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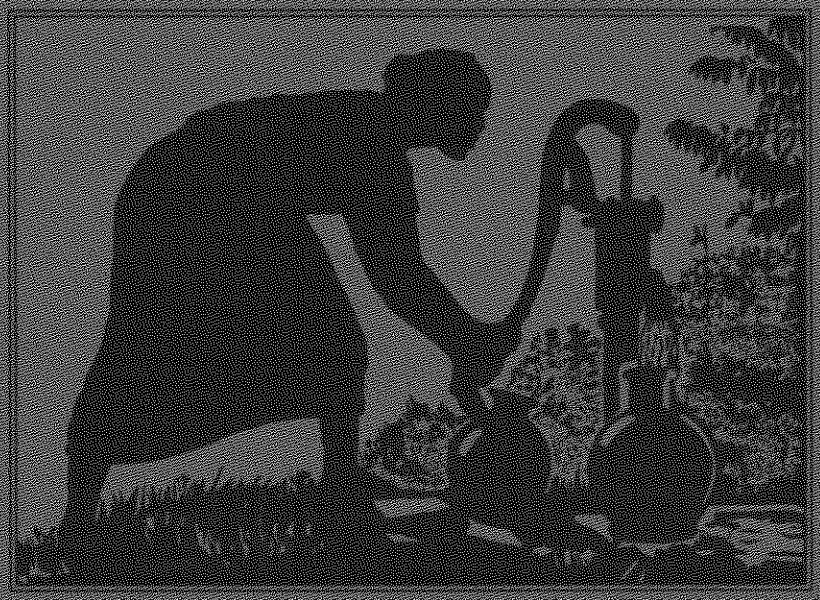
DEPARTMENT OF TECHNICAL COOPERATION
FOR DEVELOPMENT

INTERNATIONAL RESEARCH AND TRAINING INSTITUTE
FOR THE ADVANCEMENT OF WOMEN

INTERREGIONAL WORKSHOP ON TESTING OF TRAINING MODULES ON WOMEN, WATER SUPPLY AND SANITATION



Banjul, the Gambia
2 - 6 September 1991

New York, 1991

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NOTES

The designations employed and the presentation of material in this report do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country territory, city of area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The monetary unit in the Gambia is the dalasi (D). During the period of the Workshop, the value of the dalasi in relation to the United States dollar was $US 1 = D 9.25 (September 1991).

Abbreviations used

ISWSSD - The International Drinking Water Supply and Sanitation Decade

ILO - International Labour Organisation

INSTRAW - United Nations International Research and Training Institute for the Advancement of Women

MEP - Minimum Evaluation Procedure

PROWWESS - Promotion of the Role of Women in Water Supply and Sanitation

UNDP - United Nations Development Programme

UNDTCD - United Nations Department of Technical Cooperation for Development

WHO - World Health Organization

WID - Women in Development

WSS - Water Supply and Sanitation

ABSTRACT

The International Workshop on Testing of Training Modules on Women, Water Supply and Sanitation held in Banjul, the Gambia, on 2 - 6 September 1991 was successful.

There were 23 participants (12 men and 11 women) from 4 African countries: the Gambia, Ghana, Liberia and Sierra Leone.

The modular training package "Women, Water Supply and Sanitation" reflects the work of UNDTCD/INSTRAW and ILO/TURIN CENTRE in this area. Its production was funded by UNDTCD.

The modules aim at promoting the integration of women's needs with participation in sustainable water supply and sanitation programmes, paying particular attention to training activities and to management of water resources.

The package is designed to give a general overview and should be adapted by trainers to the particular requirements and needs of a given country.

CONTENTS

Annexes

PART I

REPORT OF THE WORKSHOP

PART I. REPORT OF THE WORKSHOP

INTRODUCTION

The Workshop on Testing of Training Modules on Women, Water Supply and Sanitation was held at the Karaiba Hotel in Banjul, the Gambia, from 2 - 6 September 1991.

The workshop was organized by the United Nations Department of Technical Cooperation for Development (UNDTCD), in cooperation with the United Nations International Research and Training Institute for Advancement of Women (INSTRAW) and the Government of the Gambia.

Twenty-three participants from the Gambia, Ghana, Liberia and Sierra Leone attended the workshop (see Annex I).

A. Opening of the workshop

The Workshop was opened with statements conveyed on behalf of the United Nations Department of Technical Cooperation for Development, the Government of the Gambia, the United Nations International Research and Training Institute for the Advancement of Women, and the United Nations Development Programme in the Gambia.

Statement on behalf of the United Nations Department of Technical Cooperation for Development by Mr. Maung San Lin, Economic Affairs Officer Water Resources Branch, Natural Resources and Energy Division

Your Excellency, distinguished participants, ladies and gentlemen,

On behalf of Mr. Ji Chaozhu, Under-Secretary-General of the United Nations Department of Technical Cooperation for Development, (UNDTCD), and personal representative of the United Nations Secretary-General on the Board of Trustees of the United Nations Research and Training Institute for the Advancement of Women (INSTRAW), I would like to welcome you to the Workshop on Testing of Training Modules on Women, Water Supply and Sanitation. First, I would like to express my deep gratitude to His Excellency, Mr. Baba Jagne, Permanent Secretary of the Office of the President of the Gambia, for taking time from his busy schedule to be with us today, and to the Government of the Gambia for hosting this workshop.

This workshop is part of UNDTCD's interregional activities on the promotion of women's participation in water supply and sanitation organized in cooperation with INSTRAW and the Government of the Gambia. This workshop was conceived largely at the initiative of Mrs. Dunja Pastizzi-Ferencic, Director of UNDTCD's Natural Resources and Energy Division and former Director of INSTRAW, and it evolved with her assistance and support. We are pleased to have with us Ms. Borjana Bulajich of INSTRAW, who is the primary resource person for the workshop. A similar workshop to present the training modules will be held in Asia, probably in Bangkok, Thailand, in 1992. The main purpose of the workshop is to test the usefulness and effectiveness of the training modules on women, water supply and sanitation with regard to their practical application in the field. These modules were first developed by INSTRAW and subsequently revised and improved by UNDTCD in cooperation with INSTRAW and the International Labour Organisation's Training Centre in Turin, Italy.

In keeping with its established policy, UNDTCD is fully

committed towards enhancing the role of women in development. With this end in view, a UNDTCD Task Force on Women in Development (WID) was established in 1982. As the oldest such entity in the UN system, it has continued its efforts in promoting the involvement of women in development. This is achieved by focusing on the need to involve women in the planning and implementation stage of development projects, particularly at the country level, to ensure that programmes in which UNDTCD cooperates with developing countries will fully reflect women's concerns, in accordance with their national development plans. However, as project identification is based on the principal objectives and priorities of individual governments, the role of women will be reflected only to the extent that governments consider the issue of women in development as relevant or applicable.

UNDTCD's projects have aimed to further economic and social development in countries, and in so doing, have provided many new opportunities for the involvement of women. In many fields such as natural resources, particularly in the water, minerals and energy sectors, in development planning, including rural development, in public administration and finance, population statistics and social development, the Department is now giving women added opportunities for technical training, on-the-job experience and new jobs.

In the water sector, there are several elements relating to women and technical cooperation in operational projects. In Niger, for example, a major component of a UNDTCD project consists in establishing a system of water point management and maintenance, involving community sensitization and partiicpation, primarily on the part of women. Women consultants from developing countries are assisting in this project. Similar activities were started in Mauritania, and are being continued with greater intensity in the follow-up phase.

In Niger, a woman national from Madagascar who had received training in rural water supply in Mali, is being recruited as a Junior Expert Hydrogeologist in a UNDTCD project.

To strengthen interaction at both national and international levels, UNDTCD has progressively increased cooperation with

INSTRAW, with which it maintains growing collaboration in many activities. The present workshop is just one example.

The role of women in the water sector is particularly crucial in the countries of West Africa, which have suffered most acutely from shortages of both financial and water resources. African women have generally borne the burden of development in rural areas. The tradition of women's involvement in water supply and sanitation programmes in Africa has served as a model for setting up similar programmes elsewhere. It is therefore considered appropriate that the testing of modules be first carried out in Africa - that is, in Banjul, the Gambia.

The workshop is expected to provide answers to four basic questions: what advantages do we derive from women's participation in water supply and sanitation programmes and projects? What training methodologies should be used? How can women become involved efficiently? What is the best way to approach, train and support women? During the workshop, participants will be asked to evaluate the usefulness and effectiveness of the training modules.

The results of their evaluation, as well as relevant conclusions and recommendations of the workshop will be used as a basis for further improvement of the training modules and of strategies for promotion of women's participation in the water supply and sanitation sectors.

Finally,I would like to convey our heartfelt thanks to Mr. Victor Angelo, UNDP Resident Representative in the Gambia, for providing crucial support to UNDTCD's activities, and a particular word of gratitude to Mr. Vladimir Plesinger, Chief Technical Adviser of UNDTCD's project in groundwater development and management, for coordinating and liaising between UNDTCD and the Gambian authorities. Without his active initiative and involvement, this workshop would not have been possible.

Statement on behalf of the Government of the Gambia
by Mr. Baba C. Jagne, Permanent Secretary
of the Office of the President

I am both pleased and honoured to have this opportunity to welcome you, on behalf of the Government of the Gambia, to Banjul, for these important discussions on how to strengthen and broaden the role of women in water supply and sanitation programmes and policies.

I would like to believe that the decision to hold this workshop in the Gambia was not taken lightly, and am naturally very pleased that our colleagues in INSTRAW and in the UN Department of Technical Cooperation for Development have recognized the high priority we attach to the many significant issues that you will be discussing here this week, and that the Gambia has been selected as the first testing ground for the revised modules on women, water supply and sanitation, which have been revised and updated to take into account a number of important political and substantive developments in this critical sector.

In the Gambia, as in many countries in the developing world, we are faced with a multitude of problems where women in development are concerned. Gambian women constitute about one half of our labour force. They are the main producers of swamp rice and vegetables. Along the coast, the processing and marketing of fish is done mainly by the women. Overburdened with work and suffering from malnutrition, a large number of our rural women are in poor health. The situation is further aggravated by relatively low levels of literacy which result in high maternal and infant mortality rates. Traditional factors as well as work obligations have resulted in Gambian women having less access than men to formal and non-formal education. Despite their considerable contribution to agricultural production, they lack land rights and have limited access to production inputs.

The Government of the Gambia has made significant progress in addressing these problems through the establishment of the National Women's Council and the Women's Bureau, which provide advice on

such critical issues as education and training of women, and measures required for making women equal partners with men in the economic, social and cultural development of the Gambia. We have, moreover, set up the machinery and procedures for continuous review and evaluation of progress made by women in national development, and we are working towards strengthening the capacity of the Women's Bureau in coordinating women's development activities and in research, monitoring and evaluation of policies and programmes in support of women in development.

The training modules prepared by INSTRAW in cooperation with UNDTCD and ILO coincide directly with the importance we have attached over the years to the development of our water resources, and the programmes we have carried out, largely through our Ministry of Natural Resources and the Environment in cooperation with other agencies including the National Water Resources Council, have been directed towards improving and extending drinking water supplies for both people and livestock and also towards expanding irrigation along the Gambia river. We are of course very proud of the fact that since the early seventies, some 1,000 wells, many supplied with handpumps, more than 100 bore holes and 5 piped water systems, have been constructed in rural areas. Still, much remains to be done, particularly in terms of providing adequate and safe water to both rural and urban areas, in reducing the incidence of waterborne diseases, in conserving protected water supplies and in securing greater cooperation from our Divisional Development Committees, Area Councils and rural and urban communities for maintaining and operating wells and bore holes, protecting water supplies from contamination, and conserving scarce water supplies through minimizing waste.

These are only a few of the many concerns which are addressed in the training modules which you will be reviewing and assessing here, and the very issues with which the Government of the Gambia is confronted in relation to enhancing the role of women as managers and agents of development are undoubtedly shared by the other countries in West Africa which are represented here today.

I firmly believe that we must continue to build upon the

important principles established by the International Drinking Water and Sanitation Decade, the Nairobi Forward-Looking Strategies for the Advancement of Women and the Global Consultation on Safe Water and Sanitation for the 1990s. Your deliberations of this week cover critical aspects of that process, and I wish you all success.

