CSD NGO Women's Caucus Position paper for CSD-8

Women, Pesticides and Sustainable Agriculture:

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A. Introduction:

Pesticide use and exposure among women is a central issue in the move towards a sustainable future. These substances are environmental toxins which have been defined as "chemical compounds that are created and dispersed into the environment specifically in order to kill living creatures known as pests, be they insects, weeds, bacteria, fish, snails, birds, rodents or other forms of life." (1) Agenda 21 clearly outlined an agenda for sustainable agriculture that includes reduced reliance on pesticides through a variety of steps which would reduce exposures, including enhanced reliance on integrated pest management.

Better understanding of the gender implications of pesticide use include:

- Ways in which women are exposed to pesticides in agricultural production as well as differential patterns of pesticide use between women and men
- Unique health impacts of pesticides on women
- Extent of information to women about pesticides increases understanding of impacts of use and increases agricultural practices and consumer habits which reduce exposures.

When women are exposed, so too are children through women's breastmilk contamination and because women play an important role in educating children. Women are also often the ones responsible when other family members are impacted by illnesses due to pesticide exposure.

Several of the recommendations in Agenda 21 relate to women and pesticide use. In Chapter 14, there are recommendations that there should be increased public awareness of sustainable agriculture in women's groups, that governments should disseminate to farming households more information involving "reduced use of agricultural chemicals" and train women's groups, farmers and extension agents in alternative non chemical ways of controlling pests are of significance. Economic considerations must be taken into account related to the costs to women of health problems due to exposures to pesticides both for themselves and the family as well as the issues of women as consumers of pesticide products.

B. Patterns of Use:

Women now play a significant role in the agricultural labor force worldwide. The United Nations reports that nearly 80% of economically active women in sub-Saharan African and at least half in Asia, other than western Asia, are now working in agriculture. In Latin America and the Caribbean and in developed countries, these numbers are much lower. In the United States for example, women make up 19% of the agricultural work force, according to the Census of Agriculture. Other sources indicate that there were 128,170 women farm operators in the US in 1978 (5% of all farmers were women). Women farmers working as partners in farming operations are often undercounted because usually the husband is considered the main operator. (2, 3, 4)

With more than 500,000 kg of approximately 600 different pesticide chemicals applied annually in the US, and approximately 2.5 million tons applied throughout the world , women farmers and workers frequently are exposed to dangerous pesticides directly when working as pesticide applicators, or indirectly during harvesting, planting and soil preparation. The ILO has shown that agricultural workers run at least twice the risk of dying on the job as workers in other sectors reporting that tens of thousands of agricultural workers die each year, and millions suffer injuries, or are poisoned by chemicals. In addition, agriculture mortality rates may be underreported and have remained consistently high in the last decade, in contrast to other dangerous occupations, where fatal accident rates have decreased. While it is known that most farmworkers are routinely exposed to pesticides, relatively few studies have analyzed specific farm activities to pinpoint the extent of exposure by gender. The ILO does point out that the share of women in agricultural employment world wide is growing in recent years, mainly due to the migration of men to urban centers seeking better

opportunities. With women now accounting for 43% of the total workforce in agriculture, it is clear that exposures to pesticides is growing.

Women are exposed to pesticides not only through agricultural activities but also from exposures in the home, school, workplace and in public spaces. For example, women come into contact with pesticides through washing pesticide-soaked clothes and disposing of empty containers from family members. Some pesticides threaten not only the health of women agricultural workers, but also affect children because of teratogenic or embryo-toxic effects. In addition, domestic exposures can also be widespread due to non-agricultural pesticide use in many areas. For example, in the United States studies have found that approximately 75% of U.S. homes are being found to contain the pesticide chlordane in the breathable air. Over 5% of the homes built before March of 1988 have been found to have air levels of the pesticide chlordane above the "safe" level of 5 micrograms per cubic meter. (5) In general, pesticide use is growing, especially in the lawn care industry. In addition, pesticide residues have been found to remain in the daily diet on fruits and vegatables even after they have been washed, peeled, or cored.

