to overcome the difference in status between the sexes. They point out inadequacies in political culture which prevent full participation of women because of procedures that tend to be less accessible to people with social and family responsibilities.

Women demand that cities and local authorities take responsibility for providing care to vulnerable groups. Women want to share traditional responsibilities with other community members.

Women want urban environments designed to develop and maintain social relations. They demand spaces for community members to meet and communicate easily.

Women demand safety and security in their urban environment. They demand measures against violence.

Women demand shelter at reasonable prices.

Women demand traffic and public and private transport facilities that meet the needs of families and mothers. Too often traffic and transport are still planned around the needs of men.

The actions and projects stemming from the Future Workshops and women's groups:

Creating a safer environment for women by rerouting cycling paths, improving streetlights, and improving video screening in parking lots;

Opening one-way streets to cyclists in both directions;

Planting trees and bushes along streets;

Creating new marketplaces to buy and sell fresh goods;

Carrying out youth surveys regarding city planning;

Making information available in public spaces;

Organizing community events;

Providing information on facilities in the borough for new residents;

Lobbying local authorities for more youth facilities;

Setting up a community center for the elderly;

Lobbying for green areas and parks.

Further assessment of the impact of the Future Workshops by participants showed the following results:

Above all, participants wanted to improve communication in their neighborhoods. They enjoyed the networks of cooperation and exchange among community members which were improved as a result of the workshops. Psychological research shows that a local identity is related to increased motivation to contribute and participate.

Participants feel encouraged and empowered to contribute more to life and politics in their communities. Participants gained knowledge and experience of how local authorities operate. This will enable women to contribute and influence public policy affecting their communities. Having learned about methods to improve creative thinking and group decision-making, participants felt that they could transfer their new skills to other areas of their lives, e.g. their families and work environments.

Recommendations to Strengthen Women's Participation

The introduction of the Future Workshop methodology has had several positive effects. Defining problems and discussing appropriate measures has had a considerable effect on the social dynamics in individual boroughs and in the city as a whole. Participatory processes are now well-known and appreciated. A common focus of women's groups is communication and networking within the borough. Women's groups aim to create greater "community spirit."

The Future Workshop methodology can be recommended as a means to enhance women's participation; improve women's daily lives and community culture; and make city planning more inclusive and of higher quality. Furthermore, one can expect a long-lasting capacity-building effect: women who have participated in the Future Workshop process tend to continue to be involved in borough and city politics.

From the experience in Heidelberg several measures to increase and sustain women's participation in decision making are recommended:

Capacity Building through a systematic methodology. The Future Workshop methodology has been effective and useful in this area;

Provide incentives for women's participation in governments and local authorities. Actively integrate women's contributions in planning and implementation;

Provide resources to cover participatory processes, i.e. funding for expenses and child care, office and meeting rooms; and

Spread the word through improved media coverage.

Testing the Local Environment: Amstelveen, the Netherlands

REGION:

The Netherlands has 15 million poeople and covers 37,600 sq. km. Amstelveen, a city near Amsterdam, has 75,000 people and an area of 4,300 hectares.

CASE STUDY PREPARED BY:

Institute for Public and Politics.

Project: Women test the living environment.

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Abstract

In the Netherlands, women's groups have not been formally involved in 165 out of the 600 municipalities that have adopted Local Agenda 21 processes in city and town planning. "Testing the Local Environment" is a method that was developed to strengthen women's participation in influencing local policies with a gender perspective.

Women's Participation in Local Agenda 21

While thousands of women work to improve the quality of their local environment in the Netherlands, they are not represented in official decision-making processes. At present, about 30 groups in the Netherlands have participated in the "Testing the Local Environment" process. Most participants have been elected as members of the local council and are now implementing local environmental policies.

The city of Amstelveen has a mayor and five aldermen, one of whom is a woman. Among the 35 city-councillors, 15 are women. Amstelveen also has an active women's center which was invited to implement the "Testing the Local Environment" project.

Amstelveen's women's center formed a group of 10 women from different political, social, and economic backgrounds. Members came from several organizations and movements, including the Christian and Social Democratic parties, association of housewives and professionals, the lesbian movement and the local environmental action movement.

The project encourages women in Amstelveen to work to improve the quality of the local environment, with a focus on sustainable development. The method reflects the Earth Summit Agenda 21 principles to influence policy-making through the following objectives: increase awareness of the living environment, select and analyze a problem, learn advocacy and persuasive skills to influence policy changes, develop written and visual materials to increase the efficiency of the group to influence decision-making and create a testing list. The various stages are described below.

Stages

1. Raise awareness of the living environment: Through photographs, newspaper clippings, and visual images each participant can express their perspectives on their living environment. Based on the discussions, the group reaches consensus on elements for a conceptual framework.

2. Select a problem: Agree on a concrete, current, problem and feasible short-term solution. Collectively prioritize at least two problems and provide arguments to be used in subsequent discussions. Finally reach consensus on the problem that they group wants to address.

3. Analyzing the problem: Provide a space for structured discussions, field observations and gathering of new information on questions emerging from the previously selected problem. The result should be a clear formulated problem which can be turned into a political demand or proposal.

4. Formulate a political strategy: Indicate political actors who can best contribute to solving the problem and the type of networks and interest groups that can advocate for the proposal in the political arena. Agree on the steps for the problem to be raised as an agenda item.