Statement on behalf of the United Nations Development Programme by Mr. Victor Angelo, Resident Representative

On behalf of the United Nations Development Programme in the Gambia, I am delighted to welcome you all to this workshop to test the training modules on women, water supply and sanitation, which were prepared by the United Nations Research and Training Institute for the Advancement of Women, well known to many of you as INSTRAW, in cooperation with the ILO Turin Centre and the United Nations Department of Technical Cooperation for Development, the executing agency of our rural water supply project here in The Gambia. The financing for the revision and up-dating of these training modules, which were prepared initially by INSTRAW in 1986, as well as the funding for this workshop, was provided from UNDTCD's Regular Programme of Technical Cooperation.

I am pleased to see here my colleagues from the UN system - INSTRAW and UNDTCD - as well as so many distinguished participants from the Gambia, and from our neighbour countries - Ghana, Sierra Leone and Liberia.

Your presence in such numbers here in Banjul reflects, I believe, the increasing importance attached by governments at all levels to the need for involving women to the fullest extent possible in all aspects of water supply and sanitation programmes. Two billion people - half of whom are women - who live in remote rural areas and in urban sectors in the developing world lack safe drinking water and even rudimentary sanitation facilities. Women, as the main users of water, are obviously severely affected by these inadequacies. Women, as the primary agents of development, stand to make a significant contribution to social and economic development of their countries by greater involvement and broader participation in policies and programmes relating to water supply and sanitation issues, so that they themselves can benefit from the process. I might also add here that the holding of this workshop now is of particular significance in terms of the forthcoming UN Conference on Environment and Development, and in view of the inarguable linkage between women, environment and development in

the context of water resources development.

We continue to face in the developing world today the causes and effects of the "feminization of poverty"; women bear a double burden - that of being poor and being a woman. Solutions to women's poverty and relative powerlessness cannot be addressed by individuals. This can only be achieved through concerted, collective action, and by the organization of women around issues of common concern, which is a prerequisite for effective and sustainable economic and social development; change in economic and social conditions can be brought about most effectively through the methodology of participatory action, using women's creative energies, local resources and local experience and knowledge.

All of us here today share a common objective - that of placing women more firmly in the mainstream of development. The training modules on women, water supply and sanitation, which you have come here to discuss and evaluate in the light of your own considerable experience and knowledge are, I believe, an important step in that process. I very much look forward to learning of the conclusions and recommendations reached, and wish you all possible success in your deliberations.

Statement on behalf of the United Nations International Research and Training Institute for the Advancement of Women by Ms. Borjana Bulajich, Social Affairs Officer

Your Excellency, distinguished participants, ladies and gentlemen,

On behalf of the Director of INSTRAW, Ms. Margaret Shields, and myself, it is a pleasure to be with you on the occasion of the Training Workshop on Women, Water Supply and Sanitation. INSTRAW is particularly grateful to the United Nations Department of Technical Cooperation for Development for conducting and financing this workshop. I would like to express thanks to Mr. Victor Angelo, UNDP Resident Representative in the Gambia for providing the support to this seminar, and deep gratitude to Mr. Vladimir Plesinger, Chief Technical Adviser of UNDTCD's project in the Gambia, for coordinating the workshop. INSTRAW is most grateful to the Government of the Gambia for hosting the workshop and we do hope to continue similar efforts for enhancing the role of women in development. I would also like to welcome participants from the Gambia as well as from Ghana, Liberia and Sierra Leone, who travelled long distances to share their experience with us.

In this decade, some 1,200 million people in the developing world still lack safe and adequate drinking water, while those lacking sanitation number over 1,700 million. Lack of clean environment and safe drinking water is the cause of some 13 million infant mortalities every year in the developing world.

It is only recently that the crucial role of women in water supply and sanitation has begun to be understood or acknowledged. Because women are the primary users, carriers, family educators and managers of water, they have a vested interest in securing safe drinking water and adequate sanitation. The United Nations International Drinking Water Supply and Sanitation Decade has shown that by including women, water supply and sanitation projects can achieve their objectives more efficiently. Yet the extent and importance of women's involvement often remains illusive to policy-makers, planners and even the general public.

Now we are beginning to witness a major change. The United

Nations General Assembly, in its resolution 45/181, "endorsed the four guiding principles, the actions recommended and the proposed follow-up as emanated in the New Delhi statement, pertaining to the need to protect environment and health, the need for institutional reforms, full participation of women, the need to promote community management and the need to adopt sound financial practices and appropriate technologies", and urges governments to assess and undertake institutional reforms to promote an integrated approach, including changes in procedures, attitudes and behaviour and the full participation of women at all levels in sectorial institutions.

To address these issues, INSTRAW, in cooperation with UNDTCD and the ILO Turin Centre completed, in June 1991, the training package on women, water supply and sanitation which will be used for this workshop. The training package reflects INSTRAW's seven years of research and training of more than 300 participants in Africa, including a survey of materials, projects and activities undertaken in the field of water supply and sanitation both within and outside the United Nations. The training package is based on a modular approach using participatory techniques. It is aimed at two different target groups: senior officials and development planners of ministries in charge of water supply and sanitation projects, and representatives of women's organizations and non-governmental organizations which are active in this field of development.

What this workshop hopes to achieve is to show how women's involvement at all levels and stages of programmes and projects for improved water supply and sanitation can become more effective, easier and more productive.

Specifically, the workshop aims: (1) to contribute to a new approach in the organization and management of sustainable water supply and sanitation programmes through the integration of women's needs as well as their participation in planning, technical operations, maintenance, assessment and implementation of WSS projects; (2) to increase awareness and sensitize planners, officials, engineers, trainers and experts in charge of water

supply and sanitation policies, programmes and projects to the need for involving women in WSS planning, management, implementation and evaluation of programmes and projects and on how to achieve this; and (3) to create a core group of facilitators trained to conduct similar workshops at local levels, thereby ensuring a multiplier effect. I look forward to your active participation and I hope you will share openly your experiences, problems and solutions.

In conclusion, I would like to say that I am confident that the outcome of this workshop will be a successful one and hope that the experience will prove useful for your countries in carrying out their activities in the field of women, water supply and sanitation.

B. Adoption of the Agenda

The agenda of the workshop was adopted (see Annex II).

C. Substantive Issues

After the introduction of participants, the INSTRAW representative, Ms. Borjana Bulajich, explained the modular training package on "Women, Water Supply and Sanitation". She pointed out that the package is aimed at three different target groups: senior officials of Ministries of Education, Health and Planning; development planners and provincial authorities in charge of water supply and sanitation technologies; and representatives of non-governmental organizations, including women's organizations which are active in water supply and sanitation projects and programmes.

She indicated out that the flexibility of this training package is assured by a parallel activity, namely the possibility of training different target groups simultaneously and of using modular training material which enables users to adopt it to their own needs. Each modular unit is supplemented with audiovisual support material, such as transparencies and sound-slide packages, as well as with additional reading and bibliographies; key-issue checklists for group work; evaluation forms for participants; and a trainer's guide.

Ms. Bulajich explained that the training package has been field-tested in developing countries and is designed to suit national needs which have to be adapted and modified by local professional staff at the community level. Instead of a conventional training text, modules have been created which comprise oral and visual media, with defined objectives and extensive group work.

She remarked that each module is a self-contained training/learning unit, designed in such a way that it can either be used in full or in initial training courses, and containing a course covering a given subject area. Clear instructions are given with each session as to precisely what material is required, so that local instructors can coordinate their lectures with the

accompanying sound-slide package.

Finally, she pointed out that each module comprises a topic given in audiovisual or printed form to facilitate both teaching and learning, together with an "Instructor's Guide for the Trainer/Lecturer".

The sound-slide package on "Women, Water Supply and Sanitation" was shown prior to the presentation of Module I.

1. Module I: The International Drinking Water Supply and Sanitation Decade (IDWSSD) and Beyond

Module I, the International Drinking Water Supply and Sanitation Decade (IDWSSD) and Beyond, was presented by one of the representatives of the UN Department of Technical Cooperation for Development (UNDTCD), Ms. Margaret Howard, Economic Affairs Officer, Water Resources Branch, Natural Resources and Energy Division.

In her presentation of Module I, she noted that while some progress has been made in terms of increasing service coverage, particularly in the rural water and sanitation sectors, and in relation to raising awareness of some of the critical issues impeding women's involvement in water and sanitation activities, a number of problems stemming from inadequate water supply and sanitation facilities still remain in developing countries, with severe consequences in relation to health, economic and social costs, and in the loss of productive time and energy on the part of women who are overburdened with time-consuming water collection tasks.

She pointed out that such complex and multi-dimensional problems require multi-disciplinary approaches taking into account the linkages between the socio-economic, technical, health, agricultural and environmental aspects, as well as issues relating to the management and coordination of water supply and sanitation activities. Such approaches must be oriented so that women's energies and time can be directed towards more productive objectives; they must therefore take into account the crucial role of women in maintenance and financing of water and sanitation facilities, achieving health benefits, broadening economic and social development, and involvement in community development activities, and in income-generating initiatives.

The UNDTCD representative further explained that the International Drinking Water Supply and Sanitation Decade, launched by the UN General Assembly in 1980, directed the attention of the international community and governments towards a number of these

issues, stipulating its basic principle that access to safe water and sanitation facilities is a basic human right without which populations cannot achieve a quality of life consistent with human dignity. In urging an improvement in the standards and levels of water and sanitation services, the UN General Assembly resolution called upon governments to respond in terms of establishing policies, setting priorities, strengthening institutional frameworks and in heightening public awareness with regard to the need to intensify the involvement of women in water supply and sanitation activities.

She explained that the United Nations system of organizations was likewise called upon to provide financial and technical support to these efforts, and she described a number of the initiatives and mechanisms set up in response to the IDWSSD basic precepts.

The UN International Research and Training Institute for the Advancement of Women (INSTRAW), with its mandate of supporting the advancement of women and their integration into development processes through research, training and dissemination of information, undertook a number of training activities during the Decade, including five seminars held in cooperation with the ILO in Africa to present the earlier version of the women, water supply and sanitation training package.

The Copenhagen Declaration of 1980 stipulated the promotion of full participation on the part of women in the planning and implementation of WSS programmes, and the involvement of women in the choice and application of technologies for water supply projects.

A UNDP project, Promotion of the Role of Women in Water and Environmental Sanitation Services (PROWWESS) was launched in 1983 in response to water supply and sanitation needs, and has provided advisory services, training and publications on WSS issues.

She further pointed out that as a direct result of the General Assembly resolution on the IDWSSD, a Steering Committee was established by the UNDP and WHO, which continues to serve as a forum for reviewing and developing policy, improving coordination in the management of individual WSS programmes, and in undertaking

preparations for consultative meetings on these issues.

She noted that one of the main bodies emanating from the IDWSSD Steering Committee has been the Inter-Agency Task Force on Women, comprising some 11 UN organizations involved in water and sanitation activities.

It was pointed out that while there has been a number of achievements which have resulted from the IDWSSD in terms of improving coverage in the rural water and sanitation sectors, coverage in the urban sectors is expected to be lower by the year 2000. Thus, given the unlikelihood of increases in sector funding, the key objective of the 1990s must be to make greater and more effective use of available budgets, by reducing costs and raising outputs. Approaches should therefore include greater involvement of women in the execution of local maintenance and management activities to improve maintenance while lowering costs; achieving greater flexibility in technology and service levels; moving towards greater decentralization of decision-making to the field level, involving women and communities as "partners" in programme planning and implementation; and incorporating women into local financing systems, and in the design and implementation of cost recovery measures.

The UNDTCD representative further noted that the concept for a framework for support and global cooperation in the 1990s, which derived from a meeting in Switzerland held in 1987, identified several areas for support requiring for future action.
These include: the strengthening of national institutional structures, greater support in assessing personnel and human resources development programmes; more support to applied research on low-cost technology programmes; exchanges of information; measures to integrate WSS programmes with rural development activities, taking agricultural development, irrigation, employment and income-generation and health promotion into account.

Within the framework for cooperation, support at the country level to achieve greater water supply and sanitation service coverage will be coordinated by the UNDP Resident Representatives. At the regional level, the Regional Water Supply Groups will be

strengthened to respond to requests from developing countries and will hold periodic topic-specific consultations.

