KUBWIMANA Martha
Chef de Division
Prévoyance Sociale
au MININTER
B.P. 446 KIGALI.

Kigali, le 15 novembre 1989

A traiter par
123-15
Date reçue : 23.11.89
N° Classement 24297/89

Son Excellence Monsieur le Président
de la République Rwandaise
KIGALI.-

Objet : Transmission de rapport
de mission
Addis-Abeba, du 16 au 20
octobre 1989.

S/Couvert de Monsieur le Ministre de
l'Intérieur et du Développement Communal
KIGALI.-

Excellence Monsieur le Président,

J'ai l'honneur de Vous faire parvenir par la présente, le rapport de ma participation au séminaire régional sur les Femmes et les Energies Nouvelles et Renouvelables, organisé à Addis-Abeba (ETHIOPIE) du 16 au 20 octobre 1989, par l'Institut International des Nations Unies pour la Formation et l'Avancement de la femme (INSTRAW) en collaboration avec la C.E.A.

Le séminaire a ressemblé pendant une semaine des représentants de 12 pays africains dont le BURUNDI, le BURKINA-FASO, l'EGYPTE, l'ETHIOPIE, la GUINEE, le LESOTHO, le RWANDA, le SENEGAL, le SOUDAN, la TANZANIE, la TUNISIE et l'UGANDA, ainsi que plusieurs délégués des différentes organisations des Nations Unies.

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L'objectif principal était d'intéresser un bon nombre de femmes aux nouvelles technologies améliorées visant l'économie de l'énergie, et capables d'alléger et de rationaliser le travail quotidien de la femme africaine.

J'ai pu participer audit séminaire, grâce au concours de la C.E.A. à Addis-Abeba qui s'est proposée de prendre entièrement en charge la participation du Rwanda au séminaire régional sur les Femmes et les Energies Nouvelles et Renouvelables.

Je Vous en souhaite bonne réception et Vous prie d'agréer, Excellence Monsieur le Président, l'expression de ma plus haute considération.

KUBWIMANA Marthe.

Copie pour information à:

- Monsieur le Ministre des Affaires Etrangères et de la Coopération Internationale
KIGALI.-

RAPPORT DE MISSION AU SEMINAIRE REGIONAL SUR LES FEMMES ET LES ENERGIES NOUVELLES ET RENOUVELABLES.

I. ORGANISATION

- Le séminaire régional sur les femmes et les Energies Nouvelles et Renouvelables s'est tenue du 16 au 20 octobre 1989 dans la capitale Ethiopienne, dans le bâtiment de la Commission Economique des Nations Unies pour l'Afrique (C.E.A.).
- Cette rencontre avait été organisée par INSTRAW (United Nations International Research and Training Institute for the Advancement of Women) en collaboration avec la C.E.A. Instraw a été créé à l'occasion de l'année internationale de la Femme en1975 et a son siège en République Dominicaine.
- Le séminaire a rassemblé une trentaine de participants (hommes et femmes) composés des délegués des Gouvernements, des membres des Organisations des Nations Unies et des Organisations non-Gouvernementales.
- Les 12 pays qui étaient représentés sont : le Burundi, le Burkina-Faso, l'Egypte, l'Ethiopie, la Guinée, le Lesotho, le Rwanda, le Sénégal, le Soudan, la Tunisie, la Tanzanie et l'Uganda. (Voir liste des participants en annexe 2 du présent rapport).

II. OBJET DU SEMINAIRE

- Le séminaire d'Addis-Abeba avait pour objet la sensibilisation de la Femme africaine au rôle important qu'elle doit jouer dans l'exploitation, la transformation, la gestion et l'utilisation des énergies dites non conventionnelles pour le développement intégré du peuple africain.
- Le séminaire a étudié brièvement le raisonnement qui sous-tend l'utilisation d'une technologie appropriée en Afrique, ainsi que son utilité et son application.

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III. PRINCIPAUX TRAVAUX DU SEMINAIRE (le séminaire était organisé en anglais, aucune traduction n'était prévue).

- Dans l'ensemble, les participants ont étudié le rôle des femmes africaines dans l'effort de développement et on a tenté de montrer à quel point, il est important qu'elles aient accès, tout autant que les hommes à des technologies améliorées.

- Les participants ont été informés sur quelques unes des technologies villageoises actuellement disponibles pour aider les femmes, ainsi que sur quelques projets entrepris en Afrique pour étudier une approche du Développement utilisant en même temps, les femmes et la technologie appropriée.

- Le programme du Séminaire (annexe 1 du présent rapport) prévoyait plusieurs enseignements qui ont été dispensés sous forme de modules et ont porté sur les thèmes suivants :

1. Information sur les grandes activités des Nations Unies en matière d'énergie, notamment ses efforts dans la promotion des sources d'Energies Nouvelles et Renouvelables.

   - Le thème a examiné brièvement l'état d'avancement de l'exécution des Recommandations émises lors de la conférence de Nairobi de 1985 sur l'évaluation de la Décenie des Nations Unies pour la Femme.
   - La conférence de Nairobi recommandait que le secteur énergétique devait rentrer sans tarder dans les stratégies prioritaires d'avancement de la femme pour l'an 2000 !

2. Le rôle de la femme dans le Développement, la gestion et l'utilisation des Sources d'Energies Nouvelles et Renouvelables.
   - Le thème a mis en évidence le fait que dans la plupart des pays en développement, les femmes sont les premiers utilisateurs et gestionnaires des sources d'énergies diverses.

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- Aussi, les Energies Nouvelles et Renouvelables trouvent leurs principales applications dans les multiples activités de la femme : cuisine, lessive, repassage, éclairage, entretien de l'habitat, conservation et transformation des aliments etc...

3. Aperçu général sur les nouveaux systèmes des sources d'Energies Nouvelles et Renouvelables : caractéristiques et Technologies :

- Il a été mis en évidence que les technologies qui sont en train de naître affectent profondément les méthodes de travail et le style de vie de l'homme en général et de la femme en particulière.
- Il a été démontré combien il est important de permettre et de faciliter l'accès des femmes africaines, tout autant que les hommes, à des technologies améliorées.
- Il serait insensé de rechercher l'intégration accrue des femmes au développement, en négligeant le rôle important que doivent jouer les technologies appropriées qui permettent de rationaliser leur travail.
- Des technologies modernes et complexes sont pour le moment hors de portée de la plupart des communautés rurales du tiers monde. Mais il existe des technologies adaptables que l'on peut mettre en valeur pour créer des échelons intermédiaires afin de combler le fossé technologique.
- L'on citerait à titre d'exemple :
  . des foyers améliorés,
  . des moulins manuels, moins onéreux et plus fiables que des moulins à moteur,
  . des réfrigérateurs à charbon de bois,
  . des cuisinières solaires pour surmonter le problème de l'augmentation du coût du charbon de bois,
  . des séchoirs des récoltes pour éviter les pertes etc...