5. Influence policy: This phase consists of three stages: policy preparations, formulation and implementation. It aims to attract the attention of potential decision-makers through lobbying, political pressure, campaigning, networking and mobilization.

6. Testing the Living Environment: Monitor whether the efforts for a better living environment produce the desired results. To this end, use of a set of categories with corresponding indicators to continuously assess the quality of the environment (i.e. housing, living surroundings, consumption and mobility).

During the process of increasing the capacity to influence decision-making in Amstelveen, women raised issues rooted in the women's movement: redistribution of paid and unpaid labor, health care, bringing living and working closer together, and space and safety on the streets for children. Global issues also on the agenda included economic and social development, the feminization of poverty, social justice between the North and the South, fair trade and diminishing war threat.

Women engaged in an analysis of car use. The number of cars is growing dramatically in the Netherlands. In 1993 women drove 52 million km per day, this number is expected to rise to 85 million by the year 2005. Generally, women combine different tasks in one day: driving children to school, shopping, going to the work, and picking up the kids again. Making short trips more expensive hurts women the most. They advised policy-makers to find alternative, practical solutions and they proposed working together. This is an example of the importance of women's participation and decision-making with a gender perspective.

The women's group in Amstelveen succeeded in becoming regular guests at the town hall. They are informed about environmental policy matters and are members of the local platform on sustainable development. In the decision-making process, comments of women are taken seriously, although their influence is indirect. Not all government officials are aware that policy measures may have gender specific effects. The process acts as "an alarm bell" to get policy-makers to ask how the proposed measure could affect women.

Obstacles to Women's Participation

Women's group's are not formally recognized as co-producers of local environmental policy .

Women are dependent on technical, professional and financial support from the local government.

Recommendations to Strengthen Women's Participation

Special attention on women within Local Agenda 21 is necessary because women's roles and needs are rarely represented in social and political organizations.

In order to guarantee women's input in the drafting of a local agenda, women's groups and organizations must be consulted.

Attention needs to be focused on the way all regular policies affect women and men to achieve gender parity on all decision-making levels.

Women and City-keeping: Hamilton, New Zealand

REGION:

The city of Hamilton, New Zealand is situated inland, in the northern half of the North Island of New Zealand, on the Waikato River. Hamilton is now the eighth largest of 15 cities in New Zealand, with a population of 108,428 which is expected to grow by 18.6% over the next 20 years.

CASE STUDY PREPARED BY:

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Abstract

Hamilton does not have a Local Agenda 21 Council but it is signatory to a "Memorandum of Understanding - Partnerships for Local Agenda 21 Agreement." The Memorandum of Understanding is a binding commitment between individuals (and the organizations they represent) to work in partnership and to act in the best interests of the community. The memorandum is underpinned by Agenda 21 and guided by Hamilton's Strategic Plan. To date, two partnership signing ceremonies have been held, and of the forty signatories of the agreement, 12 were women. It is expected that the list of signatories will grow as further partnership signing initiatives are carried out. Efforts have been made to ensure that women participate in developing the city's Local Agenda 21 action plan, and in most cases, there has been a fair representation of women. However, obstacles to women's full participation still exist, and improved methods of consultation are being investigated to provide mechanisms and future recommendations to sustain women's leadership roles.

Women's Participation in Local Agenda 21

The main planning strategies employed were "visioning workshops," where participants brainstormed about ways of to implement change ways to establish a task force. To select participants, a wide range of women's networks and community organizations were contacted to participate in early visioning workshops. Meetings were scheduled in the morning, afternoon and evening to ensure accessibility to women. Information was also taken to a variety of public venues where women most likely were present including shopping malls, supermarkets and libraries. As a result, in the workshops, held in the latter half of 1994, women comprised 48% of the participants (60 out of 124).

A Strategic Plan Task Force was established following the workshop. Additional efforts were made to involve women to ensure fair representation. The task force was set up in early 1995. Of the participants, 37% were women (28 out of 76). Another useful strategy was the traveling "roadshow," which visited various locations in the city.

It is noteworthy that by mid-1995, 45% of participants in the formulation of the strategy were women (69 out of 151). Women held senior administrative positions including the Mayor and the Strategic-Manager posts. The Hamilton city council also has an increasing number of women in key managerial roles, including Manager of Community Support, Director of Libraries and Museum, Marketing Director, and Events Manager. The Hamilton City Council has 14 representatives of whom four (28.6%) are women (three Councilors and the Mayor). This compares favorably with national statistics since the October 1995 elections. There are currently 313 women representatives out of 1,123 (27.9%) at the district, city and regional council level. After the October 1992 elections,

Hamilton had five women representatives (including the Mayor) out of 14 (35.7%) compared with 297 out of 1,156 nationwide (25.7%).

To a large degree, women participants highlighted the social and environmental concerns of the community. In particular, they raised concerns related to health and family which included accessibility, housing, safety and education, in broader the context of promoting a better quality of life and sustainability. The planning process was aimed at establishing a balance between environmental, social and economic issues. Women played a major role in bringing environmental and business interests together, and generally promoted a comprehensive integrated approach.

Women' s concerns were incorporated into the Local Agenda 21 process. The Strategic Plan adopted by Hamilton places a greater emphasis on social issues than anticipated by those used to an economy-based approach. Both environmental and economic aspects are featured strongly in the Plan.

