

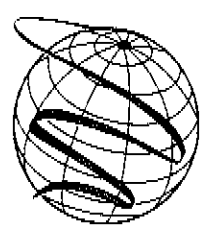
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# WOMEN, HEALTH & ENVIRONMENT

A TEACHERS' GUIDE

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GEENET



WHO

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This *Teacher's Guide* accompanies the *Anthology on Women, Health and Environment* (WHO/EHG/94.11). Together with the *Anthology*, its role is to assist teachers to clarify and raise awareness of the impact of environment and development factors on women's health and wellbeing, and to demonstrate how women's position in society is frequently a major determinant of their health status. It is hoped that the *Anthology* and *Teacher's Guide* will be useful to a number of disciplines in promoting further research, training and action on issues of women, health and environment.

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## 1. Introduction

### Women, health and environment

For all the recent attention given to environment and development issues, understanding of their impact on women's health is still very limited. The rapid increase in problems arising from destruction of natural resources, rapid industrialization and urbanization, pollution, and population pressures, has a special impact on women. Their less privileged status in society results in fewer benefits and less access to resources, although they are obliged to fulfil multiple roles and functions as producers, reproducers and home managers. Development policies and initiatives still tend to focus on activities or technologies that provide economic and other benefits exclusively for men, on the assumption that all members of a family or community will benefit equally from opportunities directed towards male members. This has tended to exclude, further marginalize, or otherwise disadvantage women, reinforcing their low economic and social status and creating circumstances conducive to poor health. Improving women's health and status will be significantly enhanced through a clear understanding of how women's and men's lives and experience differ through the roles and responsibilities ascribed to them by tradition and through changes now being brought about by the development process.

### Purpose of the *Guide*

This document forms part of WHO's current efforts to strengthen environmental health capacity by consolidating and broadening understanding of how women's roles and responsibilities in relation to the environment impact negatively on their health and wellbeing. This *Teacher's Guide to Women, Health and Environment* is intended for use in conjunction with the *Anthology on Women, Health and Environment* (WHO, 1994). Aimed at disciplines ranging from public and environmental health, medical anthropology and sociology, to women's studies or development programmes, it has a dual role: it provides a perspective on or conceptual base for issues of women, health and environment, and will assist teachers in preparing curricula and other materials on environmental issues directly or indirectly affecting women's health.

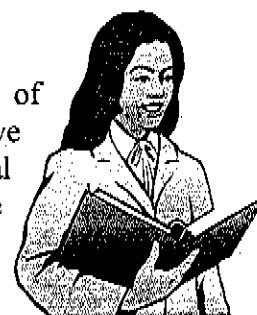
The *Teacher's Guide* is suitable for those involved in education, training, research, planning, and practice in environment and sustainable development. Typical users might include public health and medical officers (at national or provincial level); teachers of public health, women's health or epidemiology; researchers engaged in field studies; policy makers on environment, development, or women's issues; and special interest groups, for example women's health activists, local environmental groups, or NGOs.

The *Teacher's Guide* was prepared with the following basic aims:

- ☞ to encourage health personnel or researchers to expand their horizons concerning the obstacles to health faced by women
- ☞ to raise awareness and encourage debate on issues related to gender, health and environment
- ☞ to provide advice and guidance to teachers on incorporating into existing courses examples of how the environment affects women's health
- ☞ to provide general advice and guidance on the planning, implementation and evaluation of a short course or workshop on topics concerning women, health and environment organized at national or local level.

### How the *Guide* is structured

This *Teacher's Guide* constitutes three sections and a series of Appendices containing examples of teaching methods which have been used successfully in connection with other environmental issues. The first section introduces the *Anthology*, giving the rationale for its production. It also explains the purpose and aims of this *Guide*, and provides suggestions on how to use it. The second section provides a justification for the need to focus on issues of women, health and environment from an interdisciplinary perspective, and outlines four major causes of health problems for women in relation to the environment; these provide a useful framework for analysing the examples shown in the *Anthology*. The third section outlines a selection of teaching methods suitable for use with the topics addressed in the *Anthology*, stressing the advantages of participatory approaches. The Appendices give specific examples of these teaching methods, using situations or studies closely related to or drawn directly from issues described in the *Anthology*.



## How to use the *Guide*

Here are some examples of how the *Teacher's Guide* can be used in a variety of teaching situations and educational settings:

- ☞ as a means of incorporating women, health and environment issues in academic courses on public health, environmental or occupational health, family or community health, medical anthropology or sociology, women and development, or other courses for which gender issues are relevant
- ☞ as seminar material for women, health and environment issues
- ☞ as part of a short course or workshop for NGOs and community-based groups

## 2. Background

The *Anthology on Women, Health and Environment* is a summarized collection of studies and reports taken largely from the published literature, that focus on issues of women's health in different environmental, occupational and social settings. It deals largely, although not exclusively, with the situation of women in developing countries, since this is where health problems for women are of greatest concern and the differences in access to services and resources most marked. The *Anthology* highlights the fact that health opportunities, health hazards, and access to health care are not the same for women as for men, and that women's health status is strongly affected by the socioeconomic and political conditions of their lives — in other words, by their low social status and their inability to choose their roles and functions.



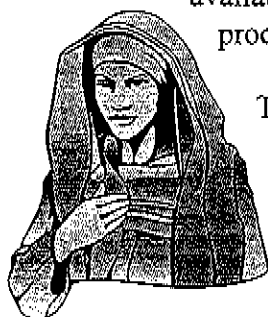
Recognition of the linkages between women, health, and environment has been slow, and little research has been carried out on women's health problems aside from those connected with their reproductive role. As greater recognition is now being given to questions of women's health, the need to separate data according to gender in order to ascertain and demonstrate differential impact on women has been clarified. Epidemiological data and information on environmental issues of relevance to women's health are scarce, owing to the dearth of research on these issues. Nor do the methodologies normally used in epidemiology — the study of causes of disease in populations — lend themselves to determining the root causes of low health status in women, which tend to result as much from the social imposition of roles and functions as from external agents of disease. What research has been carried out has often been within the framework of disciplines such as social science, anthropology, political economy, tropical agriculture, or development studies.

The direct or indirect implications for women's health of this research often escape the health sector, as the literature of other disciplines is unfamiliar to most medical and public health personnel. It is not uncommon to read in the medical literature that little is known about the impact upon women of a certain health problem or area of research, although the problem or issue may, in some instances, be acknowledged in the literature of another discipline. From the medical perspective, however, the issue is unknown or unfamiliar because clinical or epidemiological methods have not "discovered" it. Examples are the effects on women of certain stigmatizing diseases, such as disfiguring tropical diseases, or those which are, in reality or according to popular belief, sexually transmitted. These tend to be "hidden" by the women themselves or by their families. In this way health problems may remain undiagnosed and untreated in the individuals affected, with their concealment contributing to under-reporting and inaccurate understanding of true prevalence rates.

Similarly, the issue of food intake versus energy expenditure in poor rural women is — given the magnitude and ubiquity of the problem — conspicuous by its absence. The

gender and development literature consistently points to evidence of nutritional insufficiency for women who undertake agricultural labour in addition to their other roles, yet adequate health research on women's total work output in relation to their food intake is still lacking.

Global summits and other international fora are increasingly pointing to the deficits in attention to the health needs of women, and to the mounting evidence that their health status, particularly in developing countries, remains unsatisfactory, even where overall economic growth has taken place. This trend is frequently due to alterations in women's traditional lifestyle, which increase the demands on them without necessarily providing any greater benefits. In these circumstances women are coping with the pressures of modernization, which often require them to assume additional duties and responsibilities, plus the burdens of their traditional roles. Thus women tend to have less time and energy available — an effect contrary to the intentions of the development process.



The spin-offs of structural adjustment policies are frequently the cause of such changes in lifestyle. They include unemployment, reduced social benefits, out-migration, and sharp increases in the number of female-headed households. They often hit women hardest, who continue to represent the poorest of the poor, are less well educated and less able to compete for jobs and other necessary resources for survival. Out-migration of male labour due to unemployment or destruction of traditional livelihoods in rural areas again predominantly disadvantage the women who have to remain in reduced circumstances. Land clearance or forest nationalization policies have similarly impeded women's access to natural resources, and diminished their food, fuel and water supplies. All these factors increase women's work burden and levels of stress, and taken in conjunction with their reproductive role, threaten their health and nutritional status.