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4. Activités d'Education et de Formation dans les projets d'étude des Sources d'Energies Nouvelles et Renouvelables :

- Ayant constaté que les femmes sont toujours victimes des systèmes éducatifs non adaptés et d'une orientation érronée, préférant les garçons aux filles dans certaines écoles de métiers, il a été souligné que des centres de formation et d'éducation en matière d'énergie doivent profiter équitablement à l'homme et à la femme.

- En Afrique l'homme et la femme ont tous deux besoin d'un complément d'éducation et d'information sur les technologies améliorées et appropriées.

- Avec ces nouvelles technologies qui créent certainement des opportunités nouvelles de progrès social, on risquerait d'installer des nouvelles inégalités sociales si l'on persiste à nier ou à limiter aux femmes, l'accès au savoir, au crédit, aux services de vulgarisation de l'agriculture, aux coopératives de consommateurs et de producteurs, aux procédés permettant de rationaliser le travail ainsi qu'aux activités génératrices de revenus.

5. Perspectives des programmes des projets d'Energies Nouvelles et Renouvelables :

Le thème a été présenté par Monsieur Franco Campagna, du Bureau de l'O.I.T. à Turin.

- Il a déploré l'actuel faiblesse des projets, d'ignorer ou de réduire les intérêts ainsi que la contribution des femmes dans leur élaboration, exécution et suivi...

- Il a démontré combien les rôles, les responsabilités et les intérêts devraient être partagés entre les deux sexes dans le processus de Développement des nations.

- De manière général, la femme devrait être associée dans toutes les activités de développement social; et surtout devrait être consultés à tous les stades de développement des projets divers. Ceci, pour ne pas risquer d'omettre certains de ses besoins, de grand profit familial ou communautaire...

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IV. CONCLUSIONS ET RECOMMANDATIONS

1. Le séminaire Régional sur les Femmes et les Energies Nouvelles et Renouvelables s'inscrit dans le cadre de la mise en action de plusieurs stratégies spécialisées régionales qui ont été élaborées durant la dernière décenie sur la dimension sociale du développement africain (tel que le programme d'action de KILIMANJARO pour la population africaine et le développement de l'auto-suffisance; la stratégie d'avant garde d'ARUSHA pour l'avancement de la femme africaine dans le cadre de la Décenie de l'ONU pour la femme etc..).

2. La réalisation des recommandations du séminaire en question et des autres de mêmes objectifs qui l'ont précedé demande une pleine participation de tous les secteurs de la population dans des emplois rémunérés et productifs ainsi que la fourniture de tous les services essentiels. La satisfaction des besoins du secteur énergétique pour le bien-être familial et communautaire constitue un des éléments essentiels du développement socio-économique d'un paye.

3. Comme il est une réalité pour notre pays que l'énergie électrique reste inaccessible et onéreux pour la majorité des habitants du milieu rural et même urbain, les services techniques concernés devraient être encouragés à redoubler d'effort pour la recherche des nouvelles technologies améliorées et pour la Vulgarisation des technologies éprouvées dans le cadre de la promotion des Sources d'Energies Nouvelles et Renouvelables.

4. Le Rwanda étant bientôt soumis à une surexploitation du bois tant pour les besoins ressentis et exprimés pour l'énergie de cuisson des aliments et de chauffage que pour les besoins de construction des logements, des écoles et autres; il devrait s'unir d'avantage à l'effort régional pour intéresser la majorité de la population à l'utilisation et à la bonne gestion des sources d'Energies Nouvelles et Renouvelables.

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5. Dans le cadre de la Prévoyance Sociale, des dispositions et des mesures d'introduction des nouvelles technologies qui permettent l'économie des combustibles et leur conservation à moyen et à long terme, devraient être accélérées dès aujourd'hui et commencer par les familles du milieu rural, les établissements scolaires et autres...

6. Les homes d'accueil pour nécessiteux ainsi que les orphelinats devraient spécialement s'intéresser d'avantage à l'exploitation et à l'utilisation des Sources d'Energies Nouvelles et Renouvelables, afin de réduire leurs dépenses élevées pour l'énergie électrique et de surmonter les pénuries du charbon de bois ou du bois de chauffage nécessaires à leurs diverses activités domestiques.

   - Il faudrait que des programmes spécifiques soient entrepris par les services publics concernés, pour introduire de nouvelles technologies adaptées et éprouvées dans le domaine de l'Economie de l'énergie, en visant la conservation des combustibles dans les établissements de l'aide sociale où les moyens financiers deviennent de plus en plus précaires ((introduction de cuisson solaire, de cuisson au gaz méthane, fourneaux améliorés en terre etc...).

7. Enfin, dans le secteur de l'énergie en général et dans le cadre de l'utilisation et la gestion des sources d'énergies nouvelles et renouvelables, il a été identifié plusieurs domaines où des techniques appropriées pourraient apporter un changement sensible aux vies des femmes.

   Ces techniques comprennent :

   . les dispositions concernant l'approvisionnement en eau, réduisant ainsi le temps et l'effort consacrés à son transport (utilisation des pompes hydrauliques artisanales...);

   . l'introduction des moyens de transport (brouettes, charrettes à bras...), réduisant ainsi les conséquences médicales résultant du transport sur la tête ou le dos des récipients d'eau, des charges de bois de chauffage etc...);

. l'introduction des outils aratoires efficaces en améliorant les techniques et les équipements de labour des champs, des opérations de plantage, de sarclage, de moisson, de battage, de vannage et de transformation des récoltes (moulins, égreneuse, décortiqueur, broyeur de graines, qui sont actionnés par des sources d'énergies dites "non conventionnelles).

Telles sont les principales considérations du séminaire d'Addis-Abeba sur les Femmes et les Energies Nouvelles et Renouvelables dont les thèmes traités discutaient le grand point faible des efforts de développement actuels en Afrique qui réside dans le fait qu'on ne prête pratiquement pas attention au rôle et aux conditions de travail des femmes lors des changements technologiques.