Obstacles to Women's Participation

Women who work outside the home as well as those who are full-time caregivers often have very little free time to attend meetings or participate in workshops and task-forces. While the Council did take measures to encourage these women to participate, time constraints were a barrier to women's participation. Alternative meetings could have fostered involvement by having workshops/meetings in settings which welcome children and/or provide suitable childcare. While facilitating these workshops/meetings is a challenge, young mothers are a key resource in the improving the health of any community.

Recommendations to Strengthen Women's Participation

This case demonstrates efforts to include women's voices at every stage of the process. Networking through the women's groups originally invited to participate in the process, fostered their becoming partners through the "Memorandum of Understanding." Currently, mechanisms are currently being developed to enable signatory- parties to begin meeting and establishing projects and actions that can be achieved over the short and long-term.

There is an ongoing need to ensure women are encouraged and invited to participate, in the Strategic Plan Review process, including development of a set of sustainability indicators for Hamilton.

The Council of Hamilton believes that Local Government New Zealand whose mission is to promote strategic or governance interests of national concern should take a leadership role in facilitating Agenda 21 projects.

Given that New Zealand is a signatory nation to Local Agenda 21, greater support and commitment should be given by central government. As a result of Hamilton's efforts, this year's national Local Government conference (to take place in Dunedin, June 1998) will feature Agenda 21 and sustainable development as one of the key themes.

Women and Local Environmental Planning: Kurdzhali and Stara Zagora, Bulgaria

REGION:

Bulgaria is located on the Balkan Peninsula,.with a total area of 110,987 sq. km.. Kurdzhali (population 120,000) and Stara Zagora (population 200,000) are two medium-sized cities in Bulgaria.

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Abstract

Women are involved in local environmental planning for two Bulgarian cities of Kurdzhali and Stara Zagora. This includes managing the overall project, coordinating citizen committees and participating in plan development through the committees. Successful strategies include clear definition, knowledge and relevance of the problem; targeted recruitment; assignment of specific, short-term tasks for those who cannot participate in the process; and duration and timing of committee meetings adjusted to women's needs.

Women's Participation in the Local Agenda 21 Process

The two cities featured in this case study, Kurdzhali and Stara Zagora, are representative of Bulgaria and other CEE countries with their size, economy, and environmental problems. Analysis and public concern indicated that in both cities environmental problems with the most severe health impacts were airborne pollution by heavy metals, particulates, SO2, and CO2.

Through the comprehensive and participatory planning processes in Kurdzhali and Stara Zagora, Local Environmental Action Plans (LEAP) were aimed to address environmental problems that involved high health risks and caused irreversible damage to ecosystems, biological and natural resources by:

analyzing data and environmental problems;

applying transparent criteria for setting environmental priorities (i.e., impacts on health and ecosystems);

setting realistic and measurable objectives and targets involving stakeholders;

applying criteria for the selection of cost-effective actions (i.e. human and financial costs, benefit for the environment,affordability, and time for implementation) identifying remedial actions, and define implementation plans containing financing options and requirements, time frames and expected outcomes;

identifying mechanisms for monitoring results and updating priorities.

Success of local environmental initiatives (LEAP) in Kurdzhali and Stara Zagora depended on women's participation in a number of ways: management of the overall project and provision of technical assistance, management of the ground work and stakeholder involvement, and direct contribution to the development and implementation of LEAPs.

Strategies included involving representatives of relevant social and private sectors rather than targeting women as a group. The main objective was to enable women to influence decisions in the two cities, build leadership skills and identify opportunities to play greater roles in both local and national development.

Their participation was instrumental in all components and functions of the local environmental plans in Kurdzhali and Stara Zagora. Their impact on decisions can be viewed in the context of the three major functions in the LEAP initiatives: developing the plan, coordinating the representative multi-stakeholder committees formed for the development of the plans, and managing the project.

Women's Participation in the LEAP Committees

Volunteer, multi-stakeholder committees were formed for local planning initiatives in the two cities. The committees collected environmental information, organized and implemented outreach activities, held public hearings and incorporated input, set environmental priorities and identified and helped implement actions that would address them. In both cities women had an important role to play in these committees. Women participated in the Kurdzhali and Stara Zagora committees predominantly as representatives of institutions (schools, the municipal governments, health and environmental agencies) or environmental NGOs. In Stara Zagora some women initially represented themselves on the committees and through them became involved in other NGO work (i.e., one is now leading an NGO which focuses on teenagers' problems in the city). Fifteen institutions and organizations were represented on the committees in Stara Zagora and 13- in Kurdzhali. Out of the 17 committee members in Stara Zagora, only five were women (29% of all members), while in Kurdzhali seven of the 14 committee members were women (50% of all members).

Women raised concerns regarding the impact of pollution on children's health, the need to resolve the conflict between the employment opportunities offered by the large pollution sources and the health impacts of the emissions on city residents, some equity issues associated with vulnerable groups, and the importance of environmental education for the younger generation. Many women emphasized the need for greater transparency of monitoring information and accountability of polluter sources. They also brought to the discussion the issues of personal responsibility and supported dialogue rather than confrontation on issues where interests clashed.

The issues that most concerned women in the LEAPs in Kurdzhali and Stara Zagora can be grouped as (1) equity and protection of vulnerable groups; and (2) transparency, consultation and consensus in decision-making.