Unforeseen disadvantages can arise when development programmes and policies neglect women.<sup>1</sup>

In India, the introduction of dairies to improve the production and distribution of milk to urban areas had serious negative effects on rural women. Poor women who had traditionally milked buffalo, sold the butter in town and retained milk for their families, were displaced by the dairies which were run by men. Since there was no alternative employment for the women, they lost their cash earnings and their families lost the nutritional benefits of the milk.

In Burkina Faso, the introduction of animal traction increased the amount of land that men could plough. Consequently, the amount of land that women had to weed by hand also increased, further burdening the overworked women.

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<sup>1</sup> The examples that follow were drawn from Karl M, ed. *Women and empowerment: participation and decision-making*. London, Zed Books, 1995: p.95

Expansion of the sugarcane industry in Belize in the early 1970s brought employment and income to men. With men no longer available to help clear the land, women farmers produced less food and less fodder for poultry and small animals. Men's earnings were often spent on buying trucks, alcohol and imported prestige goods. Accordingly, there was a drop in both the nutritional status of the community and in the status of women.

In one area of Ghana, the introduction of cash crops left women with less time to cultivate food crops; to compensate they substituted cassava for yams as the food staple, which requires less work. Cassava, however, is less nutritious. It also depletes the soil too greatly to permit intercropping with vegetables and legumes, as can be done with yams. Kwashiorkor, a severe nutritional disease of children, began to appear for the first time.

The *Anthology on Women, Health and Environment* reflects many of these concerns. It demonstrates that the development process has negative as well as positive health implications, and that the negative implications affect women and girls more frequently and systematically than men and boys. To demonstrate this was not a calculated intention; however, the nature of the material which does exist, and the insufficient data obtainable from medical and public health sources, shaped its eventual content and underlined the message that a significant proportion of women's ill-health can be linked to their subordinate position in society, which in turn governs the nature and quantity of their work, and hence exposure to risk. What is now needed is an intensification of efforts to obtain gender-disaggregated health and socioeconomic data, together with an interdisciplinary approach to women, health and environmental issues, so that the critical social, economic and political determinants of women's health are taken account of by all research and implementation activities.

### **The need for an interdisciplinary approach to women, health and environment issues**

It should be emphasized again that issues related to women, health and environment cannot be investigated or resolved within the confines of any one discipline. The methods and insights of many disciplines, both qualitative and quantitative, are needed to address the social, cultural, political, health, and technical aspects of problems inherent to gender and environment issues such as those outlined in the preceding section, and to ensure the implementation of appropriate policies and strategies to improve the situation. Above all, it is essential to ensure that the right questions are asked in order to conceptualize accurately the issues being considered. A useful series of questions to ask when exploring issues raised in the *Anthology* might include the following:

- ⇒ What are the environmental issues or problems facing women in this situation?
- ⇒ What are the underlying causes of these problems (social, political, cultural, environmental, economic, and/or interactions between them)?

- ⇒ Is the situation or health problem linked to issues of women's control over decision-making, or of access to resources?
- ⇒ Does the situation or health problem affect men and women equally?
- ⇒ Which methods would be most suitable for investigating this problem in detail?
- ⇒ What can be done about the problems?
- ⇒ What obstacles might you expect when attempting to solve the problem?

Getting satisfactory answers to questions such as these requires a broad approach which recognizes and responds to the social, economic and political processes which predispose women, particularly in developing countries, to ill-health. If investigators confine themselves to the methodologies currently used in the health disciplines, their findings will not reveal the whole picture or offer the best chance of arriving at acceptable solutions.

### Four causes of health problems for women

Four main categories of health and environment problems encountered by women were identified in the examples chosen for the *Anthology on Women, Health and Environment*. These categories overlap and interlink. A basic description of each is as follows:

#### ***Social role or context***

The social role of women may make them more vulnerable to certain hazards or exposures. Examples are the stress of women's multiple roles as income providers, home managers, and reproducers, or poor nutritional status which can increase susceptibility to environmental chemicals such as lead and cadmium, and to diseases such as malaria. Also included are the socioeconomic and cultural patterns responsible for the relative poverty and subordinate status of women in many societies.



#### ***Higher exposure***

Women may be exposed to particular environmental hazards or to specially high exposures due to tasks or occupations they habitually engage in. Examples include exposure to harmful emissions from smoke while cooking; performing monotonous, repetitive tasks in sweatshops and industries; and the musculoskeletal burdens of carrying water and firewood.

### ***Biology***

The physiological and hormonal differences between women and men cause them to experience environmental hazards in different ways. Some of these differences are related to women's reproductive role. This category includes exposure to pesticides, mercury, solvents, or radiation, which can affect the fetus or interfere with organs or bodily mechanisms specific to women. Use of personal protective equipment or clothing (for example boots or respirators) not specifically designed for women also constitutes a hazard as poor fit may cause accidents rather than provide protection.

### ***Additional or prolonged suffering***

The physical and mental impact on women can in some situations be greater than for men suffering from the same or similar illnesses. There is a tendency for women to be more stigmatized by certain diseases, causing difficulties in marrying or carrying out normal social roles. Ostracism and rejection of women with some environmentally-related diseases occurs, particularly those causing disfigurement, sterility, or suspected (often wrongly) of being sexually derived. Examples include urinary schistosomiasis and other tropical diseases. This can lead to concealment of the condition, prolonging its duration and increasing its severity due to lack of treatment. Other reasons for additional or prolonged suffering are women's often restricted access to health care and treatment due to lack of time, money, mobility, and status. In some societies, preferential health care is given to male family members. In other words, it is not the nature of the illness itself, but the cultural impact of gender, which may aggravate the effects, duration, or severity of the illness in women.

The following questions summarize the four categories outlined above and provide a framework for discussing the relationship between women's health and the environment. This framework can be applied to the examples given in the *Anthology* and to other issues relating to women's health. It should be borne in mind that the categories are not mutually exclusive and elements of several, or all, may play a role in determining the causes of a health problem.

- ⇒ Is this problem related to women's status in society?
- ⇒ Is the problem due to women's exposure to a certain hazard when performing obligatory tasks?
- ⇒ Do biological or physiological factors play a role in this problem?
- ⇒ Is the impact of the health problem on women, or the physical or mental suffering involved greater, for example, through social stigmatization, neglect, inadequate understanding of its prevalence in women, or their differential access to treatment?

Teaching examples incorporating these four categories can be found in the Appendices.

### 3. Teaching approaches and selected methods

#### Participatory education

There are various ways of imparting knowledge, developing skills and attitudes, and using the educational environment to increase awareness of women, health and environment issues. This section describes a participatory approach to education and training which is frequently applied in the environmental health area, and can appropriately be used with the *Anthology on Women, Health and Environment*.

Participatory education is an interactive approach to learning. It is based on real-life experiences; incorporates dialogue between and among teachers and students; and critically analyses the structural, organizational, and systemic causes of problems. Its goals are not only to increase knowledge and skills but also to provide the basis for problem-solving activities after the teaching sessions have ended.

The use of participatory methods should include activities which help students develop critical thinking, practice problem-solving and decision-making, and gain the confidence to take effective actions in the field. Participatory education is best seen as one key component of a comprehensive prevention strategy which combines effective training with legislation, improved infrastructure and planning, and enlightened policies and procedures. Participants using the *Anthology on Women, Health and Environment* should be challenged to think critically about each example, to identify how environmental factors affect women in specific ways, and how these effects can be mitigated or eliminated.



Participatory exercises can be integrated into sessions as short as one hour and, with practice, become easy to use. Teaching is most successful if the students have the opportunity to engage in multiple-learning modalities: to listen, look at visual aids, ask questions, simulate situations, role play, read, write, practice with equipment and discuss critical issues.

In addition to incorporating a variety of teaching methods, the instructor should try to set up a physical environment which is conducive to active participation. This means arranging participants in a circle or some other structure that allows maximum interaction. It also requires moveable chairs so that people can break into small clusters as needed. In large lecture halls, this may be difficult; however, students can still be asked to form pairs or sub-groups of three to five students.