OBSERVATION : Pour plus d'information, un document a été élaboré en anglais à l'issue du séminaire, et il constitue l'annexe 2 du présent rapport.

Fait à Kigali, le 15 novembre 1989

KUBWIMANA Marthe.

Annexe 2

Distr.:
LIMITED

ECA/NRD/NRSE/M
20 October 1989

Original: ENGLISH

INSTRAW/ECONOMIC COMMISSION FOR AFRICA

DRAFT REPORT

SEMINAR ON WOMEN AND NEW AND RENEWABLE SOURCES OF ENERGY

Addis Ababa (Ethiopia) 16-20 October 1989

INTRODUCTION

The regional training seminar on women and New and Renewable Sources of Energy was convened at the United Nations Economic Commission for Africa (ECA) headquarters in Addis Ababa, Ethiopia, from 16 to 20 October 1989.

The meeting was organized by the United Nations International Research and Training Institute for the Advancement of Women (INSTRAW) in co-operation with the Economic Commission for Africa.

The seminar was attended by 18 participants from 13 countries (see Annex I). Also participating in an observer capacity were representatives of Governments, United Nations organizations and bodies, and of Non-governmental Organizations.

A. Opening of the seminar

The opening of the seminar was co-ordinated by Mr. Peter N. Mwanza, Director of the Natural Resources Division of ECA. In his opening statement, the representative of ECA welcomed the participants on behalf of the Executive Secretary of ECA to the headquarters of the Economic Commission for Africa and to the seminar on "Women and NRSE" organized by INSTRAW in collaboration with ECA. He said the seminar

was intended for development planners, managers of energy programmes, and senior officials of women's and non-governmental organizations at national, regional and international levels.

On behalf of the participants, he expressed his gratitude to INSTRAW for organizing the seminar in Africa and to the Italian Government for the generous financial assistance provided for convening the seminar.

The representative of ECA said that the development of NRSE in Africa is a very important activity as it is part of the implementation of the Nairobi Programme of Action adopted in 1981 and afforded member States an opportunity of pursuing the goal of diversifying their energy sources in order to lift the burden of expensive imported oil and petroleum products.

Further, Mr. Mwanza said that in the field of women and energy, ECA's interest dated back to 1980 when a workshop on firewood and energy development for rural African women was organized jointly by ECA and FAO in Bamako, Mali. This was followed by a subregional seminar on fuelwood and energy development in April 1983, in Lusaka, Zambia. The seminars, which were attended by high level experts, recognized that there was a need for further research, education and training for adequate and efficient utilization of energy in the region. Sound

recommendations were made for increased participation of women in policy formulation and management of energy programmes. It is important that the issue of women and NRSE is addressed comprehensively because in the rural areas of Africa and to a large extent in the urban areas, it is women who are the managers of energy resources and of their utilization. ECA is the woman who bears the burden of procuring energy for all household purposes. He said some of the reasons for little progress in the implementation of the Nairobi Programme of Action were: lowering of the prices for petroleum; lack of technological base for most of the African countries to spread the technological innovations needed for most of the NRSE; failure to involve sufficiently the main target group in the field of NRSE, namely, the women; and, of course, lack of financial resources.

Despite the relatively little progress achieved so far in the implementation of the Nairobi Programme of Action in Africa, he told the participants that the need for development of NRSE is as valid today as it was in 1981 and that the outlook for most renewable energy technologies was still very promising. Therefore, the seminar should, inter alia, aim at assisting the African governments to rededicate themselves to the development of these energy sources.

Expressing his delight for ECA being associated with the seminar, he informed the participants that in its work ECA collects, analyses,

stores and disseminates information on NRSE in Africa to be used by member States, UN agencies, bilateral assistance agencies and NGOs.

It assists in identifying the areas where research and training can make a significant contribution to the development of NRSE as well as provide a link between the Governments and funding agencies in order to facilitate such research and training;

It provides, upon request, assistance to the African member States in the development and utilization of NRSE including integration of energy policy and planning into overall national socio-economic development policy and planning;

ECA organizes from time to time, regional consultative meetings for the mobilization of financial resources for the development of NRSE in Africa;

ECA is the sponsoring organization of the African Regional Centre for Solar Energy (ARCSE) now fully operational and its headquarters is in Bujumbura, Burundi. The ARCSE which is supported by the African member States, is to be the main agency in Africa for the development of NRSE.

The representative of the Government of Italy, Mr. Arturo Luzzi welcomed all the participants to the meeting and said that the

Government of Italy within its development co-operation activities pays special attention to women issues. He pointed out that the Italian law on co-operation with developing countries included among its priority fields of activity the improvement of the condition of women. The law also established a special office for women in development within the Italian Ministry of Foreign Affairs Directorate for Development Co-operation. He concluded by stating that his Government was glad to have provided funds for the seminar which represented a concrete expression of the will to help women overcome the constraints which hinder their advancement.

Mr. Mwanza introduced Ms. Daniela Colombo, Member of the Board of Trustees of INSTRAW, who, on behalf of the Director of the Institute, Ms. Dunja Pastizzi-Ferencic and the Board of Trustees addressed the participants to the seminar, thanked the Government of the People's Democratic Republic of Ethiopia for hosting the seminar and expressed gratitude to the Government of Italy for its financial support and ECA for the assistance given in the organization of the seminar.

She gave the participants information about the objectives and activities of INSTRAW, especially with respect to its work on:

1) improving statistics and indicators on women

2) issues relevant for policy design, such as monitoring and evaluation methodologies for programmes and projects for WID;

3) sectoral issues such as women, water supply and sanitation, women and energy, women as entrepreneurs and managers in industry;

4) developing innovative training methodologies and programmes which include the production of multi-media training packages, such as the one on "Women and Water Supply and Sanitation" and "Women and Development" and "Women and New and Renewable Sources of Energy".

She then commented on the various INSTRAW activities in the field of NRSE, with special reference to the Expert Group Meeting on the role of women and NRSE, held at headquarters in 1981 and the recommendations, guidelines and project profiles developed at the meeting.