Women in the Kurdzhali and Stara Zagora were motivated to participate and contribute to the two initiatives that addressed visible local problems. The main factors and strategies for their motivation include:

At the beginning of the projects (1993-4), the environment was still a highly visible problem in Bulgaria though no longer a political priority. But since pollution and its impact on health and the population had been the focus of attention both by the public and politicians in the previous years (1989-91/2), women were informed and aware of the problem. They felt that pollution affected them, their families and their children

directly. Women participated in the committees in Kurdzhali and Stara Zagora or performed management functions with the expectation that their contribution would solve local problems with a strong human dimension and prevent further negative impact on their children's health. In sum, the characteristics of the problem (it was local, it affected them directly and they had information and understood it) were a powerful factor for women's motivation and participation in the local environmental action plans in Kurdzhali and Stara Zagora.

Two different approaches were used in the two cities for recruitment of committee members. An open workshop was held in Stara Zagora where the project, its objectives and methodology were introduced. After a two-day discussion, attended by a broad and representative section of the Stara Zagora institutions and the public, participants were invited to sign up for two committees. The committees then had to select chairs, agree on operating principles, develop their workplans, and distribute assignments. Women were not specifically targeted for their expertise. As a result, the committees were not gender balanced.

In Kurdzhali the strategy was somewhat different. Individual interviews and discussions were held with representatives of various local institutions and organizations with expertise or interest in the outcome of an environmental plan. The objectives of these interviews was to get input on the design of the project and appropriate strategies, to assess interest and commitment, to identify people who could contribute with expertise or who represent different social sectors. Many women interviewed met the selection criteria. They were willing and interested to participate in the committees and were consequently invited. Thus, the committee in Kurdzhali ended up with 50% women.

Although some women felt that time constraints and other personal commitments hindered them from participating as full committee members, they were willing to assume specific, short-term "do" assignments. Therefore one of the strategies that increased women's participation involved specific assignments in support of the local environmental action plan.

Obstacles to Participation

Different concerns were not equally incorporated in the LEAPs and the decision-making processes that lead to them. It was very difficult to resolve most equity issues. However, using health impacts of pollution as the main criterion for environmental priority setting, the committees were able to respond to some concerns of vulnerable groups.

Duration and timing of meetings can either be a serious hurdle or facilitate women's participation. Most women in Bulgaria are part of the workforce (labor force rates for women are much higher than in the West). In addition, women are often expected to perform traditional female roles of taking care of the children, meals, house cleaning, etc. In medium-sized cities like Kurdzhali and Stara Zagora where traditions are still relatively strong, they have little time for activities outside their jobs and families. It is important, therefore, that meetings are focused and held at a time, convenient for them (i.e., weekends when they have greater flexibility).

Another factor that influenced women's willingness and persistence was the recognition of their contribution to committee discussions and decision-making. In Stara Zagora one of the Chairs tended to make most decisions before or without reaching consensus. This was an obstacle not only for women but for most committee members. As a result many women discontinued their involvement. Eventually, the remaining women proposed a merger of the two committees and a new chairperson.

Recommendations to Strengthen Women's Participation

Local environmental action planning initiatives indicate that women bring a different perspective and support a more collaborative and participatory decision-making process. They were often the most persistent and consistent participants in the local committees brought the process to completion and remained involved in implementation activities or in environmental or socially-related work. The process of local planning in Bulgaria has been described and a guide has been produced for local environmental planning. Despite this, the role of women in local initiatives and the achievement of their environmental objectives publicized. Existing economic and policy instruments at national level are not fully used to support local environmental action or sustainable development planning and implementation. There are three areas in which national governments can promote and support local Agenda 21s or LEAPs and women's participation in them:

Inform and motivate: Ministries of Environment and other central environmental agencies support the development of materials for local environmental initiatives, however, they rarely review existing experiences and they almost never assess the role of women. Many local sustainable development plans already have a history and many are not only examples of methodologies for approaches to planning and involvement but a source of information about achievements, what worked or failed in implementation and what factors determined success in achieving objectives. The broad replication of gained experience will depend on whether it has proven its ability to succeed. National governments can find these successes -- no longer just in planning but

in achieving planned objectives -- and assess the contribution of women - to motivate both the replication of LEAPs andLocal Agenda 21 processes and wider participation by women in them.

Facilitate and empower: The two case study cities as well as local initiatives in many other towns and communities encounter numerous obstacles caused by unclear responsibilities and mandates, irresponsiveness of agenciesto requests for support with information or expertise, absence of a local revenue-raising or funding base or confusing or prohibitive legislation when it comes to implementation (i.e., local revolving funds to finance household conversion to gas, accounting requirements which make it impossible for the local water utilities to account for water efficiency measures). Local governments in Central and Eastern Europe often co-manage local or regional environmental funds but these rarely fund local planning initiatives. Many of these problems have already been identified by LEAPs and Agenda 21 initiatives. National governments should carefully study the problems that local initiatives have encountered and undertake steps to remove them. In this way they will facilitate local planning and empower local actors by giving them tools for implementation.

Provide incentives: Governments in Central and Eastern Europe have two instruments that can better be used to support local initiatives: the earmarked environmental funds they manage and the decentralization legislation that is at various stages of development and approval in the CEE countries. Both the Environmental Protection Funds and legislation on decentralization (political and fiscal) can provide powerful incentives to local initiatives if they are designed to support them rather than to just transfer responsibility and reduce the burden on the state budget (i.e. through decentralization) or to transfer funds for the implementation of top-down decisions (i.e. through allocations of environmental funds).