## Raising gender issues in a teaching context

Where gender issues are being raised in classes or disciplines which are unlikely to have had previous exposure to the kind of material found in the *Anthology on Women, Health and Environment*, the following suggestions, evolved by teachers in the area of gender and development, may be useful:

- ☞ Work on gender issues should come at the beginning of a course, wherever possible, so that participants can become accustomed to developing their thinking along appropriate lines as the course progresses.
- ☞ Sessions on gender issues may provoke emotional reactions from participants. This occurs because participants often confuse personal and professional responses to the topic. Teachers therefore need to be particularly sensitive to group dynamics, and take care to maintain control of the group by focusing on professional concerns rather than personal views of gender issues, and by adhering to the timing of the session.
- ☞ If the group is mixed, you may find it useful at times to divide participants into same sex groups for some small-group discussions. Mixed-sex and same-sex groups are likely to offer interestingly different approaches to the same case study or example.
- ☞ If dealing with sensitive issues, participants may find it reassuring to use examples and cases which, apart from the focus on gender, utilize familiar material. On the whole, sessions will be most constructive where participants can retain a fair degree of confidence and do not feel perpetually on the defensive.
- ☞ Most teachers covering gender issues find it is important to ensure that participants experience a sense of achievement at having identified the relevance of gender to a problem in their professional sphere (IDS/CEC, n.d.).

## Small group exercises

The purpose of the small group is to maximize participation and allow people to use their own experiences and available resources to answer questions or solve the problems presented. They can also be used to generate interest in a new topic, to discover new information and to reinforce information learned in the training session. Several applications of small group exercises are discussed below.

### *Problem based exercises (PBE)*

In PBE, students are presented with a realistic situation or case study which incorporates the problems but does not provide solutions. The method requires students to consider a problem as they would have to do in real life, to use both facts and judgement to analyse its causes, and to propose strategies to resolve it. Enough information should be provided to outline the basic problems or issues to be dealt with, but not every detail about a situation should be specified. People should be encouraged to improvise on the details, calling on their own experience to make them realistic.

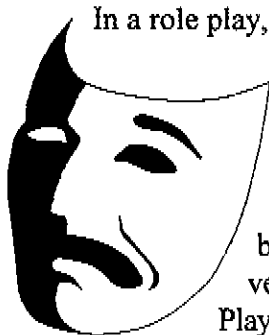


In some cases, problem-based exercises are presented in a less structured, more open-ended way. In the course of problem-solving, students decide themselves what information is needed, and how and where to obtain it. The teacher serves more as a facilitator or moderator.

PBE is a useful teaching method to improve critical thinking, problem-solving and decision-making skills. In an academic setting, the problem can be offered as an exercise for applying information already learned. This approach also encourages students to propose solutions to policy, administrative or implementation problems.

Examples of problem-based exercises are given in Appendix I.

### *Role play*



In a role play, the situation or problem is acted out rather than just described and analysed. Role plays are especially effective for exploring attitudes and developing interpersonal communication skills. They are also an effective means of discovering relevant information which is unlikely to emerge under more formal circumstances. They may be done with the entire group, followed by discussion in large or small groups. Role descriptions, either verbal or written, are given to the students playing the various roles. Players should be instructed to express their point of view, although the meeting should end without resolution.

A role play can be used to trigger discussion about the interactions between environment, development, gender and health. An example would be a community meeting in a rural village in Africa where the construction of a new water tank is under discussion.

***The case for a water tank in Owara Village***

The scenario involves three roles: firstly, the administrator of a development project which proposes to supply materials free of charge to construct a water tank which will provide safe, pumped water to the village — an alternative to the river normally used, which is distant and contaminated; next, the community leader, speaking on behalf of the male heads of household, who are not convinced of the necessity or benefits of a new water tank. This is because the usual gender division of labour in this society dictates that the labour involved would be largely female, and building the tank would interrupt women's labour in the fields and at home. The third and final role would be the community health worker, who supports the construction of the water tank, and who is speaking also on behalf of the women, who are not encouraged to attend community meetings and in any case would not publicly oppose their husbands' wishes. No agreement is reached.

Following the role play, the instructor leads a discussion in large or small groups in which students identify the problem — its causes, the different opinions expressed in the role play, and potential strategies for resolving it. Among the issues which could be brought out are a) the gender differences in development priorities and the reasons behind these, b) the merits and demerits of the short-term versus long-term perspectives, and c) issues surrounding existing power relations. The concluding discussion should address the implications of such scenarios for development workers, health educators, researchers, and communities.

This example is based on a real event in an Asian village, and also contains elements similar to those outlined in the excerpt "Choice of water sources in rural Ghana" pp. 3-5 in the *Anthology on Women, Health and Environment*.

***Conducting problem-based or role-play exercises***

A problem-based exercise or role play must not only be well-designed, but also well-administered. To ensure good participation, groups should consist of between four and six people. Participants should be instructed to select a chairperson to facilitate the discussion and a recorder who will take notes and report back to the plenary session. Specific tasks or questions should be defined to guide the small groups' work, and an agreed time allotted to perform the task. Sample questions might include:

- ⇒ What environmental or occupational factors might jeopardize women's health in this situation?
- ⇒ What are the health effects that might result from these factors?
- ⇒ Is additional information required to fully assess the situation? If so, please describe.
- ⇒ Where or to whom would you go for (more) information?
- ⇒ What prevention measures would you recommend to resolve the problem?
- ⇒ Who would you involve in prevention efforts?
- ⇒ How long might it take to resolve the problem?

The report back session which should be the final stage of a small-group exercise is a time to explore what participants learned during the exercise; to pursue a deeper analysis; and to challenge students to be able to defend their analysis or conclusions.

Examples of role play scripts can be found in Appendix 2.

### ***Discussion starters (triggers)<sup>2</sup>***

This method serves to pose problems for discussion and analysis leading to action about the issues. Discussion starters are a concrete physical representation of the problem in any form: a written dialogue, a role play, a case study, a slide, a short video. In any format, discussion starters should have the following characteristics. They should:

- ⇒ represent a situation which is familiar and easily recognized by the group;
- ⇒ pose one single problem so that discussion can explore the theme in depth;
- ⇒ provide no solutions or answers, so that action strategies can emerge from discussion in the group;
- ⇒ tackle a problem that is not overwhelming, but should allow for people to come up with small actions for change.

The discussion after presentation of the trigger follows a 5-step questioning process which enables the participant to identify a problem, its root causes and an action plan. To lead the discussion, the instructor uses the acronym **SHOWeD** (see box).

Action steps emerge directly from the dialogue among participants. See Appendix 2 for examples of discussion starters based on *Anthology* topics.

### ***Lectures***

Lectures are used to convey a basic body of information. To be most effective, they should be brief and combined with participatory exercises which enable the students to work with and apply the information that has been presented. The main guideline for lecturing is to keep presentations short to allow time for skill-building and analytic exercises. A few pointers to keep in mind are:

**See:** What do you see here? What are the issues?

**Happening:**  
What seems to be happening here?  
What is each person saying? How do they feel?

**Our:** Does this situation seem familiar?  
Is it the same or different from our situation?

**Why:** Why is the situation represented as a problem?

**Do:** What can we do about the problem?

<sup>2</sup> Adapted from: Wallerstein N and Weinger M. "Health and safety education for worker empowerment". *American journal of industrial medicine*, 22(5):619-625.

- ⇒ Begin with a summary of what your lecture will cover and its practical relevance for your specific audience, and conclude with a similar summary.
- ⇒ Make lectures relevant by using examples familiar to participants — for example current events, or situations relevant to the local context.
- ⇒ Make lectures interesting by using good visual aids.
- ⇒ Increase active participation by inviting questions from the students, and by posing questions which require the students to apply the information being presented to their own situations.

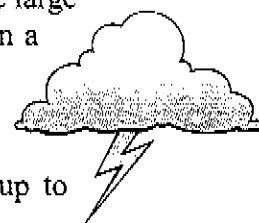
Two tools for enhancing participation during a lecture are:

i) **worksheet questionnaire**, which can introduce lectures in a participatory format or serve as catalysts for group discussion. For lectures, the instructor would write a series of questions which cover several of the lecture's main points. Participants would be instructed to complete the questionnaire at the beginning of the session by themselves, in pairs or small groups. If participants are completely unfamiliar with the topic, they should be encouraged to guess the answers. The instructor would then review the questionnaire, soliciting participants' answers, presenting the correct information and elaborating on any topic. Participants are generally interested in learning the correct answer and will listen more attentively than if they were hearing a lecture without the worksheet.

See Appendix 3 for an example of a worksheet questionnaire.

ii) **"buzz groups"** where the instructor breaks the group into pairs (buzz groups) for a short period to come up with ideas on an issue. After these brief conversations, it is easier to return to the plenary and start a discussion on some of the ideas generated in the groups. For example, in a "Women, Health and Environment" seminar, the instructor could initiate the session with a question such as "Can you think of any occupational or environmental hazards which have specific implications for women?", or "Take five minutes to share your own experiences of exposure to environmental hazards." After a brief buzz group on the question, the instructor solicits some of the ideas that were generated, lists them on a flip chart and uses them to help frame the ensuing discussion.