She explained the establishment of the Water and Sanitation Collaborative Council, comprising a wide membership of UN organizations, multi-bilateral agencies, and non-governmental organizations, which is working towards the achievement of expanded availability of sustainable water supplies, sanitation facilities and waste management services. The Collaborative Council expects to hold periodic global consultations, one of which was held in New Delhi in 1990. The statement which emanated from this meeting describes four basic guiding principles: (a) people and the environment, stating that women and children are major victims of environmental degradation deriving from rapid population growth and urbanization; (b) people and institutions, urging that governments act not as providers, but as facilitators and promoters, enabling local institutions to deliver services; (c) community management, embodying principles of community empowerment with ownership and control of their own water supply and sanitation systems; and (d) financing and technology, stipulating the need to make services more cost-effective and responsive to needs, and involving women more closely in the choice of technologies and service levels.

In concluding, the UNDTCD representative stressed the principal measures needed to strengthen and broaden the role of women - namely their involvement in project preparation teams; the identification of implementing organizations for community participation and involvement of women; and the need to make budgetary provisions for these aspects in WSS programmes.

Following the presentation of Module I, participants discussed the key issues for the 1990s and the possibilities of enhancing the activities of the United Nations Decade and Collaborative Council in their respective countries.

Concerning the issue of improved maintenance at lower costs, a number of participants recommended that women be involved in the initial stages of project design, evaluation and monitoring. This would lead to the installation of appropriate and affordable technology which would result in lower costs in both human and

financial resources for maintenance.

It was recommended that awareness campaigns prior to, or during, the operational phase of projects be carried out. In this manner, beneficiaries would be made aware of the project, and costs of maintenance would also be reduced.

It was pointed out that the problem of funds and the "strings attached" to donor projects often lead to the installation of inappropriate technologies and, consequently, the failure of such projects.

It was strongly stated that simple, socio-culturally adaptable and locally made technologies greatly contribute to the successful implementation of projects, and in turn require minimum maintenance costs.

Some participants also recommended that women's organizations and committees be engaged and involved more frequently during project activities.

In addition, the need to bring the private sector into project implementation, operation and maintenance was stressed.

Concerning the issue of more flexibility in technology and service levels, it was recommended that a case by case approach for communities would be most useful. If the technology proved to be appropriate, this approach would bring about a "snow ball" effect.

It was also felt that financial resources are a prerequisite for the installation of adequate technologies.

The need to train women in the choice of technology was strongly recommended by participants.

With regard to the issue of decentralization of decision-making, it was recommended that demonstration sessions be organized at frequent intervals to create an awareness at the policy-making level with regard to on-going projects on women, water supply and sanitation. It was also felt that these sessions would provide useful forums for the presentation of INSTRAW/UNDTCD/ILO Turin Centre modules on "Women, Water Supply and Sanitation".

It was stressed that the participatory approach and methods of working with people at the rural level are the most efficient approaches to adopt. The interviews and discussions should be

carried out prior to, and during, the project.

It was recommended that the social structure of the villages should be fully taken into account prior to project implementation.

Concerning the issue of enhancement of women's involvement in water supply and sanitation projects and programmes, it was recommended that women should be involved in all phases of a given project, and it was thus recommended that more attention be directed towards the education and training of women in diverse fields within this sector. In addition, participants felt that existing attitudes and behaviour towards women would gradually change, which will lead to greater equality of opportunity.

It was also recommended that needs assessments be conducted in the design phase of projects, taking into account women's needs and demands.

As to local financing systems, it was recommended that women's accounts be set up whereby women would be the beneficiaries. In the case of Ghana, such accounts already exist and are most useful to women.

With regard to the issue of reducing the "knowledge gap" in sanitation and sanitation facilities, and the need for more effective forms of hygiene education, it was recommended that sanitation and hygiene education be an important component of water supply projects, and adequate training should therefore be provided to women during the operational phase of this component.
It was felt that more effective hygiene education could be achieved by preparing a standard type of training module which could be used at the community level in a number of countries. People's attitudes and customs should, moreover, be carefully examined prior to the installation of facilities.

It was recommended that the use of local material would reduce the high construction costs and resolve the maintenance problem in the installation of sanitation facilities.

It was also strongly stated that dissemination of information and the use of various communication channels are prerequisites for effective hygiene education. This should be carried out on a regular basis and reach a wide range of target groups.

2. Module II: Participation of Women in Planning, Choice of Technology and Implementation of Sustainable Water Supply and Sanitation Projects

Module II, relating to the participation of women in planning, choice of technology and implementation of sustainable water supply and sanitation projects was presented by Mr. Maung San Lin, Economic Affairs Officer of the UN Department of Technical Cooperation for Development (UNDTCD).

At the outset, he pointed out that participation of women is essential for achieving sustainability of water supply and sanitation projects. The modules were presented under four broad themes that provided solutions to the four basic questions which trainers would have in promoting women's participation in planning, choice of technology and implementation of water supply and sanitation projects - namely, what is the best way to approach, train and support women; how can women become more efficiently involved; what advantages can be gained by involving women as decision-makers (and not simply as workers or beneficiaries); and what training methodologies should be used in equipping women for these roles.

Under the first theme, the UNDTCD representative presented recommended policies directed at two major groups involved in enhancing women's participation in water supply and sanitation projects: development planners, engineers and trainers; and women's organizations. The recommendations directed at planners, engineers and trainers include the formulation of a clear policy on the involvement of women, including women specialists, in project preparation, linking project objectives to the roles of women, selecting appropriately skilled organizations to implement projects on women's involvement, reviewing and adapting tasks, job descriptions and training aimed at promoting women's participation, establishing evaluation and monitoring systems to assess progress and problems and to improve future strategies.

Mr. Lin pointed out that recommendations directed at women's organizations include the promotion of, and participation in,

government water supply and sanitation programmes; organizing and supporting data collection and research activities (collecting base-line data concerning the needs and capabilities of women, conducting research on the impact of water supply and sanitation programmes on women, on women's specific customs and beliefs concerning water supply and sanitation projects, and on the constraints and problems faced by women in initiating changes); preparing case studies, articles and broadcasts on women's involvement; supporting local women's groups in water supply and sanitation projects; providing assistance for better collaboration between government agencies and other organizations (including non-governmental organizations); and increasing resources through fund-raising activities and the soliciting of voluntary labour.

Under the second theme, Mr. Lin presented recommended approaches for involving women more efficiently in water supply and sanitation projects, which include the joint formulation, by both technical and women's organizations, of more active roles for women, enhancement of knowledge and experience on the part of women through education and training, and supporting women's groups in their efforts towards increased coverage of safe water supply and sanitation.

More open attitudes towards the assumption by women of a greater role in decision-making, creativity, adaptability to the sensitivities of local cultures, and adaptability to diverse types of projects were described as prerequisites for a more efficient involvement of women in WSS projects.

Under the third theme, the UNDTCD representative briefly summarized the benefits of involving women as decision-makers as well as workers. Such advantages include expansion of water supply and sanitation services to unserved areas and improvements in existing facilities; greater and more efficient use of existing resources and know-how; reduction in capital and recurrent costs; more effective and appropriate use of traditional maintenance and management systems; enhancement of the full use of safe water supply and sanitation facilities; and increased national coverage of safe water supply and sanitation.

Under the fourth theme, methodologies and strategies for ensuring greater and more effective involvement of women in WSS projects were presented. These were described in the four broad fields of needs assessment, local planning processes, choice of technology and local design, and planning for the implementation of WSS projects.

In the area of needs assessment, the strategies include conducting on-site social feasibility studies, with women on the study team, and encouraging informal communication and contacts with women, particularly at low-income levels.

In the field of local planning, Mr. Lin suggested that local leaders be supported in their efforts towards enhancing women's involvement, facilitating women's attendance at meetings, conducting separate meetings with women, if required, and assisting and encouraging women to express their ideas and problems openly and to choose trusted representatives.

With regard to the choice of technology and local design, it was pointed out that simple methods of using local materials have greater sustainability, as compared with complicated technology. It would therefore be advisable to choose the type of technology and service levels that users can realistically support and maintain. Apart from the choice of technology and service levels, the location and design of taps, pumps, drains and latrines are of prime importance for sustainability. Women should, moreover, be involved in determining the need, design and management of additional facilities, such as for laundry, bathing, etc.. Joint decision-making, involving women, can also result in the choice of a more appropriate design, and in better management and financing of additional facilities.

In planning the implementation of projects, women can be involved as voluntary of paid construction labourers, or as managers of self-help schemes and local maintenance systems. Women should also be given an active role in selecting appropriate management and financing systems for water supply and sanitation projects.

Following the presentation of Module II, participants divided

into two working groups (see Annex III for a list of participants on each of the two working groups established for the duration of the workshop).

Both groups worked on two key-issue questions:

1. What are the existing constraints women face in project planning, implementation, operation, evaluation and monitoring?

2. What actions/mechanisms would they suggest for more effective involvement of women in water supply and sanitation projects?

(a) Report of Group I

Rapporteur: Dr. A.O. Jah, The Gambia

Question I: What are the existing constraints women face in project planning, implementation, operation, evaluation and monitoring?

Constraints related to project planning

- lack of appropriate training for women, and skills on the part of women;
- lack of awareness; women are not aware of planning processes;
- women are usually not technically literate; they are not knowledgeable in the operation of technologies;
- public health hazards are not taken into account in programme planning;
-planning is usually "top-down" rather than "bottom-up" in developing countries, and women and communities are usually disregarded, which entails a serious management problem;
- women are primary users and should be involved in planning; two-way channels of communication should exist between communities and project staff.

Constraints related to project implementation and operation

- poor coordination; the community ar large is not sensitized to project implementation; project executors are usually unaware of the social structure of the village and the community is therefore

not interested in participating in the project;

- lack of involvement on the part of women in the decision-making process;

- lack of technical expertise on the part of women; they can express their views, but because of their lack of expertise, attitudes may be negative;

- poor sensitization, which is an extremely important factor if a project is to be implemented;

- lack of involvement on the part of women in the maintenance of equipment, which is usually in the charge of men;

- lack of spare parts, which are sometimes more expensive than the project itself; the IDWSSD often emphasized the number of wells, rather than their quality;

- absence of regulations for sanitation facilities, particularly in rural areas; wells are not properly covered; there is a need for health education.

Constraints related to evaluation and monitoring

- lack of skills and lack of training, without which communities cannot be expected to evaluate projects.

Question II: What actions/mechanisms are needed for more effective involvement of women in water supply and sanitation projects?

- women should be educated to make them aware of their roles in various stages of WSS projects, and trained to understand simple maintenance operations, since they are the primary users of water;

- there is a need to create job opportunities from the village to the decision-making levels, which constitute an important incentive; individual countries should tailor their own strategies to achieve this objective;

- community participation must be strengthened; women must be consulted on the use of appropriate technologies;

- local finance schemes should include contributions from women; women should be involved in financial decision-making;

- job opportunities must be created and training requirements fulfilled;

- career structures for supervisors must be established;
- women should be attached to WSS projects, as appropriate;
-mechanisms and communications channels for disseminating information on WSS should be strengthened and broadened.

(b) Report of Group II

Rapporteur: Mr. H. Wright, Sierra Leone

Question I: What are the existing constraints women face in project planning, implementation, operation, evaluation and monitoring?

In addressing this question, participants divided their assessments into three broad categories:

(a) social

- prejudices, customs, religion, culture, confidence and attitudes;
- some women in rural areas are forbidden to speak or attend meetings;
- women cannot be made heads of families; clearance is required before they can participate in some discussions;
- the level of awareness of women is often lower than that men;
- the reproductive and house-keeping roles of women reduce their ability to attend school;
- attitudes are often negative towards education and skills.

(b) economic

- women lack capital in terms of cash, land or material;
- women lack access to credit facilities;
- women lack time for income-generating activities.

(c) political

- women are not well represented at the policy and decision-making levels.

Question II: What actions/mechanisms are needed for more effective involvement of women in water supply and sanitation projects?

- awareness should be heightened through dissemination of information, education, communications, and motivation, and women should be more involved in programme planning and implementation;

- existing structures should be recognized and strengthened;

- management capacities should be enhanced through training, workshops and seminars;

- women should be involved at all levels of project planning, management and decision-making, as a matter of policy;

- both men and women should be encouraged to pursue life skills inside and outside of school, including home economics, as well as technical disciplines and crafts, which may necessitate changes in educational policy;

- to alleviate economic dependence on the part of women, laws may need to be changed so that women can be placed in positions from which they can generate funds.