She also mentioned the production of a manual on stoves and then introduced INSTRAW project for the development of multi-media training

modules on women and NRSE, developed in co-operation with ILO training centre in Turin, of which the regional seminar is a component. Referring to the objectives of the training package she underlined that it has been produced in order to secure:

a) the involvement of women in projects based on the exploitation of NRSE in all stages, from identification to evaluation;

b) the involvement of women in the choice and adoptetion of technologies appropriate to socio-economic conditions; and

c) the incorporation into projects of adequate training programmes particularly targetted to women in the crucial stages of project implementation.

She concluded her intervention expressing to participants, resource persons and observers her best wishes for a fruitful and successful seminar, thanking them in advance for their contributions and declared the seminar officially opened.

B. Adoption of the Programme of Work

Mr. Mwanza presented the Programme of Work of the seminar which was adopted by the participants (see Annex 2).

The participant designated Ms. H.N. Gava, the representative of Uganda as rapporteur.

PRESENTATION OF THE STRUCTURE AND METHODOLOGY OF THE MULTIMEDIA TRAINING PACKAGE

The representative of INSTRAW and co-ordinator of the seminar Ms. Marina Vaccari then briefly illustrated the content of the pilot test edition of the training package on women and new and renewable sources of energy, jointly developed by INSTRAW and the ILO Turin Centre.

She said that the training package consisted of five modules, which can be used together, in a pre-determined sequence for the implementation of a one week seminar, or separately.

She also explained the methodology used in preparing the modules, based on a participatory approach, and pointed out that they are conceived as a package containing a trainer guide, a text, additional reading, a bibliography, audiovisual material and evaluation questionnaires for trainees and trainers. The modules, she said, addressed two target groups: development planners, senior officers of the management of energy programmes and senior officials of women's organizations and institutions at the national, regional and international levels.

The purpose of the seminar, she explained, was to test the pilot test edition of the training package, which will subsequently be revised on the basis of comments and reactions from participants.

III. PRESENTATION AND DISCUSSION OF THE MODULES

Module 1 "An Overview of The United Nations activities in the field of New and Renewable Sources of Energy" was presented by the Representative of INSTRAW Ms. Marina Vaccari.

In her presentation she noted that one of the basic purpose of the United Nations was to promote economic and social development and that an adequate supply of energy is a prerequisite for development. This was the reason, she said, for the attention the United Nations have always paid to energy issues, and especially to the development and utilization of new and renewable sources of energy, in view of the prominent role they play in the energy supply of developing countries.

She recalled that, the dramatic rise in oil prices which took place in the mid 1979's was at the basis of the decision of the United Nations to convene the Conference on the development and utilization of NRSE, which took place in Nairobi, Kenya, in 1981. The Conference

approved the Nairobi Plan of Action, which called for the transition from an economy based on hydrocarbons to one where new and renewable sources of energy played a major role. The Conference adopted the Nairobi Plan of Action (NPA) which represents still the basic framework for the United Nations activities in NRSE. The NPA called for concerted international co-operation and identified the main areas for action to promote the development and utilization of NRSE.

In 1987, she said, the United Nations convened a high level meeting of experts to review and assess the implementation of the NPA. The experts recognized that the pace of implementation of the NPA was slower than anticipated, mainly because as the price of oil went down, interest in the development of NRSE decreased. Other constraints were identified in difficulties in promoting dissemination and inadequate attention to cultural, social and institutional aspects of energy development, including the insufficient involvement of women in the planning and implementation of NRSE projects and programmes.

She noted that there is renewed interest in NRSE because of the growing concern for the detrimental effects of deforestation and excessive combustion of hydrocarbons on the ecological balance of many regions in the world and of the entire planet.

She then briefly illustrated the respective roles and activities of the United Nations organizations and bodies in the field of NRSE.

She mentioned that an Intergovernmental Committee on the Development and Utilization of NRSE, and an Interagency Working Group on NRSE were created after the Nairobi Conference and a Special Co-ordinator on NRSE was appointed in the office of the Director General for Development and International Economic Co-operation.

She concluded by pointing out that women as agents and beneficiaries of the development and utilization of NRSE must be fully integrated in the implementation of all activities in this field, within the United Nations System.

The Nairobi Plan of Action, she said, recognized the special role women play in NRSE and that every effort should be made to ensure that actions in this field involve and benefit men and women equally.

The United Nations, she went on saying, convened in 1985 in Nairobi a World Conference to Review and Appraise the Achievements of the United Nations Decade on Women, which adopted the "Forward Looking Strategies for the Advancement of Women to the Year 2000". The Strategies, she pointed out, recognize that energy is a priority area for action to promote the advancement of women, and made recommendations on specific measures to be taken.

In the discussion which followed, the Representative from UNCHS brought to the attention of participants the problems connected with the exploitation of forestry resources and the need to protect the environment.

A debate followed on this important issue, particularly on the role of women as users of biomass resources. It was pointed out that women are often blamed for deforestation although this problem should be considered in a multi-dimensional manner.

The Representative from UNEP gave a brief overview of UNEP activities as they relate to NRSE and particularly to their application to benefit women.

She pointed out that UNEP is particularly concerned with the promotion of environmentally sustainable development.

The Representative of the World Bank said that the Energy Sector Assessment Management Programme (ESMAP) launched a new initiative in the field of women and energy which will take place through short-term, medium term and long term phases.

The Representative of UNCHS added a brief presentation on the main activities of the organization related to the utilization of NRSE in human settlements, both in the urban and rural areas, particularly with regard to the problem of energy conservation. He said UNHCS has published several technical publications on the use of NRSE which include topics related to their utilization to meet women's needs.

The participant from Sudan raised the issue of co-ordination among the different United Nations bodies and organizations active in the field of NRSE.

Several participants joined in the discussion which followed.

The Representatives of INSTRAW pointed out that appropriate institutional measures had been taken within the United Nations System to ensure co-ordination: an Interagency Working Group on NRSE was established and in the office of the Director General for Development and International Economic Co-operation a Special Co-ordinator on NRSE was designated.

Module 2 "The Role of Women in the Development, Management and Utilization of NRSE" was presented by Ms. Marina Veccari.

She pointed out the fact that in most developing countries women are the main users, suppliers and managers of energy resources.

She said that this is apparent if one considers that in the developing world the household energy consumption is estimated to account for 45 per cent of the total, and in addition women are the users and providers of energy required for many other tasks such as traditional agriculture and food processing.

She then examined the role of women as suppliers of NRSE and pointed out that they have a prominent role in fuelwood collection and commercialization, as well as in forestry.