A similar procedure is the **"brainstorm"** in which students in the large group are asked to come up with as many ideas as possible on a given issue. For example, the instructor could brainstorm potential prevention measures to address a specific gender-related environmental health problem. After all the ideas have been listed, the instructor can work with the group to evaluate and prioritize the list.



### ***Student presentations***

Students can be requested to prepare either individually or in small groups a report for presentation at the end of the course. The report might include a description of an environmentally-linked health issue for women, a summary of any studies already implemented concerning this problem, recommendations for additional studies and/or proposed interventions.



After each student's brief presentation on the case and proposal for follow-up in the area, a period of time should be allotted for questions and discussion.

### ***Independent assignments and field studies***

There are a variety of independent projects which can assist the student in developing investigation and research skills, as well as an inquisitive approach to learning and field experience.

**Intensive studies** of a particular theme or problem can take place over a period of weeks or months. The specific student tasks include research, bibliographic searches, and consultation or interviews with specialists in the area of study. As individuals or part of a group, students take responsibility for investigating a particular aspect of the theme and presenting it to the rest of the group in a series of classroom sessions.

**Structured field visits** can also provide students with an opportunity to apply skills and concepts learned in the classroom in a community setting. In order to focus the students' attention on local environmental/occupational problems to which women might be particularly exposed, field visits to local factories, polluted areas (for example urban slums) or homes in remote rural areas could be organized. The participants should be divided into sub-groups of 5-6 persons. Each sub-group should be given observation questions or tasks to accomplish. At the end of the field visit, the whole group should be brought together to discuss the sub-group observations and findings, recommendations and conclusions. A checklist may be a useful tool to guide and systematize student investigation. Sample questions or tasks might be chosen from the following list:

- ⇒ At the sites observed, what are the **tasks** performed a) by women and b) by men?
- ⇒ In the case of women, do they perform **specific** tasks in the household or outside it which other community members do not?
- ⇒ **Which** women do these tasks? Old women, young women, married or unmarried women?
- ⇒ What kinds of **hazards** related to the environment can you identify (for example, risks linked to an occupation, such as working on a conveyor belt, or selling in a market, or fetching water, or cooking, or working in the fields).
- ⇒ Would exposure to the same task or hazard have **different consequences** for women, for men or for children? If so, why?
- ⇒ Are there **other risk factors** you can identify which may have a negative impact on women's health (e.g. other diseases, malnourishment, lack of access to health care)?
- ⇒ In what ways could **women's exposure** to these problems be measured, quantified, or otherwise analysed so that their existence becomes clearer?
- ⇒ In what ways could the **effects on women's health** of these problems be measured, quantified, or otherwise analyzed?
- ⇒ What **difficulties and obstacles** are you likely to encounter in designing a research or programmatic intervention to prevent, control, or mitigate this problem?

## 4. Organizing a workshop, seminar or course

### Planning the event

The *Anthology on Women, Health and Environment* can be used as a short course or workshop to increase awareness of and knowledge about gender issues in relation to the environment and the basic principles of public health. It may also be used as a focal point of discussion around a local environmental issue which negatively affects women's health. Potential participants might include:

- ⇒ public health and medical officers (at national or provincial level)
- ⇒ health and environment policy makers
- ⇒ researchers in health, environment, agriculture, and women's affairs
- ⇒ NGO representatives working in areas related to women, health, environment and development.

### Goals and objectives

Setting goals and objectives is an important first step in conducting any teaching session. Goals for a Women, Health and Environment workshop might include the following:

- ⇒ raising awareness about the effect of environmental and occupational factors and social roles on women's health;
- ⇒ giving participants an opportunity to learn more about gender and environment problems in their country and to share their own experiences in this area;
- ⇒ enabling participants to plan study or action at local level.

### Teaching materials and methods

The instructor should ensure that students receive the following materials in advance:

- ⇒ the *Anthology on Women, Health and Environment* (or relevant excerpts)
- ⇒ photocopies of any other materials that must be read in advance of the course or workshop.

Where appropriate, participants can be referred to suitable background materials which may be available in an accessible local library.

For course contents, instructors can use examples in the *Anthology* which are relevant to the country, region, or area under discussion, and can supplement these with personal experience or other material known to them. Section 3 of this *Guide* offers suggested teaching methods, and sample exercises can be found in the Appendices.

## Timetabling and teaching formats



There are several potential formats for teaching on the topic of women, health and environment. These include a short workshop (1–2 days), a longer course (weekly sessions over 2–3 months), a topic or module within an existing course, or a series of lunch-time seminars. For longer courses, topics could be based on the major section headings of the *Anthology*, amended according to local circumstances.

If the course is organized as part of a continuing education programme, it may be easier or necessary to hold it full-time during one weekend or one week. A continuing education course could also be extended over time, with sessions held once or twice a week. In such cases, a problem-solving approach to learning is helpful since the students have time between sessions to put their new knowledge and skills to the test in real work situations.

A sample timetable for a one-day workshop is given in Appendix 5.

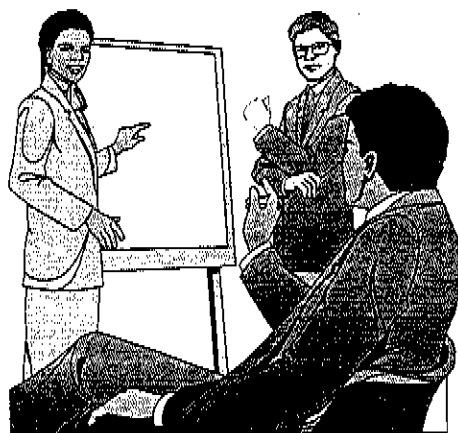
## 5. Evaluation and follow-up

The final stage of the educational process is evaluation. Evaluation is very important for several reasons. It allows the instructor to:

- ⇒ receive feedback, identify problems and make appropriate mid-course adjustments;
- ⇒ monitor student performance and assess whether learning objectives were being met;
- ⇒ improve her/his performance in future educational sessions.

Evaluation allows the student to:

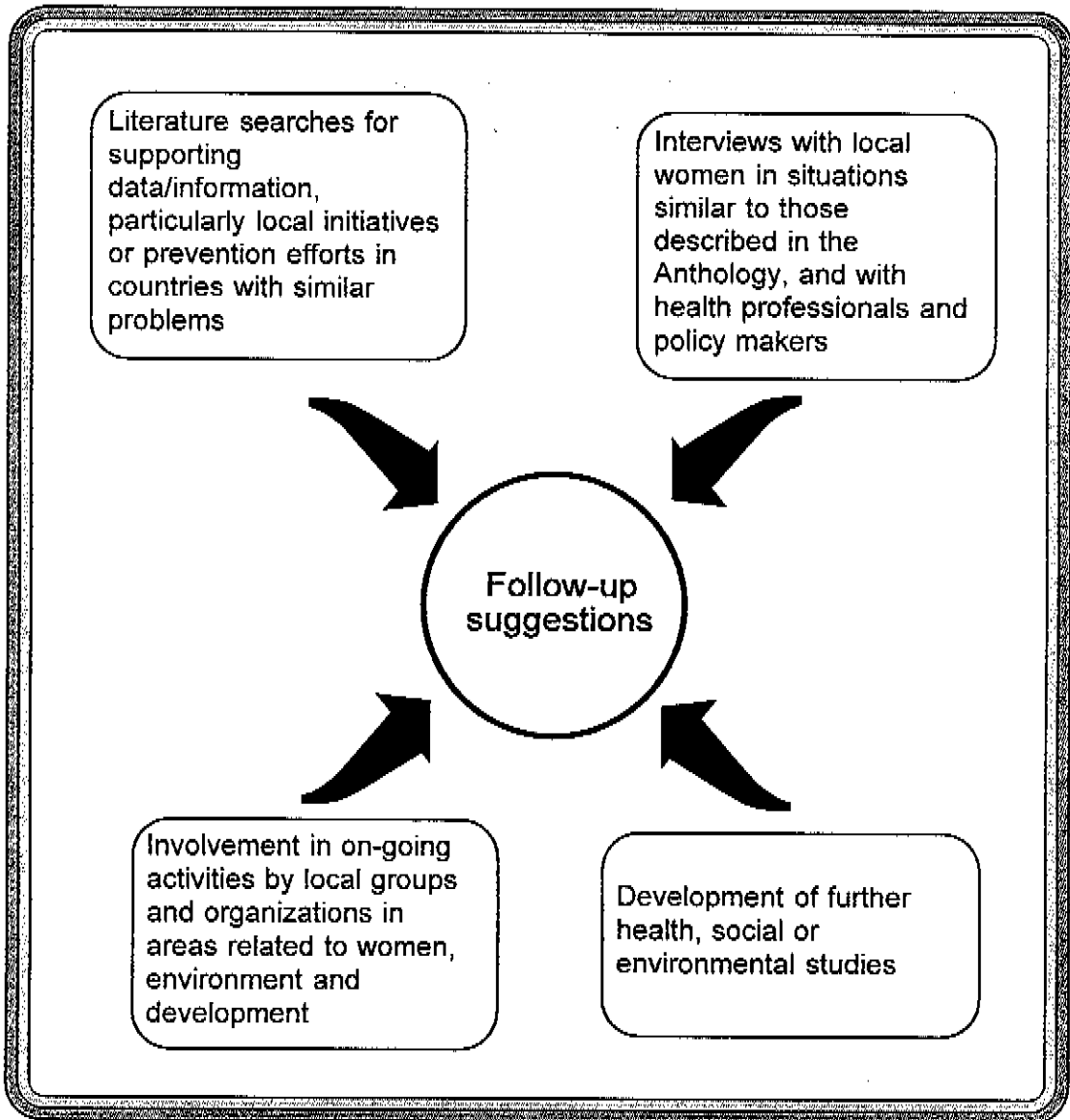
- ⇒ evaluate the course content as well as the instructor's presentation skills, techniques used, facilities and course organization;
- ⇒ evaluate and improve her/his own performance.