A participant from Ghana commented that law in Ghana dictates a woman's right to own her own house, and land or some portion of the family property is automatic. As regards The Gambia, illegitimate children suffer the adverse consequence of the common moslem law in that they cannot inherit from their patrilineal property except through wills or deeds or gifts.

It was recommended that:

- wills should be devised only after discussions with the people directly concerned;

- institutions be strengthened for adult literacy classes;

- women should be encouraged to attend adult literacy classes, their onerous workload should be reduced to permit this, possibly through the provision of:

    - labour-saving devices;
    - milling machines;
    - training conducted during women's free time.

- gender awareness programmes should be devised for policy-makers, etc., to become more sensitive to women's issues, through workshops, use of mass media, schools for the young, and the development of other strategies suitable for this type of sensitization;

- solidarity should be strengthened among and between women; women should change their attitudes towards other women in both urban and rural settings;

- support from policy-makers should be broadened and strengthened (i.e. Ghana 31st Women; The Gambia Women's Bureau; the Sierra Leone Women's Bureau);

- information, education and communication through all available media should be strongly supported.

- Following this discussion of group work, participants discussed various national coordinating mechanisms in place in their own countries which are responsible for executing water supply and sanitation projects, and they described the profiles of some on-going projects in their countries.

3. Module III. Role of Women in Hygiene Education and Training Activities for Water Supply and Sanitation Projects

Module III on the role of women in hygiene education and training activities for water supply and sanitation projects was presented by Mrs. Coumba Marenah, Acting Executive Secretary, Office of the President, the Gambia.

She began her presentation by pointing out that water and sanitation are the pillars of the environment. As women are the primary users of water, they have triple roles: as producers who depend on water, reproducers who require water for basic survival, and community managers.

She pointed out that one of the main problems faced by developing countries is that relating to water and sanitation diseases. Water-borne diseases are also a major cause of high-infant mortality; approximately five million children die annually from diarrhoeal diseases worldwide.

She emphasized that scarcity of water is a major factor in the transmission of diarrhoeal diseases, and that bacteriological contamination of drinking water is another important cause of transmitting diarrhoeal diseases. Furthermore, dracunculiasis affects some 10 million persons each year. Another severe diseases is schistosomiasis, which often affects women and girls owing to their constant contact with water. She stated that it is therefore of crucial importance to train women in hygiene education and its related activities in water supply and sanitation in order to ensure the proper use of water and its maintenance. Improvements in practices of excreta, waste and liquid waste disposal are also essential for raising standards of public health.

She explained, furthermore, that involving women in health education programmes, not only as trainees but also as planners and trainers is of the utmost importance in water and sanitation programmes. In the families, women are the main providers of health care, while in communities, women function as birth attendants and transmit information.

Women's organizations can play a substantial role in helping

rural and low-income urban communities improve local hygiene conditions and practices. In working with women's groups and organizations, two basic approaches can be defined: those that aim at the development of individual knowledge and skills, and those aiming at the development of analytical capacities and group-building.

She provided examples of the Gambian experience in hygiene education. Work started in 1980 with the Water Sanitation Working Group which was under the aegis of the Department of Community Development and within the framework of the UN IDWSSD. This inter-departmental group had representatives from several ministries, departments and agencies involved in rural development. Its purpose was to foster and coordinate all efforts geared towards achieving the goals of the United Nations and with the fullest participation of women and the community at large.

With regard to training activities in water supply and sanitation projects, she pointed out that training must be carefully planned in order to ensure that trainers are actually able to use their newly acquired skills. The participation of women in the field of water could be greatly increased through education, training and participation in WSS projects.

She further explained that analysis of human resources and training needs in the water sector is a complex undertaking, as it involves not only the supply of trained human resources, but also an analysis of overall WSS and rural development plans, as well as an analysis of the national and international sources from which such training may be available.

She described in some detail system approaches to the training process and explained that a training proposal must include: objectives and priorities of the programme; the type of training required and its duration; the location of the proposed training; technical assistance requirements; the estimated number of trainees by category; estimated costs; and evaluation and monitoring of the programme.

She concluded her presentation by stressing that any training programme must take fully into account: prerequisites, cost, the

socio-economic and cultural setting; the urgency with which trained personnel are needed; the availability of qualified instructors; and the availability of needed equipment.

Following the presentation of Module III, some participants pointed out that primary health care programmes could be strengthened by close collaboration between women's organizations and committees at the rural level.

A question was raised as to how to overcome the gap between technical and social aspects of WSS projects. It was pointed out that engineers (technicians) are normally not involved in the socio-cultural aspects of projects, such as health/hygiene issues.

It was stated that this gap could be overcome by having a multi-disciplinary group of experts (engineers, sociologists, WID experts) involved from the design stage of the project.

It was also pointed out that good coordination at the national level between various ministries and departments is crucial for achieving a multi-disciplinary and integrated approach to the successful implementation of the project. In this manner, both technical and socio-cultural aspects can be taken into account.

Following the general discussion, participants divided into two working groups, to discuss the four key-issue questions:

1. Why is it important to include health/hygiene education in WSS projects?

2. What are the roles of women in health/hygiene education?

3. What are the main steps in the management of a training activities programme for WSS projects?

4. Which constraints prevent the participation of women in training programmes for WSS projects?

(a) Report of Group I

Rapporteur: Mrs. J. Kamanda, Sierra Leone

Question I: Why is it important to include hygiene/health education in WSS projects?

Because sources of safe water are limited, people tend to use any other sources of water, which are largely polluted - due to increased human activity - resulting in water-related and water-

borne diseases. Water and sanitation facilities can also be easily contaminated because of the location of a well in relation to a latrine. Water collected from a safe source can be contaminated through the use of a dirty bucket. The inclusion of hygiene/health education in WSS projects can:

- minimize the level of pollution in water sources;
- increase community awareness of the dangers of polluted water;
- improve people's attitudes in relation to safe health habits.

Question II: What are the roles of women in health/hygiene education?

- women are the primary users of water, and the main family health educators. They should therefore be trained to train other women, family members and the community at large;
- women are the first to deal with health problems at home, and are responsible for the health of other family members and the community; and
- as primary users of water in the community, they are knowledgeable about the planning of water and sanitation activities in the community.

Question III: What are the main steps in the management of training activities of a WSS project? Indicate women's role in each step.

The main steps were perceived by participants as: situation analysis; identification of needs with focusing on target groups; and formulation of strategies with regard to implementation, follow-up and evaluation.

The role of women in these stages was seen as follows:

- as primary users, women should be involved in situation analysis through person-to-person interviews and women's groups;
- the focus should be on women in the community, although men should also be involved;
- women should assist in the formulation of objectives, which

should be adaptable to their needs;

- women should play a consultative role in decision-making on training with regard to:
  - timing (when to undertake the training, and its duration);
  - venue;
  - how the training should be conducted, and whether it should be formal or informal;
  - female trainers should be involved in the training of other women;
  - women should assist in the provision of resources for training.

Question IV: Which constraints prevent the participation of women in training programmes for WSS projects?

- cultural barriers;
- time in relation to workload;
- venue;
- lack of awareness as to women's level of involvement in WSS projects;
- low literacy levels on the part of both trainer and trainee; the methodology of communication should be appropriate to the level of the target group.

(b) Report of Group II

Rapporteur: Mrs. C. Coumba Marenah, the Gambia

Question I: Why is it important to include health/hygiene education in WSS projects?

- because WSS projects are meant to improve the social conditions of women through improved health and sanitation, it is necessary to train them to be aware of the hazards of water contamination in relation to the health of beneficiaries;
- it is necessary for people to understand the relationship between water and health through sensitization and training programmes;
- it is also necessary for people to understand, through their

involvement and full participation in hygiene education, that most diseases contracted are water-borne and not due to what may be called negative beliefs, such as witch-craft, etc;

- it is essential to create awareness of the effects of improved water and to eradicate negative beliefs and conservative attitudes against water use (both improved or traditional);

- it is further necessary to ensure that people understand the importance of, and linkage between, improved water from source to storage to consumption;

- it is essential to ensure the full participation of women in water and sanitation projects, from the planning to the implementation stages;

- it is necessary for women to understand the need to have proper excreta disposal facilities, the lack of which causes food contamination and other related problems leading to diseases; and

- it is important to understand the need for personal hygiene and environmental sanitation.

The achievement of these activities would make WSS activities far more cost-beneficial, with a more preventative, rather than curative orientation, thereby minimizing costs.

Question II: What are the roles of women in health and hygiene education?

- women are the adopters of hygiene habits in the family; the family's good health rests with the women;

- women plan and ensure the well-being of the family by caring for family members through domestic chores;

- as reproducers, women are biologically responsible for ensuring that the child is well-fed; women also ensure that the entire family is healthy;

- women are responsible for the planning and implementation of health/hygiene education, and should be involved in its planning at the national level;

- through their roles in community management, women are responsible for the management of water and its use, and they decide on the type of water to be used and for what purpose. In

the event of scarcity, women solicit water from any available source and optimize its use;

- women are the community trainers in hygiene and health education practices; and

- women are the care-takers of the wells, and ensure that the wells and their surroundings are well protected.

Question III: What are the main steps in the management of training activities of WSS projects?

- undertake a training needs assessment;
- analyse the needs;
- involve the beneficiaries in the assessment and analysis processes;
- identify available resources;
- select the most available resources;
- determine the most appropriate type of training programme;
- prepare a training course and course content;
- arrange logistics;
- conduct the training;
- evaluate the training;
- follow up on the training; and
- strengthen national capacities (existing training institutions), both human and institutional.

Question IV: Which constraints prevent the participation of women in training programmes for WSS projects?

- lack of spare time;
- excessive work-load and arduous domestic chores;
- lack of adequate skills and relevant education;
- lack of involvement in decision-making;
- lack of awareness of the need to participate;
- lack of capital;
- unsuitable timing of training;
- unsuitable venue of training.

In conclusion, it was pointed out that training should be made available to women, however men should not be excluded.

4. Module IV: Participation of Women in the Management of Water Resources, Water Supply and Waste Disposal

Module IV, relating to the participation of women in the management of water resources, water supply and waste disposal, was presented by Mr. A. Manneh, Acting Principal Hydrologist, Department of Water Resources, the Gambia.

He began his presentation by describing the main objective of the module as a means of enabling users to apply an integrated approach in water resources planning and development, taking into account demand management, waste disposal, environmental protection and the enhancement of the women, as well as the various economic tools available.

He explained that the concept of sustainability of both the available water resource and water supply and sanitation facilities and systems are covered in the introduction to this module, and went on to explain that sustainable resource development refers to the ability of the present generation to meet needs without jeopardizing the ability of future generations to meet their own needs. Sustainability of water supply and sanitary systems emphasizes the ability to maintain the construction, functioning, use and benefits of the facilities, without detrimental effects on the environment, and after special assistance has been phased out.

Because of the wide variety of uses required of water resource systems, an integrated approach is required in planning their development. Present and future threats to water resources, as well as preservation of the systems themselves, are all major factors in water resources sustainability.

In rural areas, sustainable water supply and sanitation facilities require that communities be as self-reliant as possible in the running, maintenance and financing of the operating costs of installed systems.

In urban areas, there is a need to broaden the range of options between private connections and free public standposts.

Mr. Manneh then examined the nature and purpose of water demand management, the concept of water management being divided into demand and supply management. Demand management is associated

with new approaches in the management of water resources and deals with ways in which water is used and the various tools which are available to promote more desirable (lower) levels and patterns of use.

He explained that demand management increases the benefits derived from a given use of resources, while reducing the resources required to achieve these benefits and ensuring that only the necessary resources amount is being used. He also stressed that demand management can ensure the conservation of existing supplies.

Consumption can be limited and conservation enhanced by such measures as developing new sources such as rain water harvesting, water re-use, and water re-cycling, among other approaches.

Mr. Manneh then went on to describe the various roles of women in water and sanitation activities, and stressed the benefits to be gained by drawing upon women's experience in these areas.

The role of women and their involvement in low-income urban areas were described as follows:

- women are members of local committees which manage communal taps or sanitation facilities;

- women are organizers and managers of water vending or neighborhood water supply and sanitation systems; and

- women are promoters and managers of household latrines.