In many countries, government extension agents and agrochemical company representatives address the issue of pesticide use in meetings where only men are present These meetings take place at times when women are busy caring for children, doing domestic chores and working in the fields. There is an implicit assumption that women are not concerned with these issues, especially since women have no decision-making power at this level. In many cases it is the husband who has the responsibility for buying pesticides at the cooperative, the market place or from the storekeeper and no information is passed between the husband and wife about safe use. Many pesticide products are not labeled; but even if they are, many women in rural areas are illiterate and would not be able to read the information. (6)

C. Health Effects:

Clearly pesticides pose health risks for women. In general, most pesticides have not been adequately tested for safety. Pesticide exposure is one of the most widely studied occupational risk factors, with the United Nations Environment Program estimating that accidental pesticide poisoning causes 20,000 deaths and 1 million cases of illness per year worldwide. (7) In general, data on pesticide poisoning is notoriously underestimated.

Pesticides have been implicated in human studies with leukemia, lymphoma, aplastic anemia, soft tissue sarcoma and cancers of the breast, brain, prostate, testis and ovaries.. The International Agency for Research on Cancer has found "sufficient" evidence of carcinogenicity in eighteen pesticides and "limited" evidence in an additional sixteen pesticides.

Studies have shown a link between a variety of reproductive health impacts in women and pesticide exposure. Studies have documented increased incidence of miscarriages,stillbirths and delayed pregnancy among women agricultural workers and wives of men employed in pesticide mixing and spraying. There is also evidence of increased risk of birth defects from parental exposure to pesticides, although the extent of this risk is uncertain. (8) Specific herbicides, such as 2,4-D and 2,4,5-T, disrupt estrogen cycles in women and can cause menstrual-cycle problems in animals. Carbonate and organophosphate insecticides have been reported to increase birth prematurely and spontaneous abortion rates. Other pesticides such as aldrin, dieldrin, chlordane and toxaphene can also disrupt reproduction hormonal cycles. (9) Other recorded health effects from research with women in the field include acute effects such as dizziness, muscular pain, sneezing, itching, skin burns, blisters, difficulty breathing, nausea, nail changing color and sore eyes.

DDT was one of the most widely used chemicals for controlling insect pests on agricultural crops and controlling insects that carry such diseases as malaria and typhus. The presence of DDT in the environment is generally a result of contamination due to past production and use and subsequent movement from sites of application to land, water, and air. Although there is a diminishing trend of DDT use worldwide since the 1970’s a number of countries still use the substance for malaria control. DDT has been proven to cause cancer in laboratory animals, therefore the U.S. Department of Health and Human Services has determined that DDT may reasonably be anticipated to be a carcinogen. (10) The analysis of links between breast cancer and pesticides began with Israeli scientists examining the connections between the significant drop in breast cancer that took place between 1976 and 1986 and the policy to ban several organochlorine insecticides and a result of concerns about health impacts of exposures to DDE, a derivative of DDT, lindane and a-HCH. (11) Subsequent research has continued to explore the relation between these substances and breast cancer risk, with

evidence that xenohormones can cause damage to DNA. There is clearly a pressing need for long term comprehensive studies that look at the impacts of these exposures throughout a women's life cycle. (12)

Many studies worldwide have reported the presence of DDT and its metabolites in samples of breast milk. In Dehli, a breast feeding infant receives 12 times the acceptible limit of DDT and in Brazil 4 times that limit. In Zimbabwe, studies in some regions have found all the samples of breast milk contaminated with DDT. In China for example, most children take in DDT from breast milk at levels 5 to 10 times higher than internationally accepted maximums, even through these chemicals have not been used or produced in that country since 1983. (13) Low birth weight and premature babies have been found to have higher levels of DDE in their blood compared to normal, full term babies. Higher levels of DDT have been found in mothers of premature babies.

D. Current Problems:

Current problems include the fact that many women agricultural workers are unaware of all of the adverse effects of pesticide use. Even where they are aware of the problems few understand about specific adverse effects and most described ill-effects in general or vague terms.

- In many countries, there pesticides are stored in the home in areas easily accessible to many family areas.
- Agriculture tends to be excluded from many national labour laws and is not subject to any comprehensive international standard. Where regulations exist, they are often sporadically applied due to inadequate legal provisions, low levels of unionization and insufficient labour inspection.
- Often women pesticide applicators cannot read labels and do not follow instructions.
- Most users do not use protective clothing because it is unsuitable for the climate, unavailable or too expensive. Studies of women in Asia have found that they often are unaware of the existence of such equipment.
- In many agricultural settings there are no washing facilities in the field where workers spray pesticides, and workers seldom wash even when pesticides spill on their skin.
- In Africa there are reports that rural women often reuse pesticide containers for storing or transporting their crops.