Evaluation of the course and the teachers by the students is as important as examination of the students. This evaluation should cover course content, the course's relevance to and interest for the students, the teaching methods and teaching aids employed. The opinions of the students will help the teachers to modify the course. Formal evaluation should be carried out at the end of the course, usually by means of a written and anonymous response from each student. Time should be allowed for this during the class. Students should be asked for both positive and negative feedback and for constructive suggestions as to how the course might be

improved. Teachers should remember that it is impossible to meet the needs of all students; students' comments may even be contradictory.

Various options for follow-up activities are shown in the box overleaf and further discussed in Appendix 4. These could be a continuation of work already under way or a new initiative inspired by their learning. The aim is to focus participants' attention on the need to make commitments for further activities at the end of the course or workshop.



## Appendix 1

### Example 1: Problem-solving exercise on the impact of guinea-worm infection on women in Nigeria<sup>3</sup>

**Objectives:**

1. To identify how environmental factors such as water-borne infectious diseases affect women in specific ways.
2. To use gender as a critical category to analyse and propose potential solutions to a public health problem.

**Procedures:**

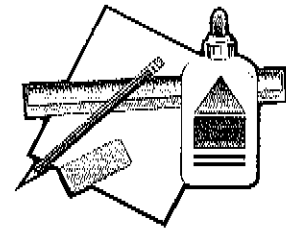
1. Introduce the exercise and review its objectives. Divide participants into small groups (4–6 people). Instruct participants to identify a chairperson and a recorder.
2. Distribute the problem-solving exercise and review the participants' tasks as well as the specific questions for discussion. Acknowledge that the information provided may, in some cases, be insufficient to draw adequate conclusions. These gaps should be noted in their responses to questions 4 and 5. Once the exercise has been properly understood, allow participants to work in small groups for one hour (or more, if necessary).
3. Reconvene the groups and invite a response from the first group to the first question. Ask whether other groups have any different responses. Summarize, and if necessary expand on, the participants' responses and proceed to question two. Allow a different group to initiate the discussion and continue in this format until all questions have been answered. *Possible answers to the questions are provided below. These answers are not intended to be considered as all-inclusive. Instructors are encouraged to develop alternative responses and intervention strategies that are appropriate to the local situation.*
4. Summarize the results, emphasizing key messages, and conclude the exercise.

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<sup>3</sup> Impact of guinea-worm infection on women in Nigeria. *Anthology on women, health and environment*, 1994, (WHO/EHG/94.11), pp.15–17.

**Materials Needed**

Problem-solving exercise, flip chart, magic markers.



**Exercise**

In a community in Nigeria, 60% of the women are affected with guinea-worm infection. Guinea-worm is caused by swallowing the host, a small crustacean helminth, which is found exclusively in stagnant, unprotected water sources. Approximately a year after ingestion of the helminth, the metre-long parasite breaks through the host's skin in a painful blister. While infection is rarely fatal, it can incapacitate sufferers for extended periods. The worm generally emerges at or below the knee, causing painful swellings of the knee and ankle joints as well as secondary infection, making movement difficult or impossible. The average duration of incapacity from infection with guinea-worm is 9 weeks.

More than one-third of the affected women are bedridden at some stage during their illness and thus unable to carry out their activities in several spheres: self-care, child-care, care of the household and income generation. Women in this area are responsible for all domestic duties and also make a major financial contribution to their households. Polygamous extended families are the norm, and a husband's contributions may comprise only a portion of what is needed to maintain a household.

Typical problems among infected women include loss of income, inability to wash themselves and their clothes, reduced food intake due to diminished appetite because of the nauseating smell of the ulcer, and the desire to reduce the need to defecate, and at some stages inability to move outside the house to defecate. Ability to seek care during pregnancy can be reduced due to incapacity of movement, preventing attendance at health clinics. For treatment, many use traditional and home remedies but about 15% do nothing to treat the disease.

Infection signals falling income but increased expenditure on traditional remedies and on purchase of ready-cooked food which would not otherwise be purchased. In many cases, adequate care cannot be obtained and sufferers have to move in with relatives or remain alone all day, often with uncared for infants, until help becomes available in the evening.

Your task is to analyse this public health problem and identify potential solutions.

1. *What are the environmental issues or problems facing women in this case?*

Water sources are contaminated with guinea-worm.

2. *What are the health effects of these problems?*

Infection, swelling, severe pain, incapacity, reduced ability to breastfeed, reduced ability to prepare food and eat, reduced ability to carry out all normal activities.

3. *What are the underlying causes of these problems?*

- a. Is this problem related to women's status in society?

Yes. The women's multiple roles, as mothers, health providers, care-givers and income generators, mean that their illness and incapacity has special implications for the family and the community.

- b. Is the problem due to women's exposure to a certain hazard when performing obligatory tasks?

No. All members of the community are at equal risk of infection. The special problem for infected women is related to their impaired ability to discharge their multiple responsibilities within the community.

- c. Do biological or physiological factors play a role in this problem?

Yes. Women's ability to seek antenatal care and to adequately breastfeed an infant may be jeopardized due to the infection.

- d. Do women suffer more from the health problem once it occurs, for example through lack of awareness of its impact on them, social stigmatization, or lack of treatment?

Women's domestic, income-generation and child care responsibilities mean that a number of roles cannot be fulfilled if they are disabled. The implications of the fact that help is primarily sought from other women should be considered here. There is no evidence of stigma with guinea-worm infection, or of more stigma for women. The general issue of access to health care treatment of women and girls will apply if the cultural norms in the area of infection support preferential treatment of males. This is not specified here as it is in the case of schistosomiasis.

4. *What other information do you need to fully assess the situation?*

The sort of health treatment that is available; details of how much it costs; whether the villagers can afford it; who is treated and who is not; whether it is possible to treat the contaminated water sources.

5. *How would you go about investigating this problem in detail?*

By investigating

- a. the health effects
- b. the social impact
- c. the environmental causes

These main categories could be made more manageable by breaking them down into a number of smaller issues/problems. Pilot projects might provide further information or indicate a suitable way forward.

6. *What can be done about the problem (short and long-term)?*

**Short-term:**

- ↔ Provide suitable and affordable medication for those infected.
- ↔ Evaluate the social impact on the community of the women's disability.

**Long-term:**

- ↔ Clean the water sources responsible for infection and ensure pumped water is available to the community.
- ↔ Carry out community work through means such as focus groups to strengthen social support mechanisms to the individuals and families affected.
- ↔ Strengthen health education activities. In areas where infection has been completely or partially eliminated through protection of water sources, women are aware of how and why the scourge has been reduced, and of the benefits that have since accrued in the form of improved health and more time for income-earning activities.

NB: Appendix 4 (Action Planning Exercise) can provide advice on approaching questions 5 and 6 above.