In rural areas, women's involvement lies largely in the management of water use and hygiene at water points, as for example:

- site managers, concerned with drainage, hygiene, proper use of pumps, and prevention of damage;

- care-takers (involved in the maintenance and preservation of hygiene on-site, and in the control of the use of water sources); and

- system managers involved in financial aspects, such as treasurers and rate collectors, activities which they are sharing with men.

Some of the experiences deriving from women's involvement include:

- the presence of traditional management;

- clarity of rights and duties and involvement in management decisions as related to effective management; and

- use and building of local management capacities during project cycles for local organizations to manage the systems on their own.

The use of women's environmental knowledge and their involvement in providing labour can also be of great benefit to water resources and environmental protection.

Mr. Manneh described some of the potential economic tools for demand management; these are additional economic incentives which can be implemented separately from tariff structures and are more flexible. For domestic demand, they include:

- incentive payments for water use modifications;
- voluntary quotas for agriculture;
- penalties for polluting the water supply;
- incentives for changes in land-use patterns for industrial demand management;
- tax rebates for recycling with waste treatment equipment; and
- penalties and fines for polluting industries.

Sustainable and local approaches to financing were presented. With the severe increase in completed water points or systems, recurrent costs are becoming a serious problem. The preferred strategy is for governments to finance the capital costs of water supply and sanitation systems, with the beneficiaries or consumers paying for the recurrent cost of completed systems based on the consumption levels of individual users. This requires the broadening of finance and payment methods to include various forms of community funds, household charges and vending systems. Development and training in simple budgeting and financial management are prerequisites.

Mr. Manneh concluded his presentation by stressing that women's roles in financial management and control have been shown to be vital in the financing of recurrent costs.

Following the presentation of Module IV, participants discussed some of the key issues in relation to water supply and

demand management - in particular, new approaches under discussion or being adopted in their respective countries; the economic tools being applied for water demand management, and possible methods for including women in water resource development planning, with emphasis on financial and management control.

In the Gambia, for example, the responsibility for urban and water supply rests with the Gambia Utilities Corporation. For the rural provinces, the Department of Water Resources is charged with the provision of water points, with an estimated consumer/water point ratio of 331 persons per water point. There is an obvious need for a greater number of water points to satisfy demand. There is also a clear need for a revision in the system of water distribution and tariff collection.

In general, it was pointed out that the health and environment components of the water supply organizations in The Gambia are in need of strengthening.

The cost of water in the Gambia is not considered to be high, except when compared to actual incomes; in urban areas the rate is D43.6 per 5,000 gallons. In both urban and rural areas, the rates for public boreholes are considerably lower, although there is much water wastage, which is difficult to avoid.

There are, moreover, problems relating to contamination of the areas around the stand-pipes, because of their location and the fact that people tend to move to where the stand-pipes are located, known as "urban drift". Efforts are being made to privatize the ownership of public stand-pipes.

The Government is providing interest-free soft loans for sewage systems to residents of Banjul. In Banjul, almost all compounds have been connected with sewage systems.

In addition, sensitization programmes have been launched to make the public aware that water cannot be considered as a free commodity.

The Government has launched the "Greater Banjul Water Supply Project", expected to be completed in 1993. This project is designed to meet demand by the year 2000, taking into account the rapid rate of population growth prevailing in the country.

Problems requiring urgent attention relate to over-drawing of ground-water, resulting in the lowering of water tables and subsequent salinity increase and the fear of people migration towards bore-hole areas in peri-urban regions, likely to cause contamination from improper human waste disposal near the bore-holes and greater demand for water. It was strongly recommended that, in parallel with water supply activities, appropriately managed sanitation programmes should be launched, particularly in rural areas.

Another problem encountered is the inability of the consumer to pay for water point maintenance, thus forcing many people to revert to the use of hand-dug wells with greater contamination potential.

In Ghana, there is a saying that "water is free, but treated water is not". In other words, treated water must be paid for. In urban areas, house connections and stand-pipes generally exist in houses and in most densely populated areas. In rural areas, water is generally supplied through boreholes and wells. The costs of water supply cover chemicals for water treatment, electricity and staff salaries, as well as interest on loans.

Tariffs are the major tool for economic management of water supply. A progressive tariff rate is being applied, whereby the amount increases after the first 10,000 gallons per month delivered.

It was generally accepted that poor people consume less water; therefore if the poor pay regularly, they can afford the cost. Problems arise when debts accumulate. It was recommended that the task of revenue collection should be given to groups, and that there should be a greater emphasis on community-managed water supply tariff collection systems.

Rural water supply is still insufficient to meet demand; the current systems are not economic, but must be maintained for the present.

Handpumps are given to communities with populations of 500 and above; smaller communities are provided with hand-dug wells without pumps, since they cannot pay for pump maintenance.

If debts are allowed to accumulate for over six months, the person responsible for revenue collection may lose commensurate retirement benefits.

The mechanics who travel on motorcycles for maintaining the pumps are responsible for revenue collection at the same time.

The concern was raised as to whether it would be preferable for the Government to allow the water tariffs to be raised, or to first proceed with collection of unpaid bills.

The representative of Liberia explained water management systems in both rural and urban areas. She pointed out that in rural areas, handpumps are installed. In peri-urban areas, people are charged by flat rates ($US2.50 per month).

In rural areas, communities of 2,000 people minimum are entitled to a bore-hole, funded by donor agencies, private organizations and the Government, while the population is required to provide labour and local materials. At the moment, they are in the process of establishing an inventory system and data bank on the most appropriate locations of water points. She pointed out that in the event of break-downs, the people generally revert to the traditional water points. To prevent this, approaches to operation and maintenance with community participation are being adopted.

In urban areas, the Water and Sewerage Corporation is responsible for pipe and meter installation for houses requesting water supply.

In Sierra Leone, it was pointed out that in Greater Freetown there is a gravity-driven supply. A flat rate is charged per household, while a few commercial centres are metered. There are about 35 pump schemes which are government-managed. Most of these are not operational. Private connections are also charged.

In the rural areas, there are basically hand-dug wells, bore-holes, small gravity-fed schemes and spring boxes. The communities contribute cash only towards maintenance costs. It was strongly recommended to launch a well-organized maintenance programme.

The representative of Sierra Leone also recommended that a water master plan be prepared, including economic analyses, and

that the Government should no longer provide facilities free of charge.

One of the participants from the Gambia pointed out that public stand-pipes are better organized when women rather than men are in charge. It was recommended that women be responsible for the collection of tariffs.

It was also recommended that guidelines be established to assist women in the management of water points.

5. Module V: Evaluation and Monitoring of WSS Programmes, and the Role of Women

Module V, relating to the evaluation and monitoring of WSS programmes and projects and the role of women was presented by Ms. Borjana Bulajich, Social Affairs Officer, INSTRAW.

She began by explaining the conceptual difference in approaches to evaluation in the 1960s and in the 1980s. In the 1060s, evaluation was donor-oriented and was limited to the identification of beneficiaries and to cost-benefit analysis with a bias towards cost. Projects did not involve beneficiaries; there was inflexibility in execution; and there was a lack of monitoring and evaluation. By the 1980s, evaluation expanded to include the benefit side and a number of issues were addressed, such as: what to measure, how to collect information at a reasonable cost and in a timely manner, and who should undertake it. In turn, this led to the question of how to build gender-sensitive evaluation into project design since by and large, women's issues have not been built into programme/project design.

She pointed out that INSTRAW organized the consultative meeting on "Evaluation methodologies for Programmes and Projects on WID" to discuss the evaluation of programmes and projects, both mainstream and women-specific, with a view to promoting the integration of women in all aspects and phases of mainstream programmes and projects and to enhance the effects of women's projects on development. It is generally difficult for programme developers to define criteria for the success of programmes or projects, particularly in relation to innovative and catalytical programmes and projects related to WID. One of the crucial components of evaluation methodologies for WID are the principles of economic analysis of projects and programmes. There is a difficulty in applying cost-benefit analysis with precision, as there are a number of WID programmes and projects that were evaluated as too costly in terms of narrowly conceived cost-benefit analysis without taking into account wider socio-economic objectives and developmental change advocated by WID approaches.

She further elaborated areas for improvement of evaluation methodology for programmes and projects on WID, which include: effect/impact analysis; data bases; cost effectiveness of data collection; types of expertise and evaluation; human/cultural factors in evaluation; feedback and follow-up; training; participatory evaluation; purpose of evaluation; institutional constraints; sustainability and community-based approach.

Ms. Bulajich explained the difference and functions of evaluation and monitoring of water supply and sanitation projects. Evaluations involve the assessment of the achievements of a project and of the activities, methods and financial inputs by which these achievements have been reached. Evaluations are carried out at specific points in time in the project cycle, e.g. at the end of a pilot stage, at mid-term, and at the administrative end of a project. It consists of the scheduled collection of information on implementation and functioning from the lowest levels. Monitoring enables the project management to follow the progress of the project, assess users' reactions, keep track of trends and new developments and collect factual data as inputs for periodic evaluations.

She furthermore explained the difference between conventional and participatory evaluations and the purpose of participatory evaluations.

Ms. Bulajich described the Minimum Evaluation Procedure (MEP) developed by the World Health Organization (WHO). She said that MEP was designed to evaluate functioning and utilization and impact. To evaluate functioning of improved water supplies and latrines, the WHO advocates four key items for water supply (sufficient water quantity, acceptable water quality, reliable supply and good accessibility) and three items for sanitation (growing proportion of households with installed and completed latrines; good quality design and construction and proper functioning of latrines). However, with regard to evaluating the adequacy of water quantity, it is important to find out whether men and women have different water needs, whether the water supplied is sufficient to meet these needs, and if not, which water uses

prevail. For the functioning of a latrines project, it makes a difference in performance whether perceived needs and priorities for latrines are different for men and women, as well as for different economic groups.

With regard to evaluating women's involvement in water supply and sanitation projects, Ms. Bulajich elaborated a checklist on how to involve women in project preparation, planning, implementation, training and evaluation, and follow-up. She pointed out that evaluation of benefits in water and sanitation projects has two dimensions: assessment of the impact of projects on the users, and the impact which women's involvement has on the projects. Improved water supply and sanitation projects have many benefits for women, such as: reduction in the time and energy consumed by water collection, easier management of their daily tasks and greater use of water for cooking, cleaning and small-scale projection. On the other hand, however, projects may have negative impacts on women, such as: serious social and economic consequences, greater involvement of women in carrying out the full burden of installation, maintenance and repairs.

The INSTRAW representative pointed out that one of the new emerging trends is the evaluation of project sustainability. This means assessing or measuring "the ability to keep up the establishment, functioning, use and benefits of improved facilities and practices without detrimental effects on the environment, also after special assistance has been phased out". As no community remains static, sustainability can only be achieved by strengthening problem-solving capacities in communities and by addressing changes in demand, interest, capabilities, finance, natural resources and policies. The key in this process of achieving sustainability is building human and institutional capacity in communities and partnership agencies.

She stated that evaluating sustainability involves measuring capacities and development in four main areas: on-going implementation of functioning and used facilities and hygiene education by agencies and communities; development of human capacities at community and agency levels; building of

institutional capacity in groups, communities and agencies; and continuation of inter-organizational cooperation.

Ms. Bulajich stated furthermore that while sustainability refers to the preservation of results and benefits in a particular project area or community, replicability refers to the ability of project agencies and communities to implement the same projects in other areas with similar conditions and problems, with little or no dependence on external expertise or funds. Replicability of a project as a whole can be evaluated by examining: project inputs, institutional setting, financing execution and "representativeness". In looking at the replicability of women's involvement, she said, one can ascertain whether water and sanitation projects have developed effective methods and techniques for women's involvement which are, or could be, replicable in other communities and areas.

Ms. Bulajich concluded by reiterating that evaluation and monitoring of water and sanitation projects have become important management tools. They serve to improve the implementation of projects, and especially their effective life after completion of the installation operations. Project evaluation is becoming less an external judgement tool on whether investments have been well spent and more a means of learning from programmes and improving project inputs and processes.

In both monitoring and evaluation, women and women workers are important partners, as they have personal experience with local water and sanitation conditions, and much of the work involved is socio-culturally appropriate for them. She stated, however, that this can only be effective when in the design of evaluation and monitoring systems, women's roles are already taken into account and provisions are made enabling them to participate.