Women, she said, are also the main collectors and processors of agricultural residues, and of dung, manure and biomass resources which represent energy resources with multiple applications especially in the developing world.

In addition, she said, women in the performance of their multiple roles, contributed their human labour as a source of mechanical energy.

The development and dissemination of appropriate energy technology, may help alleviate the drudgery and reduce the time necessary to perform many women's tasks leaving them the for more productive activities.

She then examined the needs of women which can be met with the utilization of NRSE, at the household level, such as cooking, lighting, heating, supplying water, food processing and for income generating activities. In this respect, she pointed out that many typical women activities such as food processing and pottery-making are energy-intensive and that the development of relevant appropriate technology may not only benefit women but contribute to energy saving at the community and national level.

Women needs, she noted, have been overlooked in energy planning and by energy policies. The main constraints, she said, can be identified in the lack of data and information on women role, insufficient concern for women's needs, insufficient participation of women in the decision-making process.

Energy consuming tasks, she said, should be [illegible], classified by types, quantity of energy consumed, time spent and performer gender, in order to match appropriate technology and energy sources to specific

end-uses, thus obtaining the best results. Little or no attention has been paid to design or adapt energy devices to the gender of the end-users. Even technologies designed to perform household tasks often do not properly take into account women's needs and preferences and they are often developed without their participation. This has been the reason, for instance, for the failure of many improved stove projects.

The following four key issues for discussion were then brought to the attention of the participants:

I. How can the participation of women in the development, management and utilization of NRSE be improved.

II. What are the major constraints to the integration of women needs in energy planning and energy policies.

III. Identify areas where research and development on NRSE technologies can make a critical impact on women.

IV. Identify pilot projects which may promote a better integration of women in the development, management and utilization of NRSE.

The participants then divided into three working groups. The first two - one made up of anglophone participants chose to deal with the four issues and another group made up of francophone participants chose to examine the following issues. "How can the participation of women in the development, management and utilization be improved". The third group discussed the issue "what are the major constraints to the integration of women's needs in energy planning and energy policies".

The Francophone group met to elaborate on the question "How can the participation of women in the development, management and utilization of NRSE be improved". It was agreed that the removal of the major constraints (as set out in question 2) would contribute to improving women's participation.

- question 1 & 2 are automatically answered.

It was generally agreed that:

- The introduction of NRSE must concern urban as well as rural areas.

- NRSE technologies must respond to five criteria if they are to be used by women: safety/adaptability (appropriate

technology) simplicity/easy maintenance/affordability.

Education and information directed at women as users & managers of energy resources is at the core of any effort to improve their participation.

REPORT OF GROUP 1

"What are the major constraints to the integration of women's needs in energy planning and policies"

For the design of energy plans and elaboration of energy policies:

1. A national political recognition (both in terms of policy and investment programming) of the role(s) of women in NRSE is essential to improved participation.

2. Projects that aim to address women's participation in NRSE must be integral to overall energy strategy planning and programme development and not in parallel or as an addition to on-going projects.

3. Women's views must be solicited at all phases of improvements of appropriate technologies to ensure that their needs are met at affordable costs.

4. Ensure that the socio-economic cultural aspects of the country context as they relate to women's participation are accounted for at all stages of the project and fundings should be provided for such surveys.

5. Put in motion international financing mechanisms e.g. revolving funds and credit programmes for proven technologies that has been tested in pilot operations and are now ready for mass dissemination that enhance women's participation in NRSE.

For preparation and execution of projects:

1. Each new project should have as part of its preparatory phase, the drafting of a document by a national constitutional group describing and analyzing women's status; their cultural, economic, technical needs and aspirations, etc. This baseline document on women should be financed by the donor agencies and should be distributed to the consultant (expatriate/national) team at the start-up of any activity.

To the possible extent, encourage the recruitment of women as national project directors and chief technical advisors in every project.

Ensure that women's (beneficiaries) views on important decisions in project execution are communicated to project management and taken into account at all stages of the project cycle.

Build in measures (e.g. seminars, on the job-training) to introduce qualified women to project management techniques; supervision, monitoring and evaluation of projects.

REPORT OF GROUP II

hat are the major constraints to the integration of women in ergy Planning and energy policies

Household & Community Level

1. Too many household chores and responsibilities which hampers women from having adequate time for thinking about participating in energy planning and policy making.

lture inhibits women in decision making in households
.. women are not accepted to take decision at home. Women
re relegated to a lower status in society.

he majority of African women are illiterate and therefore
annot participate meaningfully in household decision-making
d especially in energy planning and policy making.

ne tradition, customary laws usually discriminate against
omen in property ownership and inheritance. This deprives
hem from having a say in planning and decision-making on
esources.

e man controls the income of the household. He owns the
and and markets what the wife has produced and keeps the
oney, thus weakening the position of the woman even further.

Weak marriage bounds which allows a husband to send away the wife very easily makes the woman always insecure and hesitating in taking decisions in the house.

Project and National level

The society is not encouraging women to be in the energy field. This starts from childhood at home where boys are

encouraged to do better at school, more than the girls. Preference is given to boys in schooling by parents. At school and at employment level, boys are encouraged more than the girls to take up science subjects.

Too many responsibilities for African women as housewives and this leads to their retiring early and not continuing in the service. Very few women reach high posts and take high responsibilities.

Women are weaker than men physically and generally not willing to take risks and this reduces their participation in such fields as engineering etc. and the end do not take up high positions.

Preference in promotion is given to men although the females have equal credits as men.

Recommendations

education plays an important role in the life of the people world at large, great emphasis must be given especially to l women in Africa; so that education encounters the basic s of women such as religion, law and the system itself.

Priority must be given to training women according to their needs interests and to come closer to the life of rural women.

Incentives must be given for the trainers to motivate rural women.

To ease the burden of rural women, child care centres water supply ealth centres must be seriously thought over, to facilitate the of the women and the family.

More involvement of women in the extension work.

Report of Group III

How can the participation of women in the development, management utilization of NRSE be improved?

1. Examining the national policies oriented to women.

2. Utilizing the potential human resources in each country at different levels so that involvement in NRSE-oriented research and project design may be promoted.

3. Involving women at the inception of the project especially at the rural level and training them in maintaining and repairing simple machines, and also providing them with some incentives.

4. Women's organizations should take on the role of mobilizing women towards management of NRSE projects, besides serving as the focal point of the government for the elaboration of new strategies in NRSE.