## Example 2: Problem-solving exercise on the implications of *Schistosomiasis haematobium* on women in Cameroon<sup>4</sup>

### **Objectives:**

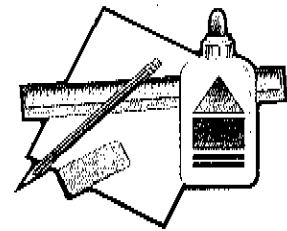
1. To identify how environmental factors such as water-borne infectious diseases affect women in specific ways.
2. To use gender as a critical category to analyse and propose potential solutions for a public health problem.

### **Procedures:**

1. Follow the same procedures as for the previous exercise on guinea-worm.

### **Materials needed:**

Problem-solving exercise, flip chart, magic markers.



## Exercise

In a village in Cameroon, 76% of the population is affected by schistosomiasis, with slightly more women infected than men. The disease is contracted by the passage of the parasite *Schistosoma haematobium* through the skin in water. The effects of the disease can include iron deficiency and anaemia if the infection reaches a level sufficient to cause loss of blood in urine. The infection results in loss of appetite, fatigue and weakness, along with impaired ability to carry out domestic, agricultural and parental duties.

Other potential effects include genital lesions, as well as reproductive disorders which are particularly devastating for women in the community. Marriage opportunities for those affected may be diminished, since potential suitors must be informed of the infection. Many believe that the infection is a venereal disease. Married women who are infected are forbidden sexual contact until they are cured and may even be evicted from the household.

<sup>4</sup> *Anthology on women, health and environment*, 1994, (WHO/EHG/94.11), pp.9-11

Women's infection rates are linked to their domestic and agricultural responsibilities which include water collection, bathing of children, laundering, cleaning of utensils, preparation and washing of foodstuffs, and farming, all of which involve regular and prolonged exposure to infected water. Inadequate sanitation and waste disposal facilities, lack of basic amenities, and lack of awareness concerning sources of infection and transmission are other causal factors.

Few villagers can afford the medication needed to treat the infection. Women in particular are disinclined to seek treatment, not only because of financial limitations, but also because of the social stigma associated with the disease. Its persistent recurrence fosters the belief that schistosomiasis responds neither to traditional nor Western medicine. For all these reasons, it is likely that urino-genital schistosomiasis infections in women are significantly under-reported.

Your task is to analyse this public health problem and identify potential solutions.

1. *What are the environmental issues or problems facing women in this case?*

They are exposed to contaminated water, and local environmental conditions are unhygienic. Accepted behaviour, attitudes and customs perpetuate the risks.

2. What are the health effects of these problems?

Infection with the *schistosoma haematobium* parasite which produces symptoms and effects such as iron deficiency, anaemia, loss of blood in urine, fatigue, and impaired ability to carry out duties.

3. *What are the underlying causes of these problems?*

- a. Is this problem related to women's status in society?

Yes. Assuming that women's infection is due to exposure to contaminated water through the performance of their domestic duties, it is their status which determines the duties which expose them to risk.

- b. Is the problem due to women's exposure to a certain hazard through performing obligatory tasks?

Yes, for the same reasons as stated above.

- c. Do biological or physiological factors play a role in this problem?

Yes. If sterility or reproductive difficulties result, women are socially disadvantaged and physiologically impaired.

- d. Do women suffer more from the health problem once it occurs, for example through lack of awareness of its impact on them, social stigmatization, or lack of access to treatment?

Yes. Women with this disease may be severely stigmatized, whereas no stigma is attached to infected men. The stigma affects women's ability or willingness to be treated. It also affects their ability to marry or remain married, and hence threatens their economic safety and security. Factors such as these lead to under-reporting, and to the conventional wisdom that young men constitute the group most exposed to risk of this disease.

4. *What other information do you need to fully assess the situation?*

What kind of health information is already available?

- ⇒ Is it gender-sensitive?
- ⇒ For what reasons have other groups (adolescent males) mostly been targeted for study?
- ⇒ Why is it thought that these groups are most at risk?

Given their traditional roles, has sufficient attention been given in the past to women's potential exposure?

5. *How would you go about investigating this problem in detail?*

- a. What cultural/gender issues need to be considered in planning further investigations/studies?
- ⇒ In the society under investigation, what work or other activities done by women are likely to expose them to the same or greater risks as other population groups?
  - ⇒ What is the regularity and duration of women's exposure, during all their roles and responsibilities, compared with that of other groups at risk?
  - ⇒ Does exposure to this risk affect women's ability to perform their roles in other spheres?
  - ⇒ What kind of measures could be taken to ascertain whether women are not willing or able to report this disease?

b. Whom would you involve on your investigation team?

- ⇒ Medical/public health personnel (to carry out health studies and determine treatment).
- ⇒ Sociologists or anthropologists (to clarify the sociocultural issues for all parties involved).
- ⇒ Community health workers (to liaise between the above two categories and the community).
- ⇒ Community leaders, male and female (to liaise with the above three categories and the community).
- ⇒ Environmental sanitarians or engineers (to identify technical solutions).

6. *What can be done about the problem?*

a. What prevention measures or campaigns would you recommend?

- ⇒ Ascertain which individuals and groups are actually and potentially at risk, and why.
- ⇒ Carry out long-term community education work aimed at encouraging better reporting for treatment and compliance with prescribed treatment.
- ⇒ Ensure that effective and affordable medication is available.
- ⇒ Introduce appropriate environmental control technology.

b. Why and how would you involve women in your prevention efforts?

- ⇒ Women doctors who appreciate the cultural problems for infected women should be available for consultation and should be involved in any epidemiological or clinical studies undertaken.
- ⇒ Women community health workers should be available to advise and liaise with women community members.

c. Why and how would you involve men in your prevention efforts?

- ⇒ Male doctors and community health workers should work with community leaders and heads of household to stress the importance of

equal access to treatment for all family members, and in countering the belief that the infection is a venereal disease.

- ⇒ Men of the community should be involved in efforts to address water source contamination, to ensure that proposed changes are approved and to reduce the notion that water-related issues are "women's work".

## Appendix 2

### Example 1: Discussion starter on occupational hazards<sup>5</sup>

**Objectives:**

1. To identify how occupational hazards affect women in specific ways.
2. To use gender as a critical category to analyse and propose potential solutions for occupational health hazards.

**Procedures:**

1. As mentioned in the text on p.14, the discussion starter can take a variety of forms: role play, case study, picture, or video. This example demonstrates a scripted role play of a conversation among workers at a fish factory. Ask for three volunteers and invite them to come to the front of the room to read their lines.

### Role Play



**Maria:** Did you hear about Catherine? She's still off work with those pains in her wrist. She may lose her job.

**William:** It didn't sound that serious to me. I think she just wanted some time off.

**Maria:** It *is* serious. She's been to the doctor several times, but he's not sure what it is.

**William:** That's because it's all in her head.

**Anna:** Why doesn't she just change jobs?

**Maria:** What else could she do? All the better jobs around here are done by men.

**William:** She'd better figure it out soon. She can't stay off work forever.

---

<sup>5</sup> Based on "Women's job ghettos - the fish-processing industry" in *Women, health and environment*, 1994 (WHO/EHG/94.11), pp. 117-119

2. Facilitate a discussion on the scenario portrayed in the role play using the following guidelines. Your leading questions to participants follow the acronym "SHOWeD" described on p. 14. Some potential responses are listed below each question.

**See:** *What do you see here? What are the issues being raised?*

Some ideas might be the expression of different attitudes about the illness of a co-worker; the problems faced by a woman worker; her lack of options, and a lack of compassion for her problems.

**Happening:** *What's really happening here? How do each of the characters feel? What about William?*

Cynical, lacking in compassion, sceptical about the illness of his colleague, reflecting "traditional" attitudes about women and work, representing the views of management.

*What about Maria?*

Compassionate, concerned about her friend, conscious of the problems and the apparent lack of options available to her co-worker.

*What about Anna?*

Perhaps a bit naïve, unaware of her own lack of mobility and that of her co-worker, and looking for an easy solution to a complicated problem, she may not acknowledge the health problem of her co-worker.

**Our:** *Does this situation seem familiar? How is it similar? How is it different?*

Encourage participants to share similar or different experiences.

**Why:** *Why is ..... such a problem?*

Name the problem identified during the discussion. For example: discrimination against women, lack of options for women, occupational hazards and their effect on women, lack of understanding about certain occupational health problems.

**Do:** *What can you do about it?*

Discuss short- and long-term action strategies. Some could be adopted immediately; others would require long-term institutional changes.