Thus, the need for actions outlined in Agenda 21 remain pressing.

E. Solutions / Relevant Stakeholders:

Many governments have inadequate legislation regarding problematic pesticides and herbicides. Where the legislative framework is in place, there is often weak enforcement capability. The viability of occupational health and safety structures and functions in developing countries is also a primary concern. Cultivation of women's knowledge in traditional alternative farming, has also often been overlooked. Rural women in many parts of the world have fewer opportunities to organize themselves, lack the political clout to demand changes and are often powerless to control resources.

There are however, many initiatives worldwide which are working to reduce pesticide use. For example, Sweden, Norway, Denmark, the Netherlands, and the Canadian province of Ontario have all adopted effective programs to reduce pesticide use by 50-75%. In Indonesia, there have been huge investments in ecological research and programs that train farmers have helped to reduce use of pesticides in rice by 65%, while rice yields have increased by 12%. (14)

A quick overview of some regional activities related to women and pesticides includes the following:

Asia: The Pesticide Action Network Asia and the Pacific Regional Center started a three-year Women and Pesticides Training and Education Program in 1991. The goal of the program was to provide women with resources and training to ensure better practices and to curb both misuse and overuse of pesticides. A series of national workshops have been held in seven countries in Asia, and case studies have been conducted in eight countries on the impact of pesticides on women, and wide distribution of information on hazards of pesticides and alternatives in several local Asian languages.

These workshops have led to continued activism and follow-up. After the workshops, women leaders in Thailand demanded that the Thai Agricultural Ministry ban certain dangerous pesticides and enact strict regulations on the sale and labeling of all pesticides. In the Philippines, the workshops resulted in a call for a people's ban of four pesticides as a follow, in India there were extensive

recommendations and a pledge of follow up activities for information and skills training on the hazards and alternatives to chemical pesticides.In Sri Lanka the training workshop resulted in women initiating street theatre, songs and drama to highlight the problems of pesticides at the community level. Women working with children have incorporated the issues in the curricula of the schools. Women have initiated organic agriculture exchange and training programmes to help their communities move away from pesticide use.

Other resources in the region include new efforts including participation by the FAO help to introduce Integrated pest management (IPM) practices that have helped over half a million rice growers in Asia minimize pesticide use and raise profits. Throughout Asia, classrooms without walls known as "field schools" help farmers learn skills that make them more efficient producers, and reduce use of pesticides through new techniques of agriculture. The importance of women's participation is notable in Viet Nam for example; in one field school, 26 out of 33 participants were women.

Other organizations have developed resources which help educate women about the issues. For example, the Asian and Pacific Women's Resource Collection Network guide talks about problems of pesticide exposure and use. The International Federation for Women in Agriculture in India and the International Institute of Rural Reconstruction based in the Philippines have developed a practical workbook focusing on simple technologies to help women farmers with agricultural issues including organic farming, pests and pesticides. . Community Aid Abroad team in Laos has been working with women farmers on organic farming and community development. Pesticide Action Network has also developed a Community Pesticide Action Kit . Modules from this kit have been field-tested and the kit is expected to be published in three languages (Indonesian, Tagalog and Tamil) in 1999. These kits are designed to guide community groups in investigating problems caused by pesticides in their communities and to assist them in recording information in a systematic and reliable way.

Africa: The Environmental Development Action in the Third World (ENDA) has focused on research to find natural methods to protect crops and farmers, and also to protect the environment. They have been reported to have done some organizational work with women in Senegal on pesticide use.

Latin America/Caribbean: Organizations such as the Farmworker Women's Leadership Network-Lideres Capesinas and Pesticide Action Network North America compiled information and personal stories to document pesticide related health problems faced by women workers in 1998. The Guatemala Foundation has started outreach efforts with rural women to educate them about pesticide risks. The Jamaica Pesticides Authority said that work in Jamaica specifically focused on women and pesticides has been extremely limited. They have identified some of the areas of the country in which women are exposed to endosulfan. Some surveys have been done in homes of agricultural workers which has included interviews with women by organizations such as the Caribbean Agricultural Research and Development Institute.. In Cuba, when trade relations with the socialist block collapsed in 1990, the country lost 80% of its pesticide and fertilizer imports. Cuba embarked on the largest conversion to organic farming ever attempted. Many women in that country have been involved in the organic agriculture movement.