5. Training for development and management in NRSE project should be well-tailored, addressing the most common problems in a particular locality and only introducing it after all possibilities for its viability, feasibility and acceptability have been established by relevant research.

6. Only those projects which have been tested and proved to be feasible, viable and acceptable should be promoted in a given community, in terms of affordability and ability to maintain them after withdrawal of foreign or high technical personnel.

7. Only those projects, whose source of funding locally and externally is established, should be initiated, taking into

consideration the fact that most of the inputs be generated locally within the community itself.

Improving the regular exchange of ideas and experiences at regional/national/local levels on NRSE projects.

What are the major constraints to the integration of women in NRSE energy planning and utilization?

1. Inadequate appraisal of factors which are crucial for integration of women, including training/education, technical and scientific information, motivation, identification of priority types of NRSE to be established in a given locality as well as support provided to them, whether financial, technical or moral.

2. Cultural factors which hinder the acceptance of NRSE initiatives such as improved stoves and biogas dygestores.

3. Lack of access of women to resources such as crop residues, animal wastes, agro-industrial wastes, etc.

4. Lack of women specialists in energy-related issues to oversee the implementation of NRSE projects.

5. Lack of support and motivation by local governments and national/international agencies for women in order to build-up their self confidence.

6. Lack of women's authority to participate in policy and decision-making in NRSE at all levels.

III. Identify areas where research and development on NRSE technologies make a critical impact on women.

Research can be carried out at the country/regional/district/community levels. However the areas for research and development will depend on:

1. Identification of priority needs

2. Identification of research gaps pertaining to NRSE.

3. Availability of trained women to apply results of the research in the field.

4. Research programme in aspects of NRSE to be undertaken by the "AMCEN Network on Renewable Energy" as well as those

of other energy-related research institutions.

Identify projects which might promote a better integration of women in development, management and utilization of NRSE technologies.

1. NRSE projects which are economically feasible, environmentally sound, socially acceptable, and posing no health hazard.

2. Involvement of women in NRSE projects aimed at increasing self-sufficiency in fuel and food requirements (some income generating activities).

A discussion on the conclusions of the Working Groups then followed.

Several participants raised the issue of the need for itical will for the involvement of women in NRSE planning and icies. It was also pointed out the importance of eduction l training in order to enhance the participation of women i nning development and utilization of NRSE at all levels.

It was also stressed that more attention should be paid to ain the end-users, who in rural areas are mostly women, and to importance of the training of trainers, and of extension rkers.

A question was raised on the possibility to receive mor formation and data on NRSE including on experts in the energy eld.

dule 4. "Relevant NRSE Systems: Characteristics and chnologies"

Module 4 was presented by Dr. Mitwally, Executive Director of rican Regional Centre for Solar Energy. He started by addressi ne question of "what was the ultimate goal of holding the presen eminar. He answered it by stating that generally the use of new nd renewable sources of energy (NRSE) is intended to raise the tandard of living of the end-users, be it men or women. He

proposed a methodology to do that. He first listed the most common technical terminologies which would be used during the presentation. He then classified the various types of NRSE including the recently recognized "conservation energy". He then itemized the possible needs of women at the levels of household and community and gave a partial list of women's income-generating activities. He described each NRSE technology citing the later technological developments and the on-going trends in the world. He also emphasized that technologies which are manufactured in industrialized countries would need to be adapted for use under the prevailing conditions in Africa. He focussed on the training needs for operating the equipment and stressed the need for selecting appropriate technologies. He advised the participants that the proper selection of equipment should be based only on final merit disregarding whether the equipment was given free of charge.

He then proposed the marriage of the needs to one or a combination of NRSE technologies to meet these needs emphasizing the site-specific nature of NRSE. He elaborated on the socio-economic impacts of utilizing these technologies and asserted that the social barriers are sometimes the real reason for lack of wider acceptability in certain countries where women adhere to customs and long-inherited traditions which may not allow successful applications of NRSE-based technologies. He gave specific examples of countries and technologies where such success was limited.

The presenter then explained that the major obstacle for

successful and complete diffusion of NRSE technologies is still the initial relatively high capital cost of the equipment which goes beyond the financial capabilities of the African family. He then suggested that applications on community scale or for a group of villages may prove to be the most appropriate at this stage. However, he stressed the need for evaluating projects taking into consideration not only economic benefits but also social benefits particularly those relating to improving the quality of file, e.g. providing clean drinkable waters and preserving vaccines and sera. He also indicated that a wider campaign of awareness is necessary particularly among decision-makers.

He then gave a summary of project implementation in countries like Egypt, Sudan, Pakistan, China and Mali with an account of the experiences gained and lessons learned. He highlighted the fact every country must have a national plan or strategy for the utilization of its indigenous NRSE.

He proposed a project for utilizing solar mobile systems in rural Africa for training African women on family planning, hygiene and general health.

He then showed the participants video presentations on projects in Egypt and Jordan. He then took the participants on a tour of the solar exhibit in ECA.

The participants were given the chance to ask all the

questions on the subject matter which were satisfactorily answered.

Mr. Niyimbona Pancrace presented then an overview of NRSE applications in the African Regions.

The United Nations Conference on NRSE of renewable energies listed 10 biomass including fuelwood and charcoal, draught animals, solar energy, wind energy, hydropower, geothermal energy, peat, oil shale and sands, energy from the seas including tidal wave and ocean thermal energy.

Due to lack of human and financial resources and low technological capability, the African countries have not already tried to develop and utilize some of the energy resources listed above such as energy from the seas, oil shale and tar sands, manufacturing photovoltaic cells or production of electricity from peat fired thermal plants.

Biomass energy is the most utilized source of energy, it accounts for 70 to more than 90 percent of the total energy consumption in sub-saharan African countries. Biomass energy resources take the form of wood fuel, crop residues animal wastes and agro-industrial wastes. Programmes to develop and utilize biomass energy resources are as follows: efficient utilization of the resource through improved stoves and kilus with higher output for the production of charcoal, valorization of crop residues

through ethanol production from molasses of sugar mills and production of fuel briquettes, production of electricity with producer gas, biogas production from animal wastes and afforestation projects.

Draught animal power has been used as an important source of energy since man exists in the sectors of agriculture, transport and food processing. In many sub-saharan African countries, women can be considered as providers of that form of energy and all the activities of research and development in the area of new and renewable sources of energy are aimed at alleviating the burden of women.