3. Conclude the discussion. Review the issues that have been raised about occupational hazards and their specific effects on women. Acknowledge the important role of values and attitudes in determining outcomes and action (for example, the pervasive attitude that women workers are complainers, unequal to the task, hysterical, and so on).

## Example 2: Discussion starter on health and household energy

### **Objectives:**

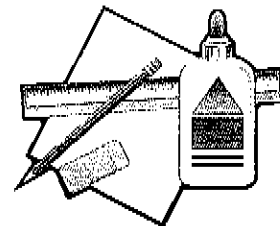
1. To identify how occupational hazards affect women in specific ways.
2. To use gender as a critical category to analyse and propose potential solutions for occupational health hazards.

### **Procedures:**

1. Follow the same steps as shown in Example 1.

### **Materials needed:**

Role play script, flip chart, magic markers.



## Role Play



**Susan:** Did you read that newspaper article about fuel shortage in India? And how so many poor women have respiratory problems from exposure to cooking smoke? The women have to spend hours and hours finding the fuel and carrying it home, and then they have to do all the cooking and breathe the smoke! Their babies get sick too. And if the women don't find enough fuel to get the food cooked, they risk getting beaten by their husbands. What a life!

**John:** What about the men? I'm sure they're doing something that's equally risky.

**Susan:** But at least the men have a bit more choice about what they do and when they do it. Maybe the women would rather not be fetching fuel and cooking, but they can't choose!

**John:** Do you think the men would want to risk the health of their wives and babies? If they knew how dangerous the smoke was, I'm sure they'd try to find ways of improving things.

**Paul:** I'm not so sure. That's the way they've always done things and it's hard to make people change. Why don't they just find a way to get rid of some of that smoke?

**Susan:** Easy for you to say. It's not that simple.

**John:** I'm just glad we don't have to live like that.

## Appendix 3

### Worksheet questionnaire on health and household energy

**Instructions:** Please complete the following questionnaire. Note that there may be more than one correct answer for each question.

1. **Biomass fuels consist of all the following *except*:**

- a. wood
- b. oil
- c. kerosene
- d. crop residues
- e. dung
- f. branches, leaves, twigs
- g. gas

*Answer:* Biomass fuels may be any of the above except for kerosene, oil and gas. Biomass is used by over half the world's households — by almost all rural, and many urban, poor. Biomass fuel smoke contains hundreds of potentially health-damaging chemicals. Important examples are respirable particulates, carbon monoxide, formaldehyde, and benzo(a)pyrene.

2. **Indoor air pollution in developing countries is a serious health hazard.**

a. True

b. False

*Answer:* True. Measured levels of indoor pollutants in developing countries can exceed the established WHO guidelines for air quality by many orders of magnitude. Increasingly, attention is being given to the health effects of biomass and coal use.

3. **Name two of the health risks of inhaling biomass or coal smoke emissions.**

*Answer:* Potential health risks include: chronic obstructive lung disease in adults; acute respiratory infection in infants; right-sided heart failure (cor pulmonale); low-birth-weight babies; lung cancer (coal use only); depressed immune response.

4. **Name two health risks related to gathering and preparing biomass fuels.**

*Answer:* Potential health risks include: bites and stings; skin infections, cuts, minor wounds; falls, fractures; musculoskeletal disorders from transporting heavy loads; risk of gastrointestinal disorders and skin infections from handling dung.

5. The people most affected by biomass and coal use are:

- |          |          |
|----------|----------|
| a. men   | c. girls |
| b. women | d. boys  |

Why?

*Answer:* Women and girls form the population group most at risk because they are usually responsible for gathering fuel and cooking. Women also have smaller haemoglobin reserves than men, which makes them more prone to anaemia. Over 50% of women in developing countries are anaemic. Lower haemoglobin reserves mean that the negative impact of carbon monoxide (CO) occurs at lower exposures in women than in men. The unborn child is also at high risk from CO exposure. Low birth weight and increased infant deaths are associated with exposure of pregnant women to CO. Low-birth-weight infants succumb more easily to child killers such as diarrhoeal disease and acute respiratory infection.

6. Dependence on biomass fuels for cooking may have a negative impact on nutritional status.

- |         |          |
|---------|----------|
| a. True | b. False |
|---------|----------|

*Answer:* True. Dependence on biomass fuels means that when fuel is lacking, people cook less often. Income may have to be spent on fuel instead of food, which reduces food intake and lowers nutritional levels. There may be reliance on less nutritious, purchased foods, or on leftover or reheated foods. When fuel (and subsequently food) shortages occur, unequal distribution of food among family members tends to increase. If more energy is expended in more intensive fuel searching, this is unlikely to be compensated for by increased food intake.

7. (i) Which of the following would best reduce or eliminate the health risks from biomass fuel and coal use?

- a. burn less fuel
- b. use alternative fuels, such as kerosene and liquid petroleum gas
- c. use improved stoves to reduce smoke and consume less fuel
- d. increase ventilation in cooking area
- e. spend less time on cooking
- f. cook less fuel-intensive foods
- g. avoid use of biomass fuel for boiling water and heating
- h. avoid smoking tobacco
- i. promote local capacity-building and income-generating schemes
- j. encourage better house cleaning
- k. provide education about the health effects of biomass fuel use
- l. other .....

*Answer:* Since many interlinking factors contribute to the negative health impact of poverty, fuel-shortage, inadequate housing, and an unhygienic local environment, interventions should be comprehensive. Addressing these factors in a separate and isolated way is difficult, and often unsuccessful.

Several of the following options might constitute appropriate interventions.

Option (a) *Burning less fuel* may seem to be a positive solution; however, this approach may also result in less frequent cooking (and therefore a decrease in food intake and nutrients) as well as decreased household heating.

Option (b) *Use of alternative fuels* is a good idea, although unrealistic since these alternatives are unaffordable or unobtainable in poor communities.

Options (c) and (d) *Using improved stoves and increasing ventilation* are an excellent combined approach assuming that the improved stove really does provide all the benefits claimed for it.

Option (e) *Spending less time on cooking* is not an acceptable solution because of its nutritional impact.

Option (f) *Cooking less fuel-intensive foods* is undesirable as substitutes may not be as nutritious as traditional staples.

Option (g) *Reduction of fuel for boiling water and heating* should never be advised although this is unfortunately a common occurrence in times of shortage.

Option (h) *Avoidance of tobacco smoking* is a good secondary recommendation tobacco smoke and biomass/coal smoke have synergistic effects.

Option (i) *Income generating approaches* should be encouraged since this provides households with more options, such as the ability to buy a better stove, more fuel, or an alternative kind of fuel.

Option (j) *Better house cleaning* is not a viable intervention for resolving the household energy problem.

Option (k) *Education* is recommended in combination with other interventions.

**7. (ii) Prioritize the interventions you selected. Which two (or more) would be most beneficial?**

*Answer:* Prioritized interventions would include improved stoves, better ventilated homes, education, income generation schemes, and those which may be appropriate to local needs and conditions.

## Appendix 4A

### Action planning exercise

**Objectives:**

1. To facilitate the development of short- and long-term action plans aimed at reducing the negative impacts of environmental factors on women's health and well-being. Actions may include awareness raising, investigation/research, and specific projects in areas related to women, health, environment and development.
2. To encourage participants to practice and apply the new information, skills and attitudes developed during the course or workshop.

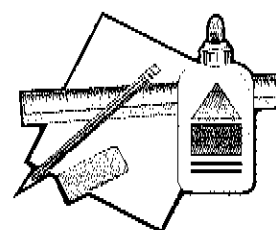
**Procedures:**

1. Brainstorm a list of potential activities related to issues of women, health, environment and development. These include:
  - ⇒ literature searches for supporting data/information, particularly local initiatives or prevention efforts in countries with similar problems;
  - ⇒ interviews with local women in situations similar to those described in the *Anthology*, and with health professionals and policy makers; involvement in on-going activities of local groups and organizations;
  - ⇒ development of further studies;
  - ⇒ development of educational programmes.
2. (*Optional*) Incorporate discussion of obstacles and resources for action planning, as shown in Appendix 4C.
3. Ask participants to work independently or in groups to prioritize *target groups* for activities (based on risk, need, interest, and so on), and *contents* of activities. Indicate whether any preliminary investigations or studies must be conducted.