Participatory Planning: Cajamarca, Peru

REGION:

The city of Cajamarca is composed of 74% urban and 26% rural populations. High migration rates to the city of Cajamarc have resulted in the increase of urban settlements, the valley of Cajamarca has lost 260 hectares of productive land.

CASE STUDY PREPARED BY:

Municipality of Cajamarca, Mollepampa Urban Rehabilitation and Housing Pilot Project, and Women and Family Association contributed to this case study.

Special of Women at CSD-6
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Municipality of Cajamarca

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Abstract

This case highlights women's participation in the urban rehabilitation and housing pilot project. This project was part of the Local Agenda 21 process initiated by the provincial municipal council of the city of Cajamarca. The northeastern region of Cajamarca, a formerly rural area, is now in the process of extensive urban development. This case study presents the process used to involve women's and grass roots organizations, local authorities and the population at large in the urban renovation planning and implementation. In particular, an initiative to organize participation of washer women is described. The initiative aimed to strengthen their role as key agents in the decision-making process, and to contribute to successful sustainable water practices.

Women's Participation in Local Agenda 21

During the past few years the provincial municipal council has engaged in a sustainable development plan to combat rural poverty and environmental degradation; to conserve natural resources; to improve conditions in urban areas; and to direct the provision of basic services in order to optimize human and economic resources. This process was executed in coordination with NGOs to improve services and ensure balanced allocation of resources. The project was also supported by financial and technical international agencies and national and private institutions.

In the periphery of Cajamarca, the growth of human settlements has occurred without proper planning. The Local Agenda 21 process was designed to derive a "Consensual proposal on the development of the periphery." The objective was to slow down the process of rapid urbanization, deter environmental degradation, and reorient population growth to a new site, the town of Mollepampa.

The small town of Mollepampa has a lack basic infrastructure services. A process of urban expansion characterized by a dry barren agriculture, began five years ago. This expansion resulted in housing developments built in productive green zones and in other areas potentially useful for agriculture. An area of 300 hectares has been

designated for housing in Mollepampa. It is expected that this area will accommodate about 80,000 people. The pilot project encompasses 54,62 hectares divided in sectors, with an average size of seven hectares per sector.

The Mollepampa project aimed to to engage rural women and men in an urban problem-solving process. The objectives were to preserve the environmental quality of the valley and to counteract the feeling of community distrust, that was deeply rooted because of previous experiences.

Local women involved in community discussions to assess the impact of rapid urbanization on their lives. Women were concerned about the provision of services for their families, such access to water and sewage systems, electricity, health and education services and the conservation of green zones. Men, on the other hand, showed an interest on sports recreational centers and street construction.

Women were engaged in activities to foster economic independence and self-sufficiency. Women were organized to provide basic services through the creation of clubs and committees, such as clubs of mothers, comites de vaso de leche (committees dedicated to supplement nutritional needs of children of 0-13 years of age); comedores populares (popular dining centers), and women's productivity centers. Women also participated in committees working to guarantee the provision of water and electricity .

The Mothers Club had 48 members who also belonged to local organizations in the Mollepampa pilot project. The club engaged in an income generating food production project to provide financial resources to undertake activities and strengthen the organization. The mothers' club is presently in the process of buying land to build a community center.

The comedores populares originated in Peru during the economic crisis of the eighties. In Mollepampa, the center consists of 35 women who engage in economic activities other than food production. They conduct handicraft and artisan workshops to produce kitchen tools, pots and pans, flowerpots and then market their products.

Women have also been involved in discussions regarding allocation of land for agricultural activities, and the use of appropriate technologies. The need for training skills and knowledge to increase productivity was raised by women in several meetings.

Another project was designed to attract men and women in the participatory planning for the area. Project activities included:

workshops and meetings to provide information, discuss and set priorities;

development, and introduction of a rehabilitation plan;

establishment of committees to analyze, discuss and obtain consensus on plans of action;

distribution of commitments and responsibilities;

allocation of resources and provision of incentives for participation.

A number of washerwomen were systematically integrated into the project so that they could contribute to the sustainable use and conservation of water streams. The natural streams of Chontapaccha, Pueblo Libre and Pachacutec, located in the periphery of the city of Cajamarca, are used by women to wash clothes. In addition to washing clothes as a living, women supplement their income with street sales and domestic work. Some problems washer women faced include:

Access to water and water protection: Water from wells used to be channeled through streams located in public zones, now women have to use chlorinated water to perform their work..

Labor conditions: There is no legal protection for the work of washerwomen. In the past, washerwomen had clients in residences and hotels who would sometimes provide soap or detergents. Now the quality of detergents is leading to allergies, skin problems and headaches.

Work Value: Women earn up to $10 per week, however, they are proud of their work and their knowledge cleaning methods using natural cleaning agents.

Personal Development: Most washerwomen are the primary managers of their households. As a result, they do not have any time to obtain education, and live under extreme emotional and physical stress.

A needs assessment was conducted which analyzed the chemical composition of streams, water management and washerwomen work practices. In the beginning, women voiced the need to decrease costs, and formed a committee to furnish soap at low cost. The creation of a mechanism to distribute soap, provided the opportunity to initiate educational activities on subjects of collective interest. Themes of the activities included: use of contraceptive methods, illness prevention, cooking techniques and first

aid. Workshops were conducted which aimed at the empowerment of women. Topics included: self-esteem, sexuality, identity and personal development, human and labor rights.