The sound-slide package on "The Involvement of Women in Evaluation and Monitoring of Water Supply and Sanitation Projects" was presented.

Following the presentation of Module V, participants divided into two working groups to discuss the following questions:

1. List the major areas for the improvement of evaluation

methodologies on WID;

2. List the basic differences between conventional and participatory evaluation procedures;

3. List the main concepts of community-based evaluation and monitoring; and

4. How can the impacts and benefits from women's involvement on projects be improved?

(a) Report of Group I

Rapporteur: Ms. K. Jensen, Liberia

Question I: List the major areas for the improvement of evaluation methodologies on WID.

- human and cultural factors should be included;
- feed-back and follow-up systems should be established;
- institutional capacities should be strengthened to carry out evaluation and monitoring for sustainability;
- human resources should be developed in collaboration with external agencies and policy-makers for effective evaluation and monitoring of WSS activities; and
- data bases should be established, with specific information and data on women (i.e. data on types of households, and whether the household is male or female-headed).

Question II: List the basic differences between conventional and participatory evaluation procedures.

Conventional evaluation:

- external inputs are required (both from outside the country and from difference cities within the country).

Participatory evaluation:

- project staff, facilitators and the community at large contribute to the evaluation process.

Focuses of external evaluation:

- objectives of the project;
- indicators - number of wells/boreholes/water points;
- financial costs and scientific aspects;

- tailor-made methodology;

- physical and measurable aspects; not intangibles which relate to social benefits.

Focuses of participatory evaluation:

- changes in attitudes of women, community target groups;
- changes in socio-economic conditions;
- community allowed to determine criteria for success;
- open evaluation which enables immediate sharing of benefits;
- methodology familiar to local people, which can be adopted, rather than external methodology.

Time factor

External evaluation

- timing of evaluation is often set at mid-term or at end of project;

Participatory evaluation

- timing of evaluation is more flexible to allow full participation;
- evaluation and monitoring adopt an interdisciplinary approach, i.e. people from other sectors are involved;
- opportunities are provided for frequent follow-up.

Purposes of external evaluation

- to achieve greater accountability;
- to obtain further funding and improve monitoring of funds;
- to determine overall coverage of impact.

Purposes of participatory evaluation

- to enhance community participation and self-reliance, and to strengthen feeling of ownership of facilities;
- to assist communities and women's groups in the future planning of additional projects;
- to allow for internal evaluators who are aware of cultural barriers, so that communication with the community undertaking the evaluation/monitoring is more open.

Question III: List the main concepts of community-based evaluation and monitoring.

- a community-based evaluation and monitoring system allows community groups (i.e. women) to determine shortfalls in project implementation operations;

- evaluation and monitoring become more effective, as they are on-going processes;

- evaluation and monitoring become consistent, because they are community based;

- dependence on external evaluation is decreased, which, in turn, enhances the ability of the community to carry out the process and assure sustainability;

- the participation of women is enhanced so that women become more involved and influential in mobilizing the community to involve itself in turn in other WSS activities;

- decentralized planning is encouraged, which increases effectiveness of project implementation and operations.

Question IV: How can the impacts and benefits from women's involvement in projects be improved?

- through participation in planning and decision-making;

- women will have more time to pursue other activities, generating income (i.e. vegetable gardening, which relates to improved nutrition for the household);

- women will realize improved health benefits (and women can undertake more productive activities when free of health problems);

- overall management of water resources, including demand management, will be improved, and more benefits from resources will be realized;

- women's involvement will be strengthened through management training, which allows women to acquire useful management skills.

(b) Report of Group II

Rapporteur: Mr. Oliver Frimpong, Ghana

Question I: List the major areas for improvement of evaluation on WID.

The Group recommended that the impact analysis should look into short and long-term effects. Short-term effects are

targeted only to the project, while the long-term effects should look into other developmental impacts.

It was also stated that there is a need to have a data baseline, to establish indicators which would measure not only economic benefits, but also look into wider social benefits of the projects and programmes.

It was pointed out that evaluation should be included in the design stage of the project and carried out until the final phase. Planning of human resources and financial needs should be undertaken at the design stage also.

It was pointed out that evaluation should be carried out periodically rather than conducted at the mid-term or at the end of the project.

The participants pointed out that Module V covered exhaustively all the crucial aspects of evaluation and monitoring.

Question II: List the basic differences between conventional and participatory evaluation procedures.

On the issue of who should conduct evaluations, it was pointed out that in most cases evaluations were conducted by external evaluators. The term "external evaluators: applies not only to expatriate experts from other countries, but also to experts coming from different cities within the country.

On the question as to when the evaluation should be carried out, the participants recommended that it should be an on-going activity. Also, one of the obstacles is that usually a long time period elapses before results are published and distributed and therefore the results achieved cannot be applied in the project implementation.

As to the question of how to carry out evaluations, it was highlighted that collected data and information as well as the results should be shared among various groups.

With regard to the question of what should be evaluated, in conventional evaluations external experts are the ones who determine their own targets. The participatory evaluation

enables internal experts to determine their own targets.

Question III: List the main concepts of community-based evaluation and monitoring.

Participants highlighted a participatory approach and stressed the importance of the two-way information flow. It was also pointed out that building up a team spirit and a "learning by doing" approach is of utmost importance.

It was also stressed that communities and agencies should have equal status in a partnership manner.

It was also recommended that appropriate methodologies should be developed for various forms of evaluations.

Question IV: How can the impacts and benefits from women's involvement in projects be improved?

The participants suggested that a more effective diffusion of information and of project results among various groups is one way of preventing further failure of projects.

It was recommended that women should be involved in all phases and stages of water supply and sanitation programmes, projects and policies.

General comments

Following the presentation of the group work, it was recommended that evaluation and monitoring should be made built-in components of the projects. The need to have extensive training was highlighted.

It was also recommended that training modules such as those presented during this workshop should be used at medium and long-term intervals. In that manner, more extensive training of various target groups would be possible. It was stressed that this factor should be understood by respective governments.

D. Adoption of the Report

The workshop adopted its report on 6 September 1991.

E. Closing of the Workshop

Closing statements were made by the representatives of UNDTCD and INSTRAW.

In addition, a global recommendation was put forward, namely that:

- the report of the workshop should be forwarded by participants to their respective ministries and departments, indicating an interest in follow-up activities;
- participants should meet as a group in their respective countries to review the modules and ensure they meet local conditions and needs;
- task forces should be formed to make any necessary amendments, which should then be forwarded to UNDTCD and INSTRAW for review;
- training programmes should be conducted at the national level; information on women's roles in WSS activities should be disseminated through networking; and
- experiences should be shared at the international level by inviting participants from other countries to training workshops.

CLOSING STATEMENT

United Nations International Research and Training Institute for the Advancement of Women

On behalf of INSTRAW's Director, Ms. Margaret Shields, and on her own behalf, the representative of INSTRAW, Ms. Borjana Bulajich, thanked the participants for having worked so hard during the week to produce so many significant recommendations.

She pointed out that the success of this workshop will be judged, not only on the basis of what had been learned during the sessions, but also, and more important, on the basis of how many similar training seminars the participants will be able to organize in their respective organizations, communities and countries. Ms. Bulajich further noted that success would also be judged by the extent and number of women the participants can motivate to participate actively in water supply and sanitation projects. She stressed INSTRAW's interest in following up on the results of the workshop and in ensuring a multiplier effect.

She reiterated that all participants will be contacted after six months to report on the activities of disseminating and using the UNDTCD/INSTRAW/ILO Turin Centre training package on "Women, Water Supply and Sanitation", and also noted that as soon as the report is published in final form, each participant would receive a copy.

Ms. Bulajich conveyed her appreciation to the Government of the Gambia for hosting the workshop, and expressed gratitude to UNDTCD for having organized and financed the meeting. She also expressed thanks to Ms. Howard, Mr. San Lin and Mr. Plesinger for their commitment and hard work during the course of the workshop.

Finally, on behalf of INSTRAW, she expressed gratitude to the resource persons for their presentations, and to the secretariat and support staff for their invaluable technical assistance.

CLOSING STATEMENT

United Nations Department of Technical Cooperation for Development

On behalf of the Under-Secretary-General of UNDTCD, and the Director of the Division of Natural Resources and Energy, the UNDTCD representative, Ms. Howard, officially brought to a close the Workshop on Women, Water Supply and Sanitation.

In so doing, she reviewed briefly the wide range of issues covered in the short period of five days - the problems confronted during the IDWSSD, and its achievements; the mechanisms and organizations established by the international community and the United Nations system to address the many complex problems relating to the strengthening and broadening of the role of women in all aspects of water supply and sanitation activities; the approaches devised on how to encourage women's participation in the design, planning and implementation of water supply and sanitation programmes, on ways of incorporating the inputs of women into the choice of appropriate water and sanitation-related technologies, and on the importance of their involvement in hygiene education and training activities in these sectors; and the methods by which the vast experience and knowledge of women can be drawn upon in managing water resources, water supply and waste disposal and in the all-important monitoring and evaluation of water and sanitation programmes.

Ms. Howard noted that women, as primary users of water and as active and forceful agents of development can make an invaluable contribution to the success of such programmes, and that they should be given every opportunity to do so for the benefit of all.

She conveyed, on UNDTCD's behalf, her appreciation to the Government of the Gambia for hosting the workshop, to the UNDP for its assistance and support, and to the excellent secretarial and other support staff for their help in ensuring the smooth functioning of the workshop. She also conveyed deep gratitude to Mr. Plesinger, who provided such considerable assistance during the preparation phase, as well as during the meeting itself, and to Ms.

Bulajich of INSTRAW, for having given so much of her time and energy both in the production of the modules and in conducting the workshop sessions.

In closing, she expressed confidence that the momentum generated at the workshop would continue and that participants would carry on with the most challenging phase of follow-up activities in their countries in terms of organizing training activities in support of strengthening the role of women in WSS programmes. She further gave assurances of UNDTCD's continuing interest in assisting in this process and in reviewing any proposals for follow-up activities that participants might wish to transmit.

PART II

EVALUATION OF THE EFFECTIVENESS AND USEFULNESS OF TRAINING MODULES ON WOMEN, WATER SUPPLY AND SANITATION

PART II

EVALUATION OF THE EFFECTIVENESS AND USEFULNESS OF TRAINING MODULES ON WOMEN, WATER SUPPLY AND SANITATION

After the demonstration of each module the participants were provided with evaluation questionnaire forms for their assessment of the five training modules demonstrated during the workshop:

Module I - The International Drinking Water Supply and Sanitation Decade (IDWSSD) and Beyond;

Module II - Participation of Women in Planning, Choice of Technology and Implementation of WSS Projects;

Module III - Role of Women in Hygiene Education and Training Activities for WSS Projects;

Module IV - Participation of Women in Management of Water Resources, Water Supply and Waste Disposal; and

Module V - Evaluation and Monitoring of WSS Programmes, Projects and the Role of Women.

The training modules were evaluated by representatives/ participants of countries with regard to:

1. The participants' professional interest in the particular topic included in the modular unit;
2. The clarity of objectives of the module;
3. The extent of achievement of the above objectives;
4. Whether or not the module is well structured;
5. The appropriateness of the terminologies (whether they are easy or difficult to understand) used in the module;
6. The clarity and usefulness of the audio-visual material (slides and transparencies) used in the module;
7. The completeness of the checklist for the module with

respect to its coverage of the subject;

8. The usefulness, simplicity and sufficiency of the checklists being provided;

9. The ability to impart new knowledge by each module;

10. The usefulness of the knowledge gained from the module in their present work;

11. The usefulness of newly gained knowledge in the near future;

12. The comprehensiveness, depth and level of interest of the topics contained in each module;

13. The necessary improvements of a particular training module to increase its effectiveness and usefulness.

The present evaluation is based on the analysis of the completed questionnaires received from 23 participants (16 from the Gambia, 4 from Ghana, 1 from Liberia and 2 from Sierra Leone). These participants came from various fields of specialization, namely, water resources, natural resources and environment, education and training, health, women in development, social development, youth and community mobilization.