4. Once priority areas have been established, instruct participants to use worksheets to independently plan follow-up activities that they will undertake after the workshop or at the end of the course. Establish a target date by which all follow-up activities should be completed. Participants should designate their target population, rationale for their selection, objectives and estimated timeline for implementation.
5. *(Optional)* Make a copy of the plans which participants hope to undertake. These can serve as a useful evaluation tool to assess participants' increase in knowledge and analysis, and to measure the overall effectiveness of the workshop. Inform participants if you intend to retain copies of their plans for evaluation and follow-up.
6. When plans are complete, ask each participant to briefly present their future programme. Post these on flip chart paper with the following suggested headings: name, region, target audience, topic, specific plans. Record each participant's proposal. Highlight opportunities for collaboration and sharing of materials.

***Materials needed:***

Worksheets for distribution in class, flipchart.



## Appendix 4B

### Individual action planning worksheet

*Note to Instructor:* This worksheet can be adapted in various ways according to the type of activity and the time available. For example, if time is limited, participants can simply be asked to identify their area of focus, target group, objectives and the first step in their implementation plan.

#### Instructions:

Develop a plan of action, which you will undertake following identification of a problem in the area of women, health, and environment.

#### *Topic or Area of Focus*

1. Prioritize one area for action planning, such as:
  - ⇒ education and training (for example, planning a workshop, course, seminar, or study group;
  - ⇒ research (carrying out a literature search, interviews, etc.); investigating existing or missing legislation, policies, procedures;
  - ⇒ organizational development (establishing departments, committees, interdisciplinary working groups, etc.)

#### *Goals*

1. What are your *short-term goals* in the area you selected?  
For example, what can be done now to raise awareness and strengthen education, training and research on women, health and environment, with the current level of available expertise and resources?
2. What are your *longer-term goals*? (These may require additional planning or research.) For example:

- ↳ acquire a detailed understanding of the kinds of environmental risks and hazards to which women in this area are exposed;
- ↳ ensure equity of access for women to health care resources and services.

***Action steps***

What action steps would you recommend in support of the activities selected?

1. Who is your target population and why have you selected it? (For example, is it based on exposure to risk, lack of prior attention to this kind of problem, interest in the issue, ability to finance, etc.?)
2. What are your specific plans?
3. Outline the steps needed to implement your plan of action.
4. What human and financial resources are needed and how do you propose to obtain them?
5. With whom do you plan to collaborate?
6. What is your timeline? For example, what do you hope to accomplish in the next month, 6 months, 1 year, 5 years?
7. What obstacles are you likely to encounter in trying to implement this activity and how do you propose to overcome them?
8. Which of the above steps can realistically be achieved in the next 3 to 6 months?

## Appendix 4C

### Promoting activities related to women, health and environment: identifying obstacles and resources

#### **Objectives**

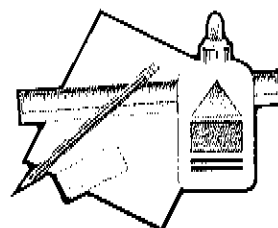
1. To facilitate an *analysis of the potential problems* in implementing action strategies on women, health and environment issues, their causes and potential solutions.
2. To identify resources which support initiatives in this area.

#### **Procedures**

1. Ask participants to identify one, or if the group is small, two obstacles that they may face in applying, outside the course or workshop, what they have learned about women, health and environment problems. They should write each obstacle in large print on a piece of paper, in magic marker. (The print should be large enough for posting in front of the class. The key is to use few words and big letters.)
2. Ask for a volunteer to read out his or her obstacle and pass the piece of paper to the front of the room for posting. Then call for obstacles with a similar theme, posting each piece of paper under the former to create a vertical column. A new column is created for each new theme. By proceeding in this manner, a visual representation of the most pressing problems is created. The longest list usually reflects the problem of greatest concern.
3. Summarize the prioritized obstacles. Discuss causes and potential solutions for each. Focus on obstacles whose solution would have the greatest positive impact.
4. Brainstorm a list of institutional, national and international resources for activities related to women, health and environment.

#### **Materials needed:**

Magic markers, tape, pieces of paper or stiff cards (preferably coloured), board for posting the cards.



## Appendix 5

### Sample timetable for one-day workshop

Although the timetable example selected here is for a one day workshop or seminar, the timing could be modified and expanded to accommodate several sessions over a weekend, or alternatively over several weeks. The timetable can also be modified to focus on issues of particular relevance to local situations.

Time	Activity
09:00–10:00	Introduce self; ask participants to do same, stating their name, place of origin, job (or principal activities) and their personal experience with exposure to environmental hazards. Brainstorm with participants/students about the kinds of environmental factors they feel have gender implications. Generate a list on a flip-chart.
10:00–10.30	As a group, develop a "hazard" list for women, based on the four categories of hazards outlined in Section 2 of this Guide. Explain the four categories (along with any other categories an instructor has identified) and post a flip chart with a column for each category. Work with participants to place the items generated in the introductory exercise into the appropriate columns. Add important hazards which have not been mentioned. Summarize.
10.30–11.00	<i>Break</i>
11:00–12.30	Introduce selected problem-based exercises. Briefly present and carry out small group exercise according to instructions in Section 3 of this Guide.
12.30–14.00	<i>Lunch</i>
14:00–15:00	Lead discussion of problem-based exercise.
15.00–15.30	<i>Break</i>
15.30–17.00	Conduct action-planning exercise in small groups or as individuals followed by report-back session and discussion.
17.00–17.30	Evaluation and conclusion.

## Appendix 6

### Other WHO teaching texts and case study materials

These materials do not relate to women's health issues, but provide useful guidance on environmental health issues and methods of investigating health problems. They are available in most major medical or public health libraries.

*Our planet, our health.* Report of the WHO Commission on Health and Environment. Geneva, WHO, 1992.

*Basic epidemiology.* Geneva, WHO, 1993.

*Teacher's guide to basic epidemiology.* Geneva, WHO, 1994.

*Problem-based training exercises for environmental epidemiology.* Geneva, WHO, 1992 (unpublished document WHO/PEP/92.05B; available in English and French).

*Major poisoning episodes from environmental chemicals.* Geneva, WHO, Geneva, and the Monitoring and Assessment Research Centre, London, 1992 (unpublished document WHO/PEP/92.19).

*Investigating environmental disease outbreaks. A training manual.* Geneva, WHO, 1991 (unpublished document WHO/PEP/91.35; available in English, French and Spanish).

### Useful gender-related materials

*Anthology on women, health and environment,* Geneva, WHO, 1994 (Document WHO/EHG/94.11)

*Women's Health: Across Age and Frontier,* WHO, Geneva, 1992 (reprinted 1995)

*Gender and third world development,* n.d. Institute of Development Studies, UK, and Commission of the European Communities. Seven modules on various gender and development issues, with tutor's notes:

- ⇒ Socioeconomic statistics
- ⇒ Gender and employment: an Indian case study
- ⇒ Gender and health
- ⇒ Towards gender-aware housing policy and practice

- ⇒ Towards gender-aware provision of urban transport
- ⇒ Household resource management
- ⇒ Gender-aware planning in agricultural production

Obtainable from:

Publications Office  
Institute of Development Studies  
University of Sussex  
Brighton  
Sussex  
BN1 9RE  
UK

*Women and world development series*, Zed Books Ltd, 57 Caledonian Road  
London N1 9BU, UK (10 titles)

- ⇒ Women and the world economic crisis
- ⇒ Women and disability
- ⇒ Women and health
- ⇒ Women and the environment
- ⇒ Refugee women
- ⇒ Women and literacy
- ⇒ Women and human rights
- ⇒ Women and the family
- ⇒ Women at work
- ⇒ Women, participation and decision-making.

A wide range of women and development resource materials can be obtained from the Women, Ink. catalogues, available from the International Women's Tribune Centre, Women, Ink., 777 United National Plaza, New York, NY 10017, USA (Fax: +1 212 661 2704).

# THE GLOBAL ENVIRONMENTAL EPIDEMIOLOGY NETWORK

**G E E N E T**



**GEENET**

The Network was established by the World Health Organization in 1987 as a means of strengthening education, training and applied research in health effects assessment and environmental epidemiology.

The Network's focus is the collaborative activities among members. These are supported by the Office of Global and Integrated Environmental Health at WHO headquarters, the environmental health staff in the six WHO Regional Offices, and associated technical centres.

To support member activities, the Network produces various documents concerning the development and promotion of environmental epidemiology research and training. These, together with lists of Network members, are distributed regularly and will be made available electronically via Internet. GEENET also organizes training and research workshops in collaboration with national and international agencies.

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