At present, the group of washerwomen from the three streams are organized. They undertook a seven-month project to build washer places. They have organized themselves into an organization which is in charge of the collective management and regulation of water use. The organization is also responsible for administration of the washer places.

Women's experiences at washing places have fostered a reflection on the division of labor between men and women. Even though men rejected the leadership of women, some women emerged as leaders and are engaged in the work of community committees.

Washerwomen are now active and empowered members of their community. They have received training in water sustainable practices, increased their income capacities, organized their collective action, improved their labor conditions, and strengthened their self-esteem.

Strengthening Women's Participation: Rio de Janeiro, Brazil

REGION:

Rio de Janeiro is the second largest city of Brazil with a population of 5.5 million, covering 1,255 sq. km.

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Abstract

The Local Agenda 21 process in Rio de Janeiro used a specific methodology to foster women's participation. This methodology consists of step by step activities along with recommendations for capacity building of women's groups. These groups include women local authorities, women in the media and women community leaders.

Women's Participation in Local Agenda 21

A group of NGOs, representatives of the local administration and legislative body created a 21-member Commission, Pro-Implementation of Local Agenda 21, in Rio de Janeiro. The goal of the commission was to have local authorities in the municipalities of Rio to implement a Local Agenda 21. Activities of the community included promoting events, media interest and publishing a newsletter that was sent to all the municipalities.

These are some examples of the methodologies and practices developed:

Green Caravan of Women for a Healthy Planet -- a workshop program that was conducted in several cities in Rio de Janeiro and Sao Paulo State. The main goal was to mobilize local authorities, the community and the private sector of the municipalities. One of the primary issues incorporated, in this process was the priorities of the local women's movement.

The methodology developed and used by REDEH was based on the principles of Agenda 21. These principles require multi-sectoral integration, enabling all sectors of society to participate in decision making by setting priorities oriented towards achievement of sustainable development and influencing budgetary reallocations.

Steps to mobilize women

Step 1:

Organize a workshop to focus on the concepts of sustainable development and Local Agenda 21. The main goal is to understand how to reach consensus on priorities. Three principles must be considered in formulating priorities:

Use a holistic approach in analyzing reality by using examples;

Highlight measures to prevent problems alongside proposing solutions to existing problems;

When formulating priorities ask what are the rights and responsibilities in implementing policies.

This should be followed by group exercises. The main group should be divided into groups with respect to different sectors as well as thematic areas. For example, each group should be a mix of women working on health, education, violence against women, human rights, media etc. They should also come from the public, the private sector and communities. The group should understand that priorities should be the result of consensus. At the end of the workshop, the group should select a small committee of women to monitor the following steps for implementation of Local Agenda 21. This committee should receive guidance from organizers of this first workshop when needed.

Step 2:

Once the local authority e.g. the Mayor, Secretary and City Council have agreed to establish the Local Agenda 21 through a specific bill, a Local Forum on Sustainable Development has to be formally established. The Forum must include at least one Council member as well as representatives of the different sectors of civil society (See example of the Rio Local Forum). At this point, representatives of the committee of women should to ensure the gender balance. There should be at least one representative of the women's movement in the forum.

Step 3:

The task of the Forum on Sustainable Development is to develop a Local Action Plan. This is done by establishing task forces on as many issues, as found relevant and including as many advocacy groups as agreed upon. The committee of women must ensure that all priorities emerging from the consensual process are integrated. Women in all sectors should be mobilized to participate in each task force.

To ensure that women can be part of the leadership of the task forces, it is necessary for them to develop skills useful for working with group dynamics. Workshops are focused on topics that include - brainstorming/conflict resolution/ and consensus building techniques. The NGO or consultant involved in capacity building of women should provide material to women illustrating methods in handling group dynamics, as well as information on the principles of sustainable development.

Step 4:

Consolidation of the Local Action Plan by the Forum on Sustainable Development should involve the task forces. This process should reflect all discussions, and incorporate the vision and suggested programs of the community involved with the final drafting committee of the Action Plan.

When the Plan is finalized, women should actively disseminate and work to ensure that all sectors become familiar with the Local Action Plan's goals, principles and methodologies. Given the vital role of the media, efforts should be made to ensure the participation of women journalists and broadcasters.

Step 5:

Monitoring and follow-up are critical. It is important to establish some indicators to keep track of the progress. A workshop should be organized with women involved in the task forces, and the drafting committee of the Local Action Plan, to set the indicators and to establish a monitoring plan. This committee should become a permanent facilitator for the implementation of the Local Agenda 21. The primary goal of should be to ensure participation of women in all decision-making bodies of the Local Agenda 21. Meaningful participation should include both NGOs and other institutions committed to gender balance. Training materials need to be culturally sensitive and specific.

This strategy implemented in Brazil demonstrates the importance of exercising women's leadership while mobilizing for Local Agenda 21. As part of the Commission, REDEH ensured the participation of women in the LA 21 process in 12 municipalities. In the case of Rio de Janeiro, workshops to prepare the different sectors have been organized to explain Local Agenda 21. Informational materials outlining different steps in the process of creating the Local Agenda 21, ways of mobilization, and examples of relevant projects.