There are many activities in the area of research development and demonstration for the utilization of solar energy in most of the African countries. Those activities cover the utilization for the production of industrial process heat, irrigation pumping by thermal conversion or photovoltaic systems, desalination of water, heating swimming pool, water heating, cooking meals, drying crops,... No African country has the facilities to produce photovoltaic cells, but PV systems are utilized for refrigeration of vaccine in rural health centers, for telecommunications, for lighting, rural communication and rural TV/Radio.

Wind energy has been utilized in Northern, Western and Eastern African countries. There are many wind mill installations in

operation for pumping water and some countries such as Kenya or Tanzania are manufacturing locally wind mill systems. Wind energy can be utilized for the desalination of water and electricity generation in countries with high potential such as Somalia, Sudan and on the West Coast of Africa.

Hydropower has been developed in many countries after the Nairobi Conference and some of the larger plants have been realized on a regional cooperation basis: Nangbeto for Benin/Togo, Manantali for Mauritania/Mali/Senegal, Ruzizi II for the CEPGL countries. Hydraulic rams can help to supply water in rural areas of hilly regions and there exists a firm in Kenya that manufacture such systems locally.

Geothermal energy potential is concentrated in Eastern Africa along the Rift Valley. Kenya is the most advanced African countries in developing its geothermal resources with 45 MW installed capacity and 2 x 30 MW under preparation in the OLKABIA field. A feasibility study, partially financed by the World Bank, is underway in Djibouti for the construction of a 10 MW geothermal plat in the area of Lake Assal. In most of the other countries, geothermal energy is utilized for direct heat applications.

There are substantial peat resources in some African countries but surveys have been carried out in Burundi, Rwanda and Senegal. Burundi is producing 15,000 tons of dried peat annuals but has on output capacity of 50,000 tons/year; the peat produced is used for

eplacing woodfuel and charcoal for cooking. In Rwanda, peat is sed for raising steam in a small pyretherum industry.

The institutional arrangements for developing and utilizing RSE in Africa at the regional and sub-regional levels are : ECA ich can assist all the African countries, ARCSE which counts 21 mber States, CRES-Bamako which counts 11 member States and EGL r the CEPGL countries.

A representative of the Secretariat of ECA Multinational ogramming and Operational Centre reported on activities dertaken in members of the Economic Community of Great Lakes ntries (CEPGL) in the field of NRSE.

He said that in order to reach the objectives of the Nairobi n of Action the Conference has considered and identified areas concerted actions which include research and development nning, evaluation, transfer and adaptation of technologies, cation and training. He also said that several initiatives were rtaken.

A video presentation on applications of NRSE in the developing tries followed.

The participant from Senegal presented an overview of the vities undertaken by CERER (Centre d'Etudes et de Recherche sur

les Energies Renouvelables).

He said research and development activities has been implemented on solar fish driers, crop driers, biogas plants and improved stoves. He stressed that CERER's is approach to use local low cost materials and simple techniques.

He said that the Government of Senegal has launched a national programme for the dissemination of improved stoves, and that CERER has developed models, made of scrap metal and is involved in training of trainers to ensure large dissemination. He supplemented his presentation with some slides.

Other participants and observers joined in the discussion which followed.

Module 5. Education and Training Activities in NRSE Projects

Module 5 was presented by Ms. Borjana Bulajich, INSTRAW Social Affairs Officer. She started her presentation by pointing out that education and training needs for NRSE cannot be considered independently from other needs, but must be approached in an inter-sectoral and inter-disciplinary approach. She briefly explained INSTRAW training programmes and innovative multi-media modular training methodolgies. Education and training have to be seen as one element in an integrated programme for NRSE development and use. The energy-related training must be carefully planned in order to ensure that trainers, both women and men, are actually able to use their newly-acquired skills within the energy sector. The objective for training programmes must be the productive employment and engagement of the trainees and not simply the completion of another training course.

She stressed that the participation of women in the field of energy could be greatly increased through education, training and participation in NRSE projects. One of the most critically important factors affecting women's status is inadequate or non-existent education and training.

Furthermore, she elaborated on general guidelines and activities for training women in NRSE. She underlined that special efforts need

to be made to:

1. identify women's needs and potential and to train them accordingly, particularly in technical and managerial skills regarding project development, operation and maintenance;

2. to encourage participation of women in post-graduate studies and training as engineers, scientific research workers, energy planners.

She pointed out that assessment and planning of training should be carried out in view of needs assessment which would include women's needs, and presented various training methodologies and approaches such as: training in situ; training of trainees; modular approach; learned-centred methods; mass media; traditional women's role as trainer; and, training of extension workers. She presented an example of a training programme which could be used for different target groups, various training needs and different subject-matters, and adaptable to different regions.

Finally, the representative of INSTRAW concluded by emphasizing the importance of monitoring evaluation and of training programmes and training methodologies. She underlined that different evaluation

ethodologies have been established for different forms of evaluation, ut each methodology has two distinct phases: the evaluation of raining process, and the evaluation of results on the impact of raining on the acceptance level, efficiency and effectiveness of he NRSE projects and programmes.

Several questions were asked, especially the methodology for evaluation of training projects and programmes. The participants then divided into two working groups, the first made up of francophone participants and the other consisting of anglophone participants to discuss the following issues:

I. Which constraints prevent participation of women in training and education programmes for NRSE programmes.

II. What do you suggest to overcome the constraints women are facing to participat in regular education programmes; various training seminar on energy.

III. What elements would you include designing a training programme aimed for women in rural areas for energy projects.

Report of Anglophone Group

(1) Constriants

Rural level.

(a) Time constraint - women have heavy burden of work in the H H level so that they have less time for other activities.

(b) Lack of information - awareness of the technologies

(c) Socio-cultural factors - including linguistic problems

(d) Lack of incentives - lack of motivation

(e) Malnutrition and poor health condition

(f) Logistic problems such as transport.

(2) How

(a) Provision of incentives

(b) Provision of childcare facilities - kindergarten

(c) Holding seminars and training within the localities and given by a woman.

(d) Providing relevant educational programmes to overcome cultural barriers.

Constraint

- Higher level.

(a) Less exposure of women in the field of scientific technologies.

(b) Women get less chance in attending high level education.

How

(a) Giving priority to women in the training so that they could participate in the planning and decision making activites i.e. positive discrimination in the form of specific study grants, scholarship

Report from the francophone working group

ajor ideas for Module 5

onstraints

. Women don't have time to attend the training programmes because hey have too much responsiblities at home.