Europe: Many European governments now provide direct financial support for organic farming in recognition of itscontribution to current policy objectives, including environmental protection, conservation of non-renewable resources, controlling over-production and the reorientation of agriculture towards areas of market demand. The Women's Farming Union in the United Kingdom is currently monitoring references to pesticides in women's magazines and in the press generally to examine sources of information and to look at the slant put on pesticide use. In the Karakalpakstan region of the Aral Sea, Center Perzent has been active with women who do most of the agricultural work by establishing a self-help, organic vegetable and fruit farming program to improve women's diets and avoid further exposures to pesticides. Mama 86 in the Ukraine has launched an active program for women linking environment and women's health which includes a hot line about contamination and additives and a water program dealing with ways in which contaminants including pesticides have impacted drinking water. However, in general, development of alternative (organic) agriculture in eastern European countries such as Russia is hindered by a lack of special services and specialists, by low environmental culture and poor financial basis.

Australia: In Australia the Total Environment Center recently called on the Federal government to commission an independent public inquiry into increasing levels of DDT in breast milk in Australian women and a possible link to the commonly used organochlorine insecticide, Dicofol - used to kill mites on fruit and vegetables such as bananas, strawberries, grapes and tomatoes. The cited the latest 1996 Australian Market Basket Survey produced by the Australia New Zealand Food Authority which indicated that levels of total DDT in breast milk have been steadily increasing by approximately

0.005 mg/kg each year since 1992. Landcare is a government sponsored program which aims to encourage and facilitate sustainable use of Australian land and resources. While women are reported to be actively involved in landcare this contribution is only now receiving public recognition. Through landcare and on their own properties women are using their knowledge and technical skills in decision- making in the land management process.

North America: In 1992, in the United States new rules for protecting agricultural workers from pesticide exposure were issued August 21, 1992 which have been designed to reduce the risk of illness or injury resulting from accidental exposure to pesticides.

The growing movement of women active on breast cancer has led to increasing activism and awareness about connections between pesticides and women's health. Organizations such as the Long Island group One In Nine, and the Women's Network on Health and the Environment in Canada, have become active on increasing information and awareness about the health threats due to pesticide use. Activities have included production of resource guides and films, activism on legislation banning pesticide use in schools, hospitals and other public places. These groups have helped to increase funds for research on links between health and pesticides use, and door to door projects in some communities which call upon individuals and homes to commit to buying organic produce and not using insecticides in household use. The Cornell Breast Cancer Program is creating new public information materials and internet information on breast cancer and environmental risk factors, which includes various profiles of pesticides and information on breast cancer risk.

International **:** Negotiations have started under the auspices of UNEP through the International Negotiating Committee on Persistent Organic Pollutants to phase out 12 of the most problematic "POPs" or persistent organic pollutants, which include a number of pesticides including DDT, endrin, toxaphene, heptachlor, aldrin and dieldrin, chlordane, Mirex and Hexachlorbenzene. Since many of these pesticides are already not in use in many parts of the world, the negotiations on the process to add new chemicals for consideration is a key element of this treaty. A Women's Working Group has formed as part of the NGOs network IPEN (the International POP's Elimination Network) who are working to monitor these negotiations which has developed a primer on POPs and Women and worked on outreach to women in many parts of the world.

Since 1993, the ILO has worked with authorities and representatives of employers and workers in Central America to establish national policies on occupational safety and health in agriculture for the protection of agricultural workers, prevention of occupational accidents and diseases in agriculture, and protection of the environment. The project strategy includes updating of legislation, development of preventive health surveillance systems, improved information and training, and an environmental protection approach to dealing with agrochemicals.

F. Policy Directions/ Additional Needs:

- More research on the impacts of pesticides on women must include more countries and different cropping systems.
- Extension workers need to initiate activities specifically focused on women and pesticide use.
- More outreach must occur to women's organizations so that the issues of pesticide exposure are part of ongoing educational efforts to a broader array of women.
- More detailed studies need to look at patterns of contamination in relation to land use, pesticide use to help reduce the amounts of pesticides that reach women through varied routes of exposure such as streams and ground water. Local and regional management strategies need be developed to account for geographic patterns in land use, chemical use and natural factors.
- Local organizations need to be further strengthened to continue the work that has already begun;
- Women's groups need additional resources including more information, training and financial backing
- More development programs in many parts of the world need to include gender sensitive training on pesticide use.

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