The Local Council in Defense of Women's Rights and REDEH participated in the Forum on Sustainable Development. The Commission has reached out to participating organizations to ensure a gender balance in the Forum. The law creating the Forum was approved in September 1997. The Forum has just been nominated and is not yet active. (It is important to note that the Forum for Local Agenda 21 is independent from electoral term lengths.)

The Ministry of Environment is carrying out a national consultation of practices and cases that have been developed since 1992, in the spirit of Agenda 21. The goal is to

better understand the most innovative and creative practices of sustainable development. REDEH was part of the team that help put together the cases, making sure that the women's experiences were included. This catalogue of practices was distributed to the municipalities interested in starting Local Agenda 21 processes. Experiences from seven cities that have already established LA 21 processes were included in the catalogue.

Women's groups have responded to these initiatives with a great deal of enthusiasm. In municipalities in the states of Rio de Janeiro and Sao Paulo, women's groups have been creative in their involvement in Local Agenda 21 processes. In the city of Macae, following the establishment of the Commission for the Implementation of Local Agenda 21, women community leaders established neighborhood chapters to work on health prevention. Priorities included discouraging dumping garbage in the river and in streets, promoting the reutilization of domestic waste (bottles, used clothes), changing diet (low fat), and ending smoking. Other women's groups established community radio as a means of promoting their concerns and educating the local population about relevant issues.

Radio is the most widespread means of communication in Brazil, with 2,900 broadcasting stations and around 60 million radios. This simple technology allows live participation via telephone lines. The role of radio can be enormous in reaching female audiences in Brazil, since many women are at home during the day.

Obstacles To Women's Participation

LA21 is a new sophisticated methodology which provides an official space for communities to exercise their leadership and power. The established LA21 Forum has a mandate that includes among other things, direct input on budget allocations. In Rio de Janeiro, in contrast to other LA 21 cities, the women's movement has been involved in the development of Local Agenda 21 from the beginning. Porto Alegre was one of the first cities to implement LA21 in Brazil, where the involvement of women in the Committees of Participatory Budget made a difference in budget areas such as child care, recycling and income generation projects. Poor women have led one of the most innovative campaigns to fight poverty, and their model is being replicated in different neighborhoods in Rio de Janeiro.

Recyclable Material Scavenger Women's Movement: Porto Alegre And Canaos Rio Grande do Sul

The garbage scavengers' movement in the cities of Porto Alegre and Canoas was born in the 60's, at a time when the cities swelled as a result of rapid urbanization. In 1987, associations emerged in Canoas and Porto Alegre, as did the first recycling shed on the Ilha Grande dos Marinheiros. The recycling of garbage became a bridge between formal society (consumers and producers of garbage) and informal society (excluded, non-consumers) whose sustenance came from recycling activities. Women and children started to scavenge for paper, cans and glass.

The work of the Women's Association of Carters and Scavengers of Materials of Canoas has grown in collaboration with the municipal administrations (today it is part of the LA21). The municipality supplies the trucks and drivers, while the association is responsible for collecting materials. The collection of garbage is based on a system of delivery points in schools, neighborhood associations, churches, companies and community entities. The teams of scavengers gather the material once a week. Today more than three hundred families live on income generated by recycling garbage. The project has improved the self-esteem of these women, the poorest of the poor. The public recognizes their work as an important contribution to the sustainability of the city. They are invited to speak in schools and to help organize similar processes in other cities of Brazil. A similar project has been developed in Rio and we want it to be integrated into the LA21 process as a model to be replicated elsewhere.

Coopa-Roca Sewing & Handicrafts Cooperative

A cooperative was set up by the Crafts Women and Seamstresses of the Rocinha hillside slum in Rio de Janeiro -- Coopa-Roca -- was launched in 1982 due to the eagerness of dwellers in Rua Um street (running through the highest part of this slum) to develop and sell handmade patchwork and quilted products. Patchwork was initially introduced into children's' recycling workshops, attracting the mothers of the first group. On the basis of this informal relationship, the idea took root, grew and bore fruit. During the initial phase, the women of the Rocinha slum were the only ones involved. A well-organized democratic system was set up, encouraging creative potential and stressing the value of women's participation. A Board of Directors and Fiscal Council were soon elected, and weekly meetings are held for the members.

In the beginning, these meetings took place in the yards of the homes of women. Today, the Coopa-Roca cooperative has a three-story building, built on the site of a small shack purchased with a loan from the now closed National Cooperative Credit Bank (BNCC). This building is a place to exchange experiences for members of the cooperative, technicians, experts and visitors, and helps to disseminate information about this experiment in cooperativism.

The raw materials of the Coopa-Roca cooperative are waste fabrics discarded by clothing manufacturers in Rio de Janeiro. Its principal purpose is to allow members to contribute to their family budgets without leaving the community, allowing them to take care of their homes and their children at the same time.

The philosophy of this cooperative is unique, focused on recycling fabrics and spotlighting the cultural benchmarks that form part of the history of its members: fuxico - gossip or chitchat, crocheting, knitting, and patchwork. Over the years, the type of output, with which workers were already familiar, has been systematized and fine-tuned. During its 14-year existence, from the earliest contact in schools (with children, mothers and neighbors in the first group) to the experiences of the Coopa-Roca cooperative (using industrial by-products to make high-quality, using industrial off-cuts to make high-quality, well-finished, original products), this project showcases the full potential of informal knowledge of local residents.