The weight of socio-cultural constraints caused by the mentality women and men also the lack or little degree of instruction.

Institutional framework is not well defined and this is reflected

- a bad co-ordination of different training programmes
- an inadequate training programmes provocing the lack of interest of women.

Lack of information, poor communications or circulations leading misinterpretation of these informations.

lack of motivation as women's priority is to improve their family l-being by increasing their income rather than participating in ining programmes.

Recommendations concerning the overcome of constraints

1. In view of ameliorating their training activities, the programmes should be well adapted to the needs of women.

2. To enable women to attend training programmes women have to be partially releived from their domestic tasks by either a better distribution of the house work among all members of the family or by raising their socio-economic status.

3. To motivate women's interest in attending training programmes:

   a) financial assistance for acquiring adapted equipment of trainig.

   b) facilities for access to the training programme, e.g. perdium, or providing funds for the trips.

   c) to decentralize training programmes.

4. To face the mentality problems, litteracy aspects has to be introduced as a core of each programme of training.

II. Recommendations concerning new and renewable energy

1. Emphasize technologies that contribute in lightening the hard task of women's work.

2. To promote exchanges on proven technologies, whether by documentation exchange or "study trips".

3. Performing case studies aimed at target groups with exchange of experiences at a regional and international levels, e.g. case study of the waste of energy.

4. Critical evaluation of training programmes in NRSE enabling a better and regular adaptation.

In the discussion that followed the presentation of the reports of the working groups it was point out by several participants that, in order to involve more women in training and education programmes, it will be necessary to change the cultural attitudes of men so that then can share in family work.

Some participants expressed the opinion that this change in attitudes can be achieved through the introduction of new technologies. Others pointed out that the introduction of a new technology may sometimes have a negative impact on women, since they may be displaced from their work.

In addition, it was pointed out that it can happen that a new technology is introduced in order to benefit women and it turns out that it is used by men for other purposes. An example was mentioned of donkey carts introduced in rural areas to alleviate women's work in carrying wood for household needs which were used by men to take the wood to urban areas and sell it.

It was pointed out by some participants that in order to overcome these difficulties there is a need to encourage the setting up of women's groups, and have training programmes specifically designed to meet their needs, organized locally, in the local language, and taking into account socio-cultural constraints.

It was also pointed out by a participants that the attitude

of men towards women participation in training and education and in access to technologies can be changed, if the advantages not only to women but to the entire country were made apparent.

The need to have more women at the high level of policy making was stressed as one of the pre-requisites for the successful implementation of development programs and projects, particularly aimed at women.

Module 3. NRSE Prospects and Programmes: Design and Implementation

Module 3 was presented by the representative of the ILO Turin Centre Mr. Franco Campagna who illustrated the project cycle in all its stages, from identification to project formulation, implementation, monitoring and evaluation. He presented the project cycle within a framework which emphasized the application of gender analysis in project design.

He pointed out that weaknesses in project formulation may lead to reduced benefits for women and the reduced contribution of women in the development process.

He further noted that gender roles in project formulation focus on how the benefits of development are shared between men and women and how the role and responsibilities in the development process are shared between genders.

He therefore concluded that project design in all sectors ıld include the 4 steps of gender analysis as described below.

Step 1. Activity Analysis

Assesses the interaction between men and womens activities in the project context: What do they do ?

a) Production of goods and services

b) Reproduction and maintenance of human resources

- Failure to consider the interface of the project with e most important activities, carried out primarily by women, ıddition to their contribution in production of goods and ices, can lead to faulty project design and subsequent ıiculties in project implementation.

Step 2 ACESS AND CONTROL ANALYSIS

Input resources are required to undertake project activities which in turn will produce outputs or benefits.

This step analyses gender access and control of human, capital and other resources for the project. It also assesses gender control over project activities and over the outputs and benefits generated by the project.

Step 3 ANALYSIS OF FACTORS INFLUENCING ACTIVITIES, ACCESS, CONTROL

These factors may focus on:
- economic onditions of women and men
- institutional structures (womens access to training,management)
- demographic and cultural conditions
- legal and political parameters

Step 4 DESIGN OF PROJECT TAKING IN CONSIDERATION THE FOREGOING RESULTS OF THE ANALYSIS

The presentation was supported by the use of audiovisual aids, and provoked a lively discussions amongst participants.

A case study followed the presentation for which the participants were divided by gender into groups. This method aimed to highlight the differences in the approaches of men and women in expressing their needs within a project context.

The groups reports were as follows:

Mens Group

1. Irrigation for crop
2. (a) Improving crop yield
   (b) 1. Increase our income (direct)
       2. Improve the standard of living (indirect)
   (c) 1. Family (direct)
       2. National economy (indirect)
3. Wind Energy Pumping
   - Technically feasible, reliable and efficient
   - It is economical in capital cost and almost without running cost
   - Credit from "Credit Bank)
4. A1 - Procurement of Equipment : Men/Credit for the village
   A2 - Installation and training: Men/External
   A3 - Preparation of the lands : Men/Women and men
   A4 - Operation and maintenance: Men/Men
5. A1 - Men
   A2 - External
   A3 - Men
   A4 - Men
6. Men (benefits : Women)

Women Group

I. Select one most urgent need

The women group has choosen water supply for household.

II. Justification

Productive family activities:

- Saving of energy and time: saving time for collecting water women can have time to participate at activities which increase her income like trade, handcrafts.
- Appropriate technologies can be used.
- Water would be used for gardening, given to animals, house constructions, etc.

Reproduction family maintenace activities.

- If water is around women activities are easier : cleaning children, washing, drink, cooking, cleaning the house for health reasons.

-Direct benefits

- All the family enjoy direct benefits as saving time, saving energy, health reasons.

-Indirect benefits

Appropriate technologies can be used, not only by the family, but by the village for communitary projects.

- A woman can save time for her self-development for training, increasing her incomes doing hand crafts, or by having social interaction.
- By improving women conditions of work, the family will enjoy a better well-being and it is a contribution to a national development.

III. The women group has selected solar/wind technology for piped water.

Here, we have done a little comment as a question. The problem in this case is the cost, but why don't governments accept to invest for a double and sure solution for a basic and priority need as water?

IV. Question No. 4,5,6,7 (see annex) have been presented on tables.

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