A. Evaluation of Individual Modules

1. Module I. The International Drinking Water Supply and Sanitation Decade (IDWSSD) and Beyond

An analysis of the completed evaluation questionnaires by the workshop participants indicated that 80% of the participants had very high interest and 20% had high interest in Module I. As regards objectives, 80% considered that the objectives of the module were very clear and 20% considered they were clear. Some of the participants (47%) felt that the objectives of the module met all their expectations, while others (53%) felt that only some of their expectations were being met.

One participant from the Gambia considered that the module did not meet the objectives concerning policies that need to be adopted or amended which have direct impact on women, water supply and

sanitation projects as well as those concerning human resources development, particularly with regard to rural women. The reason for not meeting the objectives was attributed to time constraint, which did not allow adequate treatment of issues that arose during the course of discussions. One participant from Ghana thought that the objective on "identifying various ways to sensitize women's involvement in WSS projects" was not met due to time constraints.

As regards the contents of the module, 85% thought that they were extremely well structured and 15% thought they were well structured. With regard to the terminology used in the module, 90% thought that it was very easy to understand and 10% thought it to be easy.

In assessing the clarity and usefulness of the visual material (slides and transparencies) used during the presentation of the module, 84% thought that they were very clear and very useful and 16% thought they were clear and useful.

Regarding the completeness of the checklist in covering the subjects in Module I, 37% thought that it was very complete, 58% thought it was complete, and 5% thought it was not complete. Concerning the usefulness, simplicity and sufficiency of the checklist, 85% thought it was extremely useful, simple and sufficient and 15% thought it was useful, simple and sufficient.

With regard to enhancing the knowledge of the participants, 67% thought they learned many new things from the module, 17% thought they learned some new things, and 16% thought they learned nothing new. In addition, 95% thought that the knowledge acquired through the module was very useful and 5% thought it was useful to some extent.

Among the list of topics which participants would like to have treated more extensively in Module I are:

1. Relevance of women's participation in water supply and sanitation (WSS) projects;

2. Possible solutions to enhance women's role in water supply and sanitation projects;

3. Problems hindering active involvement in planning and implementation of water supply and sanitation projects;

4. Improvement of sanitary facilities;

5. Water resources shortages;

6. Impacts on women;

7. Role of women in water supply and sanitation projects;

8. Impact of donor agencies on women, water supply and sanitation projects;

9. Examples of strategies used in various on-going projects based on their failure or success stories;

10. Government involvement in the planning and implementation of projects;

11. Improved maintenance of WSS projects at lower cost;

12. Decentralization of decision making process or authority;

13. Strengthening of women's involvement using participatory approach in WSS projects;

14. Reducing gaps in sanitation services;

15. More effective forms of hygiene education;

16. Environmental protection;

17. Communication of information;

18. Maintenance and community financing of projects;

19. Criteria to ensure the successful implementation of projects on women's involvement;

20. Water borne diseases and their impact on women;

21. Management of sources of water;

22. Finance and technology of fund-raising for WSS projects;

23. International coordination and cooperation;

24. Collaboration among institutions in the WSS sector;

25. Upkeep and maintenance of projects to ensure sustainability;

26. Institutional aspects of management systems;

27. Community management of water supplies; and

28. Decade achievements.

One participant from the Gambia would like to have the topic "Plans and Actions for the 1990s" treated to a lesser extent. Another participant from the same country would like to have the topics on "Financing and Improved Maintenance at Lower Cost" treated to a lesser extent. Yet another participant from the

Gambia opined that the objective of "integrating water supply and sanitation issues" was not met by the module. One participant from Sierra Leone would like to have the topics on "Decentralization, Improved Maintenance, and Flexibility in Technologies and Service Levels" given less emphasis.

Topics of particular interest to participants but not contained in Module I include:

1. Consideration of sanitation aspects in the construction of wells and boreholes;
2. Women's involvement in construction works;
3. Disinfection of water sources;
4. Monitoring of water quality and water quantity;
5. Effective use of water supply facilities;
6. Consideration of sustainability factors;
7. Institutional development;
8. Imparting technical knowledge to women, namely, sources of water and pollution, prevention and treatment of water contamination;
9. Methods and procedures for immediate reporting to concerned authorities of any abnormalities in WSS services;
10. Selection of a leader among women (by themselves) to head the committee promoting involvement of women in WSS projects;
11. Setting of rules and regulations by committee members to increase effectiveness in enforcement;
12. The negative effects of projects concerning women, water supply and sanitation on existing social structures in some countries and vice versa;
13. Health and educational aspects of women, water supply and sanitation;
14. Organizational aspects of creating employment opportunities for rural women;
15. Community participation and local financing;
16. Management of women's participation;
17. An overview of various systems adopted during the IDWSSD decade as solutions to water supply and sanitation problems; and
18. Sensitizing men to become aware of the importance of

women's role in WSS projects.

Suggestions for improvement of Module I include:

1. Introduction of the concepts and ideas contained in the module to children at schools.

2. Module II. Participation of Women in Planning, Choice of Technology and Implementation of Water Supply and Sanitation Projects

In evaluating the level of interest in Module II, 84% of the participants indicated very high interest and 16% indicated high interest in the module. As regards objectives, 74% felt that the objectives of the module were very clear and 26% felt they were clear. Most of the participants (84%) considered that the objectives of the module met all their expectations, while 16% considered that only some of their expectations were being met. One participant from Sierra Leone considered that the module did not meet the objective of how to train women to participate fully in water supply and sanitation projects, citing that the discussion on the subject was very brief due to time constraints.

As regards the contents of the module 53% thought that they were extremely well structured and 47% thought they were well structured. With regard to the terminology used in the module, 89% thought that it was very easy to understand, 6% thought it to be easy, while 5% thought it to be difficult.

In assessing the clarity and usefulness of the audio-visual material (slides and transparencies) used in the module, 71% thought that they were very clear and very useful and 29% thought they were clear and useful.

Regarding the completeness of the checklist in covering the subjects in Module II, 69% thought that it was very complete and 31% thought it was complete. Concerning the usefulness, simplicity and sufficiency of the checklist, 79% thought it was extremely useful, simple and sufficient, 16% thought was just useful, simple and sufficient and 5% thought it was useless.

With regard to enhancing the knowledge of the participants,

63% thought they learned many new things, 32% thought they learned some new things, and 5% thought they learned nothing new. In addition, 79% thought that the knowledge acquired through the module was very useful and 21% thought it was useful to some extent.

Among the list of topics which participants would like to have treated more extensively in Module II are:

1. Potential for women's participation in water supply and sanitation (WSS) projects;
2. Social constraints for women's participation in WSS projects - attitude, tradition and customs;
3. Political constraints - low representation of women at policy level and at local government level;
4. Maintenance planning;
5. Involvement of women in management planning;
6. Involvement of women in decision making;
7. Involvement of women in operation and maintenance;
8. Implementation of the project;
9. Preparation of the project;
10. Project planning - training women to plan WSS projects;
11. Level of participation by women;
12. Strategies to enhance women participation;
13. Community management systems;
14. Social and cultural aspects of water supply and excreta disposal; and
15. Role of women's organizations.

Topics of particular interest to participants but which were not contained in Module II include:

1. Forms of women's involvement in water supply and sanitation projects;
2. Survey or statistics on non-involvement of women in water supply and sanitation projects;
3. Requirements of donor agencies for financing WSS projects;
4. Sensitization of policy makers and politicians;
5. Technical aspects of well construction;

6. Measures to be taken when water is not suitable for human consumption because of bacteriological and chemical contamination;

7. Role of water authorities as agents for distribution and sale of water in both urban and rural areas;

8. Role of women in water supply and sanitation in the context of reproductive responsibilities of women;

9. Type of WSS projects for promoting women's involvement;

10. Involvement of women in feasibility studies; and

11. Women and hygiene education related to water supply and sanitation.

Suggestions for improvement of Module II include:

1. Survey on the level of education and technical skills of women to assess their potential for participation in WSS programmes;

2. How to create gender awareness among men at policy making levels;

3. Consideration and discussion of some problems faced by women in WSS projects in different parts of the world; and

4. To include audio-visual material produced by United Nations agencies and individual countries.

3. Module III. Role of Women in Hygiene Education and Training Activities for Water Supply and Sanitation Projects

In assessing the level of interest in Module III, 82% of the participants indicated very high interest and 18% indicated high interest. As regards objectives, 86% thought that the objectives of the module were very clear and 14% thought they were clear. Most of the participants, that is, 85% said that the objectives of the module met all their expectations, while 15% said that only some of their expectations were being met.

As regards the contents of the module 86% thought that they were extremely well structured and 14% thought they were well structured. With regard to the terminology used in the module, 76% thought that it was very easy to understand, 19% thought it to be easy, while 5% thought it to be difficult.

In assessing the clarity and usefulness of the visual material (slides and transparencies) used in the module, 80% thought that they were very clear and very useful and 20% thought they were clear and useful.

Regarding the completeness of the checklist in covering the subjects in Module III, 65% thought that it was very complete and 35% thought it was complete. Concerning the usefulness, simplicity and sufficiency of the checklist, 95% thought it was extremely useful, simple and sufficient, and 5% thought it was useless.

With regard to enhancing the knowledge of the participants, 50% thought they learned many new things, 45% thought they learned some new things and 5% thought they learned nothing new. In addition, 90% thought that the knowledge acquired through the module was very useful, 5% thought it was useful to some extent, and another 5% thought it was not useful.

Among the list of topics which participants would like to have treated more extensively in Module III are:

1. Training areas related to WSS projects in which women can be more actively involved;
2. Case studies of both successful and unsuccessful training programmes pertaining to WSS projects;
3. The need for water demand management;
4. Community involvement in WSS projects of rural settlements;
5. Training of women for managerial tasks, eg., for local management of WSS projects;
6. Selection criteria for trainers, training of trainers;
7. Support for voluntary workers;
8. Training of women in health, hygiene, planning, decision making and implementation of WSS projects;
9. Possible roles of women in hygiene education;
10. Constraints preventing women's participation;
11. Methods of creating sanitary conditions around wells and latrines;
12. Integration of WSS in public health courses;
13. Strategies for strengthening intersectoral collaboration;

14. Institutional development;

15. Mobilization of the private sector;

16. Community awareness for promoting women's participation;

17. Adapting WSS programmes to suit field conditions;

18. General guidelines and necessary steps to be taken for training women in WSS projects;

19. Support for voluntary workers;

20. Orientation of managers and policy makers to enhance women's involvement;

21. Duration of training programmes to ensure effective transfer of knowledge;

22. Illustrations to be used in addition to slides and transparencies;

23. Women as main communicators in communities; and

24. Integration of health/hygiene education WSS projects through inter-agency coordination.

Topics of particular interest to participants but not contained in Module III include:

1. The economics and financing of sustainable training programmes for women's participation in WSS projects;

2. The role of NGOs in water demand management;

3. Water quality and its impact on health;

4. Contamination of groundwater by accidental spills of hazardous chemicals;

5. Disinfection of newly constructed wells and boreholes;

6. Programmes for creating public awareness;

7. Methods to ensure involvement of policy/decision makers;

8. Symptoms of some water borne diseases;

9. Sustainability of WSS projects and local financing;

10. Water quality monitoring as a basis for monitoring and evaluation of WSS projects;

11. Role of women's organizations in training - approaches and suggested steps; and

12. Crash training programmes in health/hygiene education for disaster preparedness and relief.

Suggestions for improvement of Module III include:

1. Provide in-depth training to participants involving hands-on exercises to ensure that they become competent trainers;

2. Present case studies wherever possible;

3. Management training;

4. Training methodologies for illiterate women in rural areas;

5. Information on successful water supply and sanitation programmes/projects in other countries;

6. Prevention of water-borne diseases and their symptoms; and

7. Organization of field visits to obtain first-hand knowledge of the views of local women concerning their greater involvement in WSS projects.

4. Module IV. Participation of Women in Management of Water Resources, Water Supply and Waste Disposal

An analysis of the completed questionnaire returns indicated that 71% of the participants had very high level of interest and 29% had high interest in Module IV. As regards objectives, 69% thought that the objectives of the module were very clear, 25% thought they were clear, and 6% thought they were not clear. Some of the participants (44%) said that the objectives of the module met all their expectations, while 56% said that only some of their expectations were being met. One participant from the Gambia stated that the subject matter dealt with in Module IV was difficult to understand and suggested that detailed explanation should be given by the resource person leading the discussion. She also felt that the module did not meet her expectations concerning the nature and purpose of water demand management, as well as economic tools for water demand management. Another participant from the Gambia stated that the module objective concerning management of water quality did not meet her expectations. Some participants expressed their wish to be informed more of environmental factors and to be given more time for detailed discussion of the subject. A participant from Ghana indicated that

the objective of the module concerning increasing water supply for rural communities did not meet her expectations. She would like to obtain information regarding minimum individual water consumption necessary for meeting health and sanitation requirements in the rural setting.

As regards the structure of the module, 53% thought that they were extremely well structured, 41% thought they were well structured, and a few (6%) thought they were badly structured. A participant from Ghana suggested that the structure of the module could be improved by separating urban applications from rural applications. With regard to the terminology used in the module, 44% thought that it was very easy to understand, another 44% thought it to be easy, while 12% thought it to be difficult.

In assessing the clarity and usefulness of the visual material (slides and transparencies) used in the module, all participants thought that they were very clear and very useful.

Regarding the completeness of the checklist in covering the subjects in Module IV, 56% thought that it was very complete, 38% thought it was complete, and 6% thought it was not complete. Concerning the usefulness, simplicity and sufficiency of the checklist, 94% thought it was extremely useful, simple and sufficient and 6% thought it was useful, simple and sufficient to some extent.

With regard to enhancing the knowledge of the participants, 53% thought they learned many new things from the module, and 47% thought they learned some new things. In addition, 75% thought that the knowledge acquired through the module was very useful and 25% thought it was useful to some extent.

Among the list of topics which participants would like to have treated more extensively in Module IV are:

1. Requirements for sustainability and environmental protection;
2. Water quality management, its nature and purpose;
3. Economic tools for water demand management;
4. Evaluation of project sustainability;
5. Monitoring and evaluation of water supply and sanitation

projects;

6. Waste disposal systems;

7. Evaluation procedures based on community involvement;

8. The role of women in project monitoring;

9. Consideration of environmental concerns in water demand management;

10. Water resources planning; and

11. Threat to water resources system resulting from deforestation - experience and case studies of some countries.

Topics of particular interest to participants but not contained in Module IV include:

1. Management of water quality;

2. Nature and purpose of water demand management;

3. Involvement of women in feasibility studies and construction;

4. Type of projects most suited for women's involvement;

5. Benefits obtained from women's involvement in WSS projects;

6. Methods for conservation of scarce water resources; and

7. Low cost technology for water extraction and conservation.

Suggestions for improvement of Module IV include:

1. More attention to be given to management of rural water resources rather than urban or peri-urban resources; and

2. More emphasis on water quality management in Module IV was requested by almost all participants.

5. Module V. Evaluation and Monitoring of WSS Programmes, Projects and the Role of Women

An evaluation based on completed questionnaire returns indicated that 80% of the participants had shown very high interest, 10% had shown high interest, 5% had shown low interest and another 5% had shown very low interest in Module V. As regards objectives, 85% thought that the objectives of the module were very clear and 15% thought they were clear. Almost all the participants

(94%) felt that the objectives of the module met all their expectations, while just a few (6%) felt that only some of their expectations were being met.

As regards the structure of the module, 80% thought that they were extremely well structured and 20% thought they were well structured. With regard to the terminology used in the module, 65% thought that it was very easy to understand, 30% thought it to be easy, while 5% thought it to be difficult.

In assessing the clarity and usefulness of the visual material (slides and transparencies) used in the module, 95% thought that they were very clear and very useful and 5% thought they were clear and useful.

Regarding the completeness of the checklist in covering the subjects in Module V, 61% thought that it was very complete and 39% thought it was complete. Concerning the usefulness, simplicity and sufficiency of the checklist, 90% thought it was extremely useful, simple and sufficient and 10% thought it was useful, simple and sufficient.

With regard to enhancing the knowledge of the participants, 60% thought they learned many new things from the module, 35% thought they learned some new things, and only 5% thought they learned nothing new. In addition, 80% thought that the knowledge acquired through the module was very useful, 15% thought it was useful to some extent, and 5% thought that it was not useful.

Among the list of topics which participants would like to have treated more extensively in Module V are:

1. Evaluation of project replicability;
2. Evaluation of project sustainability and the role of women;
3. Monitoring and evaluation of WSS projects, their use as a management tool; and
4. Planning of evaluation and design of evaluation forms.

Topics of particular interest to participants but not contained in Module V include:

1. Evaluation of benefits to women resulting from their involvement in WSS projects;

2. Evaluation of the relationship between project sustainability and increased women's involvement in WSS projects;

3. Community based monitoring systems of WSS projects;

4. Purpose and focus of participatory evaluation;

5. How to use the results of evaluation of other WSS projects for the benefit of future and on-going projects (use of evaluation results in planning); and

6. Guidelines for conducting evaluations (methodologies, design of forms, surveys, analysis, interpretation, etc.).

Suggestions for improvement of Module V include:

1. Providing step-by-step explanation of well proven methodologies for monitoring and evaluation of WSS projects;

2. Recommendations on the use of evaluation results; and

3. Imparting knowledge and education on the benefits of evaluation and its use as a management tool for WSS projects.

B. Overall Evaluation of Training Modules

The usefulness and effectiveness of the training modules were evaluated based on the following indicators:

1. Level of interest shown by participants;

2. Relevance of objectives with regard to training needs;

3. Quality of content and structures of training modules;

4. Effectiveness of training modules as a media in imparting knowledge and experience; and

5. Clarity and understandability of the training material.

1. Level of interest

An analysis of the completed questionnaire returns indicated that over 71% of the participants had very high interest in all the modules, while the remaining indicated high interest in Modules I to IV. Less than 10% of the participants indicated low to very low interest with respect to only one module, namely, Module V. The reason for this low interest is due to the participants' lack of familiarity with the concepts and terminologies used in monitoring

and evaluation processes. Minor improvement of the material in Module V and/or allocating more time to the explanation of training material in the module during discussions is expected to alleviate this problem. In general, all participants of the workshop showed keen interest in all the five modules as can be judged from a large number of innovative and useful suggestions proposed by them to improve the effectiveness of the training modules.

2. Relevance of objectives with regard to training needs

The views of participants with respect to the level of fulfillment of their expectations by the objectives of the modules are summarized below.

Extent to which expectations are being fulfilled
(Figures indicate % of participants)

	All expectations	Some expectations
Module I	47%	53%
Module II	84%	16%
Module III	85%	15%
Module IV	44%	56%
Module V	94%	6%

It will be observed from the above that all expectations were being met by Modules II, III and V for more than 84% of the participants, while Modules I and IV could meet all expectations for approximately 44% of the participants. The relatively lower level of fulfillment of expectations by Module I is mainly due to the difference in the social and cultural backgrounds of the participants with regard to their acceptance of illustrations used in sound-slide packages. Many felt that sound-slide packages were very much biased towards Asian culture. Many participants expressed their wish that sound-slide packages be adapted to reflect African experience and conditions. Participants would like to have an African voice and illustrations of African men and women at work on the WSS projects on sound-slide packages for their use in follow-up national training workshops. The reason for the low level of fulfilment of expectations by Module IV is different from

that of Module I. The highly technical nature of the subject dealt with in Module IV (both in the fields of water resources and economics) requires a fairly sound knowledge of basic principles in those fields to obtain full benefits from this module. Participants who are trainers, doctors, social workers and administrators therefore have some difficulty in understanding Module IV. Moreover, the concepts and terminologies of water demand management are rather new to those participants who are not from the water resources field. However, it would be rather difficult or even impossible to further simplify the material contained in Module IV if the effectiveness of the module in imparting new technology and experience were to be maintained. A possible solution might therefore be to use a resource person with adequate technical competence and background in those fields to demonstrate the module, so that he/she could explain the concepts and principles clearly and comprehensively. Allocation of more time for the demonstration of the module and pursuing discussions would also help in solving the problem.

In general, most participants thought that all their expectations were being met by the modules despite minor reservations expressed by some of them.

3. Quality of content and structure of training modules

The usefulness of the contents of the modules to their respective professions were rated by the participants as follows:

	Percentages of participants (%)		
	Very useful	Useful	Not useful
Module I	95	---	5
Module II	79	21	-
Module III	90	5	5
Module IV	75	25	-
Module V	80	15	5

It will be observed that all the participants rated the

materials contained in Module II and IV as useful or very useful, while 95% rated Modules I, III and V as useful or very useful. Only 5% of the participants thought that Modules I, III and V are not useful.

The assessment of the structure of the modules with regard to their ease of use is given below:

	Percentages of participants (%)		
	Very good	Good	Bad
Module I	85	15	-
Module II	53	47	-
Module III	86	14	-
Module IV	53	41	6
Module V	80	20	-

From the above analysis, it will be seen that all the participants considered the structure of the modules as good or very good. However, 6% thought that the structure of Module IV was bad.

In general, it can be concluded that the contents and structure of the modules are of high quality.

4. Effectiveness of training modules

The effectiveness of the modules was evaluated with regard to their ability to impart new knowledge and experience to participants. The participants' evaluation of the training modules in this regard is summarized below.

Amount of knowledge imparted

(Figures indicate % of participants)

	Many new things	Some new things	Nothing new
Module I	67	17	16
Module II	63	32	5
Module III	50	45	5
Module IV	53	47	-
Module V	60	35	5

It can be seen from above that more than 84% of the participants considered that they learned new things from the training modules. In this regard, Module IV appeared to be most effective in imparting new knowledge as all the participants acknowledged to that effect. As regards the remaining modules, 16% said that they learned nothing new from Module I, 5% said they learned nothing new from Modules II, III and V.

5. Clarity and understandability of the modules

The participants' evaluation of the understandability of the training modules is given below.

	Percentage of participants (%)		
	Very easy	Easy	Difficult
Module I	90	10	-
Module II	89	6	5
Module III	76	19	5
Module IV	44	44	12
Module V	65	30	5

The ratings given by the participants on the clarity and usefulness of audio-visual material used during the workshop are as follows.

	Percentage of participants (%)		
	Very clear/useful	Clear/useful	Confused/useless
Module I	84	16	-
Module II	71	29	-
Module III	80	20	-
Module IV	100	-	-
Module V	95	5	-

From the above analysis, it can be concluded that more than 88% of the participants found the modules to be clear and easily understandable. Only 5-12% of the participants have some difficulty in understanding the terminologies used in Modules II, III, IV and V which deal with technical matters in some depth in

the water and sanitation sector. This problem can be solved by allocating more time to discussion sessions after the demonstration of these modules to enable detailed explanations of certain principles and terminologies upon request by the participants.

In conclusion, an overwhelming majority of the participants rated the training modules on women, water supply, and sanitation as very useful and effective, and to stress this point, all indicated that they would use the modules in future national training courses to be organized in the field of water supply and sanitation in their respective countries.

The usefulness and effectiveness of the training modules may be enhanced by reviewing and updating their contents on a periodic basis, taking into consideration the suggestions made by participants at various workshops and training courses. It would also be helpful to use resource persons with adequate technical background and experience in the field of water supply and sanitation for presenting the modules and for leading discussions, particularly with regard to those modules that deal with technical matters in some depth.

A review of the suggestions made by the workshop participants indicates that the preparation or training of women and women's groups in the field of water supply and sanitation is as important as training of decision makers, senior officials, engineers and trainers for effective promotion of women's roles and their increased participation in water supply and sanitation projects.

ANNEXES

Annex I

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Annex II

WOMEN, WATER SUPPLY AND SANITATION

- An Interregional Workshop -
Banjul, 2 - 6 September 1991

Provisional agenda

1. Opening session of the workshop

2. Introduction of the training modules by resource persons and discussion in groups

   Module I. The International Drinking Water Supply and Sanitation Decade (IDWSSD) and Beyond

   Module II. Participation of Women in Planning, Choice of Technology and Implementation of Sustainable Water Supply and Sanitation Projects

   Module III. Role of Women in Hygiene Education and Training Activities for Water Supply and Sanitation Projects

   Module IV. Involvement of Women in Management of Water Resources, Water Supply and Waste Disposal

   Module V. Evaluation and Monitoring of Water Supply and Sanitation Programmes, Projects and the Role of Women

3. Final evaluation of training workshop

4. Discussion and adoption of the report

5. Closing session of the workshop

Annex III

WORKING GROUPS

Working Group I

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