This cooperative is a low-cost organization with tremendous potential to transform the quality of life of the women involved. Even though this program has faced serious difficulties, it has opened up alternatives that maintain the power, originality and expression of the culture, strengthened elements in citizenship and produced surprising results.

Recommendations To Strengthen Women's Participation

It is important to highlight the experiences of the women of Rio de Janeiro, and to integrate them as much as possible into the LA21 processes. Demonstrating participatory practices can educate local societies on how women are a driving force for the maintenance of quality of life, which is directly related to sustainable development. It is important to promote campaigns that place emphasis on mainstreaming gender. It is at the local level that actions are most effective, and where women and other relevant stakeholders are able to exercise their influence on policy making and implementation for sustainable development.

Women in Action: Santos, Brazil

REGION: Santos is the largest port in South America, with a population of 412,288 inhabitants and an area of 271 sq. km.The majority of the population live on the island of Sao Vincente.

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Abstract

The right to a healthy environment has been endorsed by the city of Santos in Brazil. Women have been integrated into municipal conselhos and are creating their own initiatives in partnership with local non-governmental and private organizations and state-based institutions. The city of Santos has conducted activities directed to sustain women's participation and to contribute to implementation of social, economic and environmental projects.

Women's Participation in Local Agenda 21

The municipality of Santos has institutionalized an extensive process of public participation through the formation of sector-specific conselhos or councils in which women have been active. The objective of the program was to ensure the participation of citizens in all aspects of local government for an economically, socially and environmentally viable and sustainable Santos.

Actions taken by the city include:

The improvement of the quality of housing and provision of basic infrastructure for residents living in poor and in environmentally-sensitive areas;

Development of a conservation program by implementing eco-tourism activities and environmental education in an area that is extensively covered by mangroves and the Atlantic Rainforest;

Creation and increase of social services for poor residents in the old colonial center;

Improvement of the waste water and sewage management system through a process of public

Monitoring water quality to control solid and liquid waste pollution of the beaches; and

Innovative approaches to provide services to street children, homeless adults and psychiatric patients.

Following the 1992 Rio conference, the city of Santos organized seminars, workshops and forums to address issues raised by Agenda 21 at a local level. NGOs took this opportunity to become involved in city activities. Women's NGOs spearheaded efforts to write analyses of Agenda 21 to summarize how they applied to key aspects of Local Agenda 21. Publication of a manual in 1996 resulted in partnerships between organizations that had not worked together before the Rio conference. These new networks enabled NGOs to develop programs with the public and media.

Before the Rio conference, the community of Santos worked toward sustainable development through small organizations. After Agenda 21 was publicized by the local media and authorities, women recognized the importance of this document. They played an important role in all discussions and made invaluable suggestions for practical implementation of Agenda 21. Because of women's NGO contributions, the concept of a Local Agenda 21 quickly gained popularity. Women have been advocates for community knowledge and education, for the wise use and protection of resources, and for the reduction of waste.

Educating children about sustainable development was one of women's major concerns. NGOs facilitated a campaign at schools to instill knowledge and caring for the environment and management of natural resources. Some local people believed that the economy should be strengthened through tourism and shipping industries before attending to sustainable development issues. However, due to women's involvement in developing curriculum subjects, the public realized that the quality of life and right to a healthy environment is necessary for socio-economic development.

The majority of programs were developed in coordination with non-governmental, private and state organizations. A common objective was to enhance the welfare and economic well being of different sectors of the community, with special attention to the most vulnerable sectors. The environment sector conducted garbage recycling, and contributed to the generation of financial resources and the participation of approximately 70% of the city. A committee of 60 professional women volunteers led the projects. They all shared a strong commitment to provide short-term solutions to pressing social and economic community problems.

In 1997 the city embarked on a "Juvenile Forum" targeting women participants between the ages of 16 and 18 years. The objective was to provide the opportunity to write essays and discuss subjects such as education, health, environment, economic and social development. The topic of the forum was "Protecting the Environment and Women's Participation."

Women's participation was stronger than initially expected. Proposals were carried out with a great deal of competence with assistance of NGO campaigns and partnerships. The initiatives promoted self-sufficiency through income generating projects, better quality of life in terms of health, food security and protection of the environment.

Women have been heavily involved in the work of municipal conselhos and in creating liaisons with the media. They have identified gender-specific issues that affect the quality of life for women of Santos. These issues include women and the AIDS epidemic, child care, transportation, housing and sanitation, domestic violence, women in the work force, and improved schools and education.

Obstacles to Women's Participation

Even though women have been instrumental in creating forums and taking action for implementation of Local Agenda 21, they are not included in the decision making bodies. This leaves many gender sensitive issues inadequately addressed. Women continually face the problem of limited resources to sustain existing programs. On the organizational side, initiatives that were not supported by NGOs or carried out through partnerships became isolated and ended. The women of Santos demand the establishment of programs to end disparities and to improve women's rights.

Recommendations to Strengthen Women's Participation

Women's leadership is necessary to promote effective sustainable development at a grassroots level. Women's participation in political and policy decision-making processes. must be encouraged.

Universities should become more involved in research processes exploring factors which lead to more effective local and global initiatives.

Financial and technical support needs to be available at all phases of women's involvement. Supportive links between women's philanthropic organizations and women participants in LA 21 processes would guarantee resources.

Finally, a mechanism must be created protecting the rights of women, and will bridge the gaps between women's role in sustainable development and the demand for gender